TOWARDS A CULTURALLY IDENTIFIABLE ARCHITECTURE

by

Chian-Yeun Chang

Dissertation submitted to the Faculty of the

Virginia Polytechnic Institute and State University

in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

in

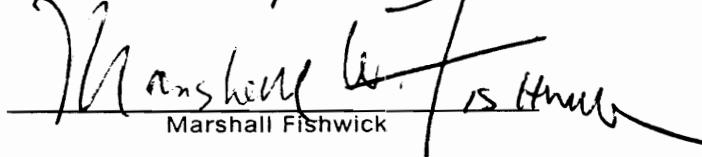Environmental Design and Planning (Architecture)

APPROVED:

Joseph Wang, Chairman

Milka Bliznakov

Dennis Kilper

Leonard Singer

Marshall Fishwick

December, 1990

Blacksburg, Virginia

TOWARDS A CULTURALLY IDENTIFIABLE ARCHITECTURE

by

Chian-Yeun Chang

Joseph Wang, Chairman

Environmental Design and Planning

(ABSTRACT)

This study proposes a systematic approach for investigators to judge how architecture of a given cultural group can be considered as culturally identifiable. More specifically, it proposes the steps in unveiling the relationships between chosen core elements of cultural distinctness and various design patterns. The suggested sources of core elements are political, social/behavioral, and economic influences on architectural design and approaches to create architectural signs.

It is presupposed that a design pattern is considered culturally identifiable when important core elements are communicated via noticeable signs. The communication is perceived from a semiotic analogy of architectural signs, whereby the importance of one core element over the other is identified by the investigator through research into the cultural context under study.

A case study on China's architecture is presented to illustrate these steps and test the proposed hypotheses. The steps are so designed that testing the relevance of core elements to architectural signs is essential. Forty-six sample buildings selected from China served as stimulus materials in the case study. These building patterns were rated as different types of signs on the basis of the core elements elicited from China's present-day culture. These buildings also were judged in a survey by forty-four Chinese students and their spouses at Virginia Polytechnic Institute and State University who represent samples of overseas Chinese laypersons.

The findings show that survey results deviated significantly from the semiotic results as laypersons considered traditional architecture most representative of Chinese identity. The semiotic results show that culturally identifiable designs are the hybrid forms of traditional and modern architecture. Most laypersons ignored the relationships between their perception of distinct identity in architecture and core elements of economic meanings and sign-creation approaches. This deviation implies a significant cultural lag in perceiving distinct identity between professionals and laypersons, and led to modification of the presupposed hierarchical importance of core elements.

Through the case study and findings, this research illustrates the procedure by which investigators can determine from a specific range of cultural elements the most effective means of communication of identity. It enables the inclusion of core elements of popular culture in comparing various design patterns and in differentiating built forms of one culture from that of others. The study ends with the factors and suggestions that are related to communication of Chinese identity in architecture.

ACKNOWLEDGEMENTS

During the five-years of my research, many people have been generous with their guidance, support, friendship and patience. I wish to express my very special thanks to Dr. Joseph Wang, Chairman of my committee, who took most of the responsibility on a day to day basis to make sure I finished my research and dissertation. He provided me with an invaluable inspiration of the characteristics of a scholar.

I wish to express my sincere gratitude to Dr. Milka Bliznakov for offering me her constructive ideas and critical review of my dissertation. Special thanks goes to Professor Leonard Singer not only for allowing me to assist in his teaching of environmental/behavioral studies, but also for providing encouragements all the time. I thank the other members of my committee, Dr. Dennis Kilper and Dr. Marshall Fishwick, for sharing and providing guidance and expertise throughout various stages of my study. None of the work in this dissertation would have been possible without the support of Dr. David Conn, who offered me the chance to pursue my graduate studies at Virginia Tech. I am also beholden to many friends in China who provided first hand information for my case study.

I thank my parents for their consistent educational and financial support. Finally, special thanks are due to my wife, Patty, for her confidence in me. She and our son made my doctoral study a happy adventure.

Table of Contents

List of Illustrations

List of Tables

1.0 INTRODUCTION

1.1 Problems and Needs of Study

In an age when cultural distance is gradually reduced, today's conception of modern design and construction leans toward innovation[1] and exclusivity.[2] Whether reflecting popular trends of design or not, modern architecture can no longer be considered the product of a single culture,[3] but of subcultural or international groups. Advanced technologies and mass media have led modern architecture toward universality and a break from the past, but existing technologies and vocabularies of design can be used to counter this trend by facilitating the communication of distinct identities preferred by the users or designers.

---

[1] Something to be newly introduced or invented.

[2] Something that is not shared by others.

[3] It is not our attempt to define the content of the broader sense of "culture;" but generally, it embraces all facets of life, both the behavioral and intellectual products of a group of people. The cultural products, for instance, variously include social structure, political systems, philosophies, architecture, dance, painting, law, religion, literature and ideological concepts. The books which record these products exemplify the narrower sense of "culture."

Interest in communicating distinct cultural identity through physical environment is commonplace in the field of architecture when a building can be made subjectively and privately. Designers may not need to be concerned with function, economy, comfort, provision of shelters of more cultural relevance and so forth. They are more interested in coping with perceptual problems of cultural distinction. The pursuit of cultural relevance in architecture involves a large number of cultural factors, whereas coping with identity problems focuses on making valid inferences about the identity relevant to a given cultural group based on the information provided by built forms and spatial elements.

However, the non-monolithic definitions[4] of these terms: "cultural identity," or "distinct identity," found in related studies presents a problem to the study of identity in architecture. These terms are adopted in architectural discourses from social/psychological fields to bear on the study of dwellings and their relations to users and the community. These terms assume that dwellings not only provide shelter and safety to people, but can also be construed as symbols that communicate owners' or users' personal traits (e.g., social status). Specifically, these fields focus on identification of environmental cues that can be considered as indicators of social status. In other words, the terms need to be further defined to reach a consensus in the field of architecture.[5]

In previous applications of these terms, analogous viewpoints can be found in the studies of architecture of less developed countries, but the intention is much different from that of social/psychological studies. It is concerned with how cultural traits of a large user group e.g., the Islamic World, can be noticeably presented

---

[4] Neither unified nor consistent defintions.

[5] Sadalla, Edward K., Jeffrey Burroughs, & Maureen Quaid. "House Form and Social Identity: A Validity Study," (Environmental Design and Research Association (EDRA) 11, 1980), p. 201.

through a hybrid of foreign architecture and those continued from the Islamic tradi-

tion. The former can be drawn from design vocabularies available in the world, and

the latter can be drawn from building features and motifs of indigenous origin.

One of the characteristics of these applications is their culture-specific ap-

proaches. Little is done to arrive at a consensus for cross-cultural situations. These

approaches can be categorized either as cultural determinant, the generalist,[6] or as

physicalist, the reductionists.[7] Examples of such approaches can be found in those

related to the Aga Khan Awards for Islamic Architecture,[8] publications contributed to

the search for a modern identity of Islamic Architecture,[9] Theoharis David's search for

identity in The Third World,[10] Chris Abel's study of social structure and hybrid de-

signs,[11] James Warfield's study of cultural responsiveness caused by vernacular in-

fluence on architecture,[12] theoretical proposals representing Chinese nationalization

movements of architectural design and the official promulgation of National Design

---

[6] The research which considers socio/cultural aspects of architecture the determining factors of settlement patterns.

[7] The research which considers physical aspects of architecture attributed most to the identity of settlement patterns.

[8] Schmertz, Mildred. "**The 1980 Winners of the First Aga Khan Award for Architecture,**" Architectural Record, Vol. 168, Nov, 1980, pp. 104-105.

[9] Some of them are, El-Waki, Abdel Wahid. "**Identity, Tradition and Architecture,**" in (ed.) Anthony Hutt Arab Architecture: Past and Present, The Center for Middle Eastern and Islamic Studies, 1984, pp. 26-35; Besim S. Hakim and Peter G. Rowe. "**Traditional and Contemporary Islamic Cities,**" in Journal of Architectural Education, Summer, 1983, pp. 22-28; Fazlur R. Khan. "**The Spirit of Islamic Architecture,**" (in Towards an Architecture in the Spirit of Islam, Proceeding of Seminar One in the Series Architectural Transformation in the Islamic World at Alignment, Fonvieus, France, Apr, 1978, pp. 32-38; and Garry Martin. "**Building in the Middle East Today - in Search of a Direction,**" in Hutt, 1984, pp. 29-32.

[10] David, Theoharis. **Search for Identity, Contemporary Third World Architecture,** (A Traveling Exhibition Organized by the Department of Exhibition, New York: Pratt Institute, 1983).

[11] Abel, Chris. "**Living in a Hybrid World: the Evolution of Cultural Identities in the Developing Nations,**" (Design Studies, Vol. 3, No. 3, July 1982), pp. 127-132; and his "**Living in a Hybrid World, II: Built Sources of Malaysian Identity,**" (In Proc. of Conference held at Royal College of Art, London, 1982), pp. 11-21.

[12] Warfield, James P. "**Vernacular Influence as Means to Culturally Responsive Architecture,**" (Unpublished paper, Illinois: Department of Architecture, Univ. of Illinois, 1984).

Awards,[13] and so forth. Still the term is applied and defined inconsistently, and problem-solving variously approached. This literature represents a significant endeavor in achieving cultural integrity and international recognition in design.

Up to now, most studies seem to have considered the hybrid design of traditional[14] and exotic origins as a valid interpretation of identity in architecture. The hybrid approaches have led to design patterns of variable creativity. As pointed out by Rowe,

> One approach is to absorb an enlightened understanding of tradition into professional practice . . . The problem . . . is that it invariably becomes confined to treatment of symptoms and only results in architectural renderings that are superficially acceptable i.e., ones in which certain traditional organizational patterns and iconography are incorporated. However, there is no structural change in the fundamental conception of settlement. In fact the operational idea of tradition becomes fixed, or historic, with little room for progress.[15]

What is more, the layperson's perception of identity appeared rather insignificant to these approaches. It should also be noted that the consensus concerning the linkage between hybrid forms and distinct identity is based on theoretical and intuitive considerations rather than abundant empirical data such as how the relationship lies between people and buildings. We have lacked a systematic way to explicitly take into consideration specific cultural traits, or core elements, as the basis of empirical studies.

---

[13] Zhao, L.Y. "In Retrospect of the Chinese "Nationalization" Movement," (Jian-Zhu-Xue-Bao, No. 2, 1987), pp. 3-15.

[14] Some authors consider "tradition" something which can be clearly differentiated from "contemporary culture," the culture of today. In the study, the latter is considered to have evolved from the former at the same time adding new elements from foreign sources. As tradition is being continuously added with contemporary content, it persists into a new phase rather than vanishes into the past at a certain point. In this sense, traditional architecture may exist and function today meaningfully. Evidence can be found in many vernacular building patterns that are capable of accommodating contemporary life styles. "Classical" architecture, in contrast, stand for those which are remote from today, e.g., some of the Greek temples.

[15] Rowe, Peter G. "Problems of Coping with Tradition in Shaping Settlements," (in Architectural Values and World Issues, (Proceeding of the 71st Annual Meeting of the Association of Collegiate Schools of Architecture, 1984). pp. 71-72.

In order to avoid these implicit theoretical projections, we need to establish an empirical process involving objective criteria and repeatable variables for the use of designers and investigators at programming or post-design stages. But a cross-cultural investigation of identity may not be plausible as interpretation of architectural design would be insignificant if it is not from a culture-specific standpoint. In other words, cultural identity in architecture should be investigated in a culture-specific condition, while a consensus should be established cross-culturally. In addition, an interdisciplinary perspective for problem solving is required because culture/environment relations touch upon many facets of human communication and environmental design. They cannot be understood from the perspective of any single discipline alone.[16]

1.2 Research Questions and Objectives

Due to the need for a culture-specific, interdisciplinary perspective, the objective of this study is to propose an empirical approach to the examination of relationships between identity in architecture and the core elements of contemporary culture. It is an attempt to measure, in a systematic way, the extent to which a hybrid design reflects the core elements of a selected cultural context. Because a culture can be composed of traditional and exotic cultures, the goal is to understand the impacts of politics, social/behavioral patterns and philosophies, economy, and design approaches on identity. Through application of this approach, major components of identity may be evaluated and identified.

---

[16] Altman, Irwin, and Martin Chemers. **Culture and Environment,** (New York: Cambridge University Press, 1986), pp. 309-312.

Three specific questions are addressed in the study. First, do core elements of the culture categorized in political, social/behavioral, economic impacts and design approaches contribute to culturally identifiable architecture? Second, can one determine if architecture reflects these core elements? That is, how should the relationships between core elements and the characteristics of design be conceived? Third, is there a cultural lag between the perception of identity and the development of architectural design? That is, does the identity of a people evolve at the same pace as that of architectural development? Also, does modern identity necessarily associate with the products of modern science and technology?

In conjunction with the above research questions, three hypotheses are formulated. *The first hypothesis:* <u>Distinct identity in architecture is related to predominant core elements of contemporary culture categorized in political systems, social/behavioral patterns of the inhabitant, economic systems and design approaches.</u> This hypothesis is tested by measuring the correlations between design features and core elements, and by surveying public perception toward various design patterns.

The second hypothesis: <u>There is a certain hierarchy of importance among the core elements which are related to identity in culturally identifiable architecture of today.</u> To simply state that identity is related to these four areas of cultural impact is incomplete, since the extent of an impact may vary in place and time. This hypothesis is tested by assigning the core elements of these four areas with codes of different scales to analyze "sign-relationship," or the extent of cultural distinctness, in architecture.

The third hypothesis: <u>While modern technology and world development of architecture encourage universality in design, the relatively urgent call for establishing distinct identity has primarily resulted from the need to shelter the slowly evolving</u>

lifestyles and traditional values, rather than for presentation of identity, per se. The hypothesis is tested by examining public preference and expectation in design patterns. A strong tendency toward modern and foreign building patterns would indicate a public aspiration for new and different values and life patterns. A tendency toward traditional buildings or hybrid forms, on the other hand, would support the hypothesis.

1.3 Assumptions and Limitations

It is taken for granted that every building reflects identity in some way. The notion of identity becomes a norm to those who perceive it. Among these many types of identity, our concern is with those related to the core elements just mentioned. These core elements, whether political or social/behavioral, could be established as the criteria to justify cultural difference in architecture. Of course, buildings are not always designed to be different from, for instance, those of other nations, and a building's market value can easily overwhelm our concern for identity, but for this study, examples presented in subsequent chapters are chosen for their pertinence to identity only. Thus, this study is limited to drawing conclusions from one case study of China's architecture,[17] in which samples of hybrid forms are deliberately selected, as are survey respondents randomly chosen from one university campus.

Instead of concentrating on cultural relevance in design, which embraces much larger cultural variables, this research should yield valuable information in an area

---

[17] The term "Chinese architecture" is usually referred to as traditional architecture in most published literature. It implies building patterns accumulated since Shan Dynasty (16-11 C. B.C.) to its symbolic ending in 1910. In this study, the term "China's architecture" is adopted to mean architecture under control of the Chinese Communists.

where the discussion of distinct identity has never been more explicitly expressed. It is assumed that establishing an empirical perspective in studying distinct identity is a step forward towards a better comprehension of people/environment communication. Also much of the work carried out in the study would benefit existing scholarship because it represents the few efforts of theoreticians and architects who pioneered in proposing the methods in their research.

The proposed approach has two areas of application. First, it can help investigators learn to structure cultural criteria in evaluating distinct identity as reflected in existing design patterns. Second, the approach would help designers conceptualize cultural responsiveness in every design stage.

1.4 Organization of the Remainder of Study

The remainder of this study is presented in the following sequence. Part one includes Chapters 1, 2 and 3. Chapter 1 introduces the subject. Chapter 2 reviews related studies since development of the systematic approach would lack direction if it were not supported by intellectual constructs of other researches. The studies include cultural study, environmental communication, and architectural interpretation in terms of linguistic analogy. This chapter also contains the review of various approaches which investigate the characteristics of traditional architecture.

Chapter 3 contains the method of research. It outlines the procedural steps needed to test the hypotheses, and describes the systematic approach. The method applies theoretical constructs reviewed in Chapter 2 and conceives three steps. First, it presents an investigation of predominant core elements, their hierarchical importance, and sample buildings potentially representative of cultural identity. Second, it

outlines the construction of a semiotic coding scheme based on the core elements, and description of the procedure of semiotic analysis. The semiotic scheme, which includes a set of scales and "levels of architectural communication" (Appendix-I), is developed from the methods of architectural interpretation variously proposed by semioticians. This is followed by the description of sampling and testing process of the survey.

Part two includes a case study and discussions of data, findings and conclusion of the research. Chapter 4 describes the result of on-site observations and literature search. It reveals the core elements of distinct identity in architecture of the selected cultural group, the Chinese in the People's Republic of China. The chapter ends with a list of postulated core elements composing the distinct identity of China's architecture.

Chapter 5 performs the actual application of the semiotic coding scheme on selected sample buildings. An analytical scheme based on the framework developed from Chapter 3 is structured to include the core elements obtained in Chapter 4 into a weighting system. Forty-six sample buildings reflecting diverse design patterns are selected for semiotic analysis and hypothesis testing. These buildings represent major patterns of design visible in today's China. Visual items included photos and drawings of these buildings, and the coded results are presented in the form of tables. The resultant 46 tables are further sorted into a hierarchy of importance determined by the extent to which a building reflects Chinese identity. The hierarchy is then listed for later comparison with that determined by the laypersons. This chapter concludes with a discussion of the patterns of sign-relationships and the noticeable means of communication that reflect predominant core elements.

Chapter 6 documents the results and statistical analyses of the survey on layperson' perception of Chinese identity. Its findings include hierarchies of favora-

ble patterns of design as well as those that are considered as distinctly Chinese by the laypersons. The findings are compared with those found in Chapter 5 to test the validity of semiotic analysis and identify the noticeable means of communication in sample buildings.

Finally, in Chapter 7, a few concluding remarks sum up the assessment of the study objective, the implications of findings concerning design patterns identified in Chapter 6. It subsequently points out guidelines of design for future designers in industrializing China.
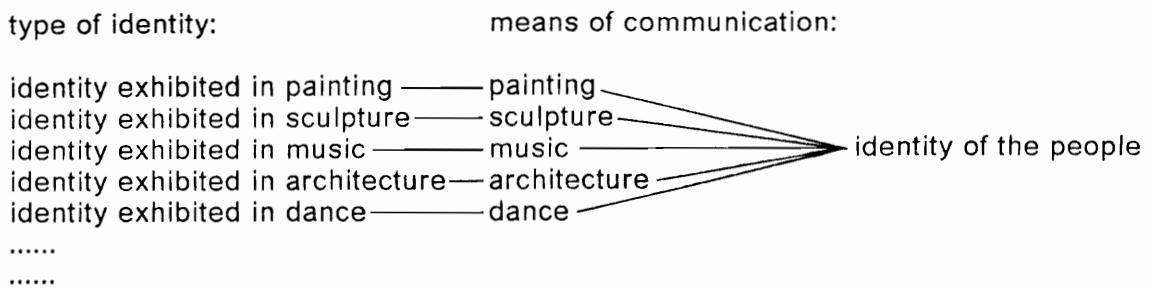
2.0 RELATED STUDIES

Chapter Summary

For the theoretical background of the dissertation, the author reviews previous studies and intellectual supports in the following areas: studies of cultural identity, approaches to resolve identity problems in architecture and architectural communication. In the first area, components of identity, core elements and models of identity are reviewed. An attempt was made to provide an analogous view of identity in architecture to that perceived in social science, psychology and environmental studies. In the second area, theoretical proposals and empirical studies of cultural elements are noted. Finally, in the third area, the review focuses on the semiotic perspective of architectural signs and their meanings.

INTRODUCTION

Architecture is the product of a cultural group who shape the built environment according to their needs. One may call these needs cultural forces, or cultural elements, of built forms. One may also speculate that various cultural groups share

type of identity: means of communication:

identity exhibited in painting ——— painting
identity exhibited in sculpture——— sculpture
identity exhibited in music ——— music ———————— identity of the people
identity exhibited in architecture— architecture
identity exhibited in dance——— dance
......
......

Figure 1. Types of identity as related to identity of the people

some common needs or elements. These elements, which are unique to a cultural

group, may be chosen to indicate uniqueness in architecture. As shown in Figure 1,

architectural design is one of the forms by which cultural identity can be expressed.

But what are these needs or elements? How can they be expressed in design? How

can one determine whether a design reflects these elements? Focusing on identity

related to architectural design, the following review will also answer these questions.

2.1 Conceptualizing Cultural Identity

Concepts of identity vary widely especially those established in modern socie-

ties such as those which concern "identity crisis," and "finding one's roots." In some

cases, personal identity is categorized as a psychological problem area to individuals

in contemporary Western society. Personal identity may be reflected in buildings

purchased or designed according to personal interests, which do not necessarily ex-

ist in non-Western cultural contexts such as China. Nevertheless, an approach to

conceptualizing identity in architecture can be derived from such fields as

social/psychology, and environmental communication because of their theoretical constructs on the built environment and personal identity.

Social and psychological concepts of identity are mostly about the self and behavior in setting up privacy or territory in the built environment or in interpersonal relationships. As Altman notes,

> Self identity is a person's or group's cognitive, psychological, and emotional definition and understanding of themselves as beings. It includes . . . which aspects of the physical world are parts of the self, and which aspects are parts of others. It encompasses self understanding of one's capabilities and limitations, strengths and weakness, emotions, beliefs and disbeliefs.[18]

And as Cooper comments,

> A house embodies a set of symbols which have deep psychological significance and which are intimately connected to the homeowners' sense of self . . . . The house nicely reflects how man sees himself, with both an intimate interior, or self as viewed from within and revealed only to those intimates who are invited inside, and a public exterior . . . or the self we choose to display to others.[19]

Obviously, Altman and Cooper are concerned about the knowledge of oneself and one's position in a group, rather than such partial definitions of identity as names, addresses and identification cards. In fact, according to Baumeister, "people who have problems with identity are generally struggling with the more difficult aspects of defining the self, such as establishment of long-term goals, major affiliations, and basic values."[20] To him, the concept of identity can be interpreted in terms of a "self-definition process," "defining criteria of identity," "functional aspects of identity," and "identity components."

---

[18] Altman, 1986, p. 81.

[19] Sadalla, 1980, p. 201.

[20] Baumeister, Roy F. **Identity, Cultural Change and the Struggle for the Self,** (New York: Oxford Univ. Press, 1986), p. 4.

Through the self-definition process, one associates with the identity which fulfills certain defining criteria and functions. Once the self-definition, or identity, is chosen, the person is attached to those components (major and minor) involving social activities. For instance, to identify oneself as wealthy is to be defined by such components as being a dentist, owning a large mansion, earning more than $200,000 a year. The components vary in character, place, time and amount, but they are valid as long as they "provide the individual with differentiation and continuity of self definition . . . . Any partial definition of the self is an identity component - any valid answer to "Who are you?"[21]

Since each type of identity associates with specific status, people, priorities as well as constraints to behavior, a person establishes particular connections to others subculturally. Such an identity, as defined by Espeland, "assumed by a person when he is associated with a group, together with the rights and obligations he has in international situations, is what we call his group identity."[22] A group identity exists as far as the components are recognized by other group members.

Although technological progress has shortened the distance between nations separated geographically and peoples of distinct social patterns, there are no fewer forms of "cultural groups," and "group identities" than those in the past. Just as a cultural group can be as large as a nation and as small as two persons, an identity can reflect a person, or an ethnic group. Nowadays, people who share similar interests, such as painting and antique collection, can be brought together easily beyond national boundaries to form a cultural group. One distinct example is a person's religious identity. To recognize the identity may take as little as one single cue, since

---

[21] Baumeister, 1986, p. 20.

[22] Espeland, Wigdis J. "**The Concept of Identity in Connection with out-groups and Minorities,**" (Ethnologia Scandinavica, No. 9, 1979) p. 141.

religious faith can be variously presented through such elements as speech, hair style, language, facial marks, outfit, or behavioral pattern. In contrast, the same religious identity can be presented through a totally different set of means by another person.

Both physical and non-physical elements compose identity, but none is more important than the other. Mobility, for instance, as a physical element, significantly characterizes the identity of most nomads or boat people, but it does not necessarily concern farmers. Some physical elements are essential to a group due to geographic and climatic conditions which contribute to identity continued over time. These physical elements may be replaced or modified through modern technologies, but their values can remain intact. In other words, there is no standard formula for cultural identities to based upon. Some components can be significant to one culture but insignificant to another. In short, a person can have many types of identity, and any of his identity can be defined by various components.

Perceiving identity in architecture, however, should be taken differently from the above notions. For one thing, architecture is inhuman. It does not have the will power to carry out the self-definition process or finding identity components. People like designers, policy makers and users do. As architecture varies in design, the features and values reflected in them are supplemental to personal or group identities. From Rapoport's standpoint, identity in architecture ". . . is the condition of being designed as one thing and not another."[23] The condition is achieved by communicating core elements of the people through environmental or non-environmental means distinct from others. More specifically, Rapoport stresses that,

---

[23] Rapoport, Amos. "**Identity and Environment: A Cross-cultural Perspective,**" (in James S. Duncan (ed.) Housing and Identity: Cross-cultural Perspective, London: Croom-Helms, 1981), p. 10.

(1) One needs to discover which social and cultural criteria are central to the group in establishing and preserving its identity - language, religion . . . life style . . . and so on, i.e., the elements of perceived homogeneity. One then needs to discover the core elements which express and support these criteria . . .

(2) Given the criteria of identity of the group, and its core elements, one then needs to discover which are the specific physical elements in the built environment which play the key role in this process and thus best express identity and help maintain it.[24]

While core elements are shared traits of insiders (members of the cultural group under study), architectural design is the means of communication of these traits to both outsiders and insiders. In other words, architecture can reflect "internal identity" to insiders, and "external identity" to outsiders. Matching internal and external identities is considered by Rapoport to be a successful communication. But mismatching of both is not unusual. As he remarks,

[Establishing internal identity] depends on the strength of the cues and on sufficient redundancy to make them noticeable; [establishing the other] depends on consistency of use, on congruence and on the 'code' being understood; i.e., they are culture-specific. This is the reason why communicating identity to oneself, internally, is much easier than doing so to others, externally.[25]

Baumeister's and Rapoport's conceptions of identity are similar except that the former concerns internal identity only. A comparison of these constructs (Table 1) shows that realization of internal identity is similar to the self-definition process. Core elements are similar to the major components of identity, and identifying cultural criteria central to a group is similar to defining criteria of identity components. These are the major constructs applicable to the conception of identity in architecture.

---

[24] Rapoport, 1981, p. 18.

[25] Rapoport, 1981, p. 17.

Table 1. Two conceptual models of identity

Baumeister's model	Rapoport's model
-Self-definition process	-Realization of internal identity

-Components of identity:
  major components
  minor components
	-Core elements of internal identity:
	  more important elements
	  less important elements

	-Boundaries and visible cues:
	  environmental means
	  non-environmental means

-Defining criteria of components:
  differentiation
  continuity over time
	-Cultural criteria central to a group:
	  Characters contrast with others
	  Identity over time

-Functional aspects of components:
  values and priorities
  interpersonal identity
  potentiality	

2.2 Previous Approaches to Resolving the Problem of Cultural Identity in Architecture

In addition to conceptualizing identity in architecture, it is important to note how investigators have approached resolving identity problems. Most of them focused on eliciting core elements of traditional and contemporary culture, and on suggesting what must be done to preserve cultural identity. The following are typical approaches.

- Theoretical proposal of design directions for what must be avoided and must be noticed in establishing cultural identity in architecture.

- Systematic deduction of cultural elements relevant to traditional architectural design.

- Systematic deduction of cultural elements relevant to contemporary architectural design.

- Systematic analysis of hybrid design patterns.[26]

---

[26] The word "hybrid" simply means "putting together." Every design we make has to be put together

2.2.1 *Theoretical Proposals*

Various reasons justify the diversity and abundance of theoretical proposals. Some are the following.

- cultural continuity, cultural integrity and reexamination of the role of traditional architecture
- hybridization of the new and the old in architecture
- cultural considerations of design
- reflection of behavioral and social patterns of the inhabitants
- reflection of political systems and ideologies on architecture
- reflection of economic system on architecture

Despite active cultural exchange between groups of people, the most frequently expressed need in resolving identity crisis is to preserve and continue the ethos of local traditions. David points out that it is a shared objective ". . . to achieve cultural continuity that will produce useful and efficient buildings that also manage to be at one with their respective cultural, sociological, and aesthetic values."[27] As an instance, instead of pursuing a life style based on the concepts of Western modernization, Islamic people would rather "encourage Muslim leaders and their architects and planners to begin to pay attention to Muslim beliefs and tradition as they devise the new environment in which an ancient way of life will persist."[28] It seems that the intention is not merely nostalgic but "to evoke the past in a modern structure . . . to achieve an architectural balance between tradition and modernity . . . "[29] In this case, the objective is to preserve traditional architectural characters which serve contemporary needs.

---

and consciously selective of best parts. Theoretically, we also try to appropriately shape and relate the parts to one another and to the whole.

[27] David, 1983, p. 7.

[28] Yenal, Engin. "**Designing in the Spirit of Islam**," (Architectural Record, March, 1979), p. 117.

[29] Holod, Renata (ed.). **Architecture and Community: Building in the Islamic World Today,** (Islamic Publication Ltd., 1983).

But what could enable such a continuity and persistence? The participants of the Aga Khan Awards conceive a general conclusion that the necessary linking elements of the past and the present would be certain elements of traditional architecture. The psychological basis for the conclusion should be readily understandable because "Cultural experience may be expressed in the groups of preferred [elements] . . . that provide elements of familiarity by which cultural continuity is maintained."[30] Apparently, the need to reevaluate tradition is common to countries with long architectural histories which are overwhelmed by foreign influences. For such a reevaluation, Khan suggests, "It is only possible to do something about it if we can identify the primary essence of the Islamic architectural heritage and then examine whether it is at all possible to retain the essence and the meaning while using contemporary technology."[31] He illustrates what the essence is by answering these questions: What is Islamic architecture? What are the most significant principles of Islam and their interpretation which determine the character of architecture?

The principles that Khan has identified are primarily based on traditional, rather than contemporary, culture. Some of these principles are the invariable need to consider mosques and their relations to spiritual God, the concept of symmetry and centrality in plan and elevation, the adaptation of local materials and town planning. Unfortunately, he fails to exemplify neither what type of design may embody these principles, how cultural continuity is accomplished, nor how traditional architecture is synthesized in modern architectural design. In other words, Khan implies that historical preservation and duplication of past forms are valid approaches to achieve

---

[30] Greene, Herb. **"Cultural Continuity,"** (in <u>Mind and Image,</u> The University Press of Kentucky, 1976), p. 37.

[31] Khan, Fazlur R. **"The Islamic Environment: Can the Future Learn From the Past,"** (in <u>Towards an Architecture in the Spirit of Islam,</u> Proceeding of Seminar One in the Series Architectural Transformation in the Islamic World Held at Alignment Fonvieux, France, Apr, 1978), p. 32.

cultural continuity. He did not consider, however, the many ways to hybridize the new and the old for the same purpose.

In fact, whether conscious or not, most architectural designs involve "hybrid" forms, otherwise known as "eclectic" or "synthesized" designs. In a sense, it is common for architecture to associate with the "old" designs of the past times. As Pelli indicates, designs are eclectic because

> All we have really done is reinterpret ideas, thoughts, formal devices, and solutions that others, including, perhaps, ourselves have used before. We give them a new twist or add a few things, but most of that design comes from the past. Nobody can invent all that we need to solve the simplest design problem in one lifetime; it is totally impossible. We depend completely on the past, but how you use the past is critical . . . Your task is to make a good and fresh variation because variations are what architects do."[32]

Many theoreticians agree that abstracting forms in architecture for the transformation of favorable connotations is not a matter of choice but of sheer necessity.[33] Some even content that, "the way to form a new, original, and contemporary architecture is to base it on the solid foundation of the past."[34] Likewise, Krier holds that such an approach does not mean becoming classical architecture again, but to revive the common sense or ideas not related to any specific period.[35]

The reasons underpinning hybrid forms for cultural continuity are observable. For one thing, this approach lumps instead of excludes design features of familiarity, which, in most cases, enriches design content and redundant messages for easy comprehension. Secondly, architecture of local tradition represents a gamut of design inspirations to be reinterpreted from time to time. Finally, an appropriate syn-

---

[32] Pelli, Cesar. "Fresh Patterns" (Perspecta, vol. 19, 1982), p. 137.

[33] Prak, Niel L. The Language of Architecture, (Paris: Mouton & Co., 1968).

[34] "Revive into Style: The Search for a New Tradition." (The Architect's Journal, vol. 178, No. 60-90, 1983), p. 80.

[35] Krier, Leon. "Radiance of the Past, Revivalism in Context," (The Architect's Journal, vol. 178, No. 46, 1983), p. 64.

thesis of this kind may form a basic connection between architecture of the past and the present. Most importantly, a good hybrid design, as Yu suggests, ". . . should be useful, and should satisfy the unification of economic, social, and environmental benefits in which the integration of the old and the new brings out the best of each other . . ."[36]

Indeed, a hybrid design can be an excellent canvas which, at one stance, is composed of discrete and meaningful cultural features, but which could become at another stance a hodge podge of building elements without significant meanings. The question is how the appropriateness of eclectic designs can be judged on the basis of cultural elements continued from the tradition.

Although authors can conceptualize the components of identity and core elements in architecture, no study has yet well examined what they are. Should they concern both physical (e.g., environmental) and non-physical (e.g., socio-cultrual) aspects in a culture? Before considering any of them, however, it is important to avoid holding the same hypothesis as Amos Rapoport that house forms are primarily shaped by socio-cultural factors seen in their broadest terms.

Nowadays, our understanding of the relationship between built form and its shaping forces is that it varies in place and time. Evidences show that environmental constraints can be the major determinants of built forms.[37] Thus, it is inappropriate to hypothesize a necessary correlation between cultural identity, architecture and non-physical elements. Physical elements such as design features and environmental constraints can be the core elements too. At any rate, non-physical aspects are at-

---

[36] Yu, Qingkang. **"Integration of Old and New in China's Historical Cities,"** (Building in China, Vol. 1, No. 2, 1988), p. 8.

[37] Austin, Michael R. **"Amos Rapoport and the South Seas,"** (Built Form & Cultural Research, Conference Proceeding 1986), pp. 1-5.

tributed to identity in architecture. Some authors have suggested ways to categorize

these aspects.

In his cultural analysis model for housing design, Gastal points out three major

areas of cultural concern. He states,

> Environment and history; economy and technology; social organization and
> behavior; these are basic areas of cultural concern to be studied . . . be-
> cause they are underlying fields of human interaction."[38]

These major areas, when divided into sub-areas, can be found in Table 2. The list

appeared inclusive yet should not be considered complete because some areas are

overlooked, for instance, foreign influences, traditional designs which remain signif-

icant today and impact from operations of political power, policies, and activities. As

Sumner indicates,

> The process of the creation of architecture is subject to external pressures
> comprised of political, social and economical situations, which in combi-
> nation, form an aspect of our culture . . . these characteristics are under-
> stood to be in continuous evolution and interrelated. These forces are
> interrelated and cannot exist in isolation . . .[39]

Sumner and Gastal share three major areas: social, economical, and political as-

pects. These areas can be considered as the scope from which core elements of

identity are obtained.

The extraneous influence on architecture that is not of a major interest to the-

oreticians and historians is political effects. Generally, political influence comes from

many sources, including funding and building regulations determined by a certain

---

[38] Gastal, Alfredo. **Towards a Model of Cultural Analysis for the Designing Process,** (Ph. D. Dissertation University of Pennsylvania, 1982), p. 37.

[39] Sumner, Kimberly S. **A Study of Cultural Influences on Architecture,** (Master Thesis, Virginia Polytechnic Institute and State University (VPI&SU), 1981), p. 1.

Table 2.   Basic areas of cultural concern proposed by Gastal

1. Environment	-natural and artificial situations.
2. History	-history of the group under study.
3. Economy	-people's economic ability to afford housing; regional and national economical system.
4. Technology	-how technology interacts with the groups.
5. Ideologies	-belief system: knowledge of the world, magic, myths, religion, superstitions, etc. -values system: moral values, ethical and aesthetic aspects of design.
6. Social aspects	-group aspects: residential, kinship, peer associations, ethnic and racial. -social roles: kinship, sex, age, occupation, and social position. -space and time categories: group, social and individual space.

administrative body, public activities, political image of rulers,[40] ideologies of specific user classes and political doctrines and ideas to be propagated.[41]

Human activities are often led by political intentions, and the relationship between them is sometimes being stressed. Regarding the relationship, systems of architectural production vary from capitalist market-oriented design, communist state-run projects, to vernacular self-help huts. Even though identity problems are not tackled the same way, these systems, more or less, interact with political purposes. In the case where rulers conceive it their great responsibility to control what does and does not get built, architecture often turns from covert to overt political expression. In this case, political party doctrines and ideologies are mingled in the design activities and become part of the programs that architects are pursuing.

---

[40] Sumner, 1981, pp. 19-24.

[41] Broadbent, Geoffrey. **"Building as Symbols of Political Ideology."** (in <u>Semiotics: 1980,</u> 1982), pp. 45-54.

However, architecture is not necessarily a tool for the expression of power of rulers and religious idols, as it used to be. And political impacts have been expanded to the area of public concern for health, safety, environmental control, energy conservation, psychological needs, and so forth. These concerns become subjects of public voice and are stipulated in the form of building codes and regulations. They are significant sources of political meaning.

While political influences on identity may be originated by the few, elites, socio-cultural influences are found in the majority. Figure 2 categorizes the elements of this concern proposed by some authors.[42] As far as identity is concerned, not all of these elements are relevant, because beliefs and philosophies tend to affect architectural designs implicitly.
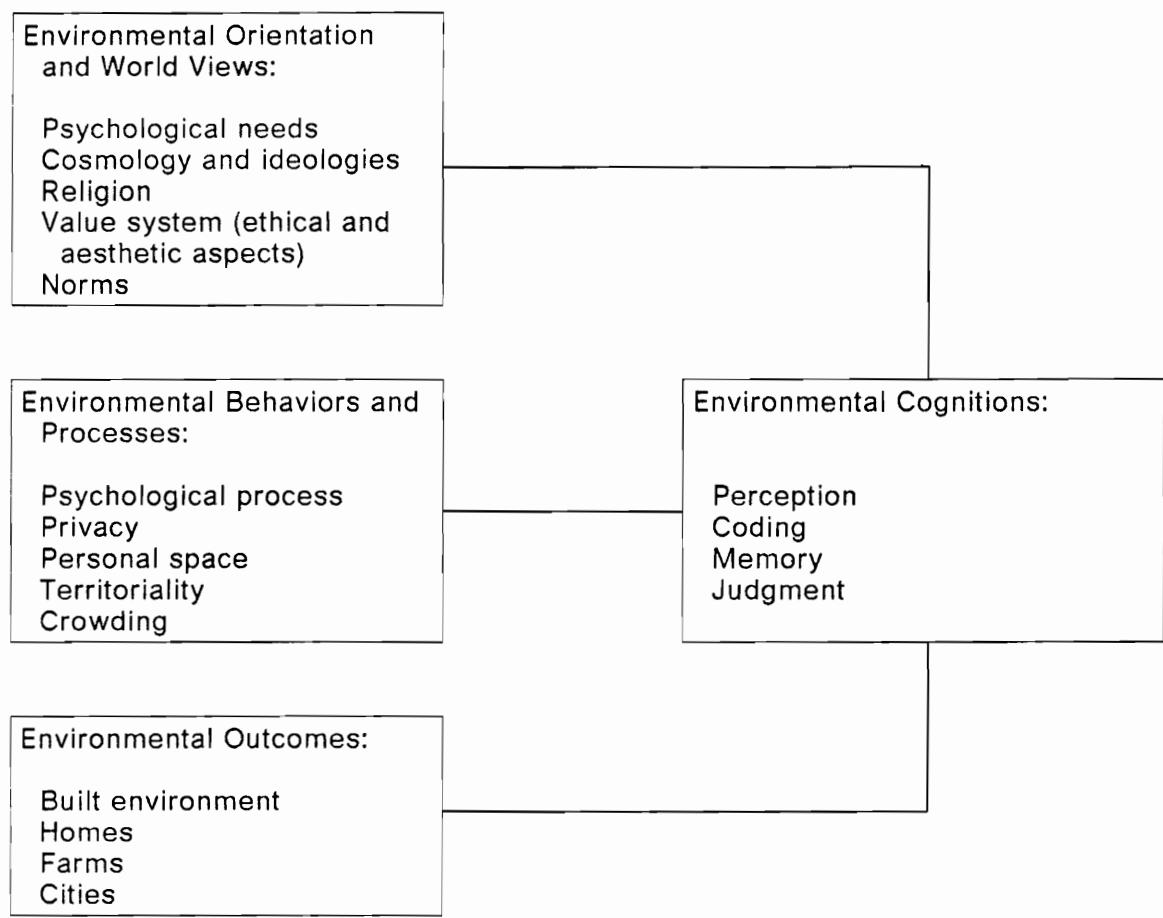
The socio/environmental relations illustrated in Figure 2 are common to all cultures, but are established differently. Some psychological needs in relation to design features, for instance, are supernatural and unscientific, such as those organized around a series of polarities: sky/earth, sun/moon, male/female, upriver/downriver.[43] They may be mysterious for one to comprehend but are essential to many cultural groups. As an example, Chinese people in Southeast Asia still practice their beliefs in Feng Shui, or Geomancy, the ancient "eco-art dealing with conservation, ecology, orientation, and spatial arrangement - basically how and where man should place himself or build his shelter in this vast world."[44] The practice of the Koran to Moslem, and Taoism to Chinese believers are other examples which show sufficient clues of

---

[42] The sources of this framework include: Altman, 1986, p. 10; and Gastal, 1982, pp. 32-62.

[43] Altman, 1986, p. 308.

[44] Rossabach, Sarah. **Feng Shui, The Chinese Art of Placement,** (New York: E.P. Futton, Inc., 1983), p. X.

```
┌─────────────────────────────────┐
│ Environmental Orientation       │
│ and World Views:                │
│                                 │
│ Psychological needs             │
│ Cosmology and ideologies        │
│ Religion                        │
│ Value system (ethical and       │
│   aesthetic aspects)            │
│ Norms                           │
└─────────────────────────────────┘

┌─────────────────────────────────┐        ┌─────────────────────────────────┐
│ Environmental Behaviors and     │        │ Environmental Cognitions:       │
│ Processes:                      │        │                                 │
│                                 │        │                                 │
│ Psychological process           │        │ Perception                      │
│ Privacy                         │        │ Coding                          │
│ Personal space                  │        │ Memory                          │
│ Territoriality                  │        │ Judgment                        │
│ Crowding                        │        │                                 │
└─────────────────────────────────┘        └─────────────────────────────────┘

┌─────────────────────────────────┐
│ Environmental Outcomes:         │
│                                 │
│ Built environment               │
│ Homes                           │
│ Farms                           │
│ Cities                          │
└─────────────────────────────────┘
```

Figure 2. A Framework of culture/environment relations: modern and traditional

philosophical influences on the characteristics of buildings, norms, behavioral patterns and material life.

Some Western architects who are hired to aid the architectural development of lesser developed countries have noticed such a need. Having once designed a school that local children would not come near, Bechhoefer indicates,

> An understanding of the cultural context of building is primary to making architecture which is responsive to the functional and spiritual needs of its users. Those who would have use believe that imagery of cultural symbols alone or that ad-hoc technology and climate alone are sufficient determi-

nants of architectural form and character have produced work which fails through over-reliance on single-minded perceptions of such criteria.[45]

He goes on pointing out that,

> General cultural awareness, then, is not enough . . . the meaning attributed to form is specific to an astonishing degree and is sensitively read by members of the culture. And it is precisely the *degree of specificity* which must be recognized if architects are to respond effectively to cultural context.[46]

The counterparts of these philosophies are Western values gradually taking roots in the society as industrialization and modernization increases. According to Altman, these values are not less important to a design than those of the tradition, and

> People nowadays believe that modern cities emphasize new and unfamiliar cultures, strangeness among people, individualism, and social change, whereas farm, rural, and some suburban settings covey the image of nature, familiarity and friendliness of people, community bonds, and traditions, all of which lend psychological security to our lives.[47]

In addition to these cultural concerns an essential aspect that architectural design is not immune to is the economic system and its operations. Sometimes, this aspect dominates other influencing factors. It usually affects these concepts in design: the application of technology in construction, the ways a building is distributed and used, the location of commercial institutes (e.g., marketplaces, offices, stores,) in an urban setting, the forms of funding, the quality of living arrangements, the types of technology, the types of design incentive, the types of material available, the size of a development project, the level of environmental quality, and the variety of life

---

[45] Bechhoefer, William B. "**Cultural Context in Design**," (in <u>Architectural Values and World Issues,</u> Proceeding of the 71th Annual Meeting of the Association of Graduate Schools of Architecture, 1983), p. 199.

[46] Bechhoefer, 1983, p. 200.

[47] Altman, 1986, p. 217.

styles. All of these are related to the livelihood of the people from the past to present days.

Without doubt, the quality results of a building (e.g., design, construction, or cultural relevancy) more or less relate to economic conditions. It is possible that the more funding is available, the better architectural programming can be achieved. It is also probable that a shortage of resources could yield poor quality results in architectural design. At present time, the scarcity of resources in some lesser developed countries have great impact on the overall concern for livelihood. In the interest of cultural identity, architects have to take into consideration the products of an economic system's best strength. This consideration is important because, as pointed out by Sumner, it can bolster and benefit the economy;[48] and by Wu that, ". . . a good design needs not be more expensive, but does require the concerted will to spiritually uplift the populace."[49]

In summary, we find it insufficient to simply express anxiety for a unique architecture. David's study is a typical example in which a list of contemporary designs are selected and considered successful in satisfying the identities of various Third World cultural groups.[50] But he has not explained in what sense these designs embody the theoretical proposals explicitly. Such suggestions and complaints would be expressed in vain if architects were lacking strategies to ameliorate the situation. Fortunately, there are many constructive suggestions as well. At the least, these suggestions can be regarded as guidelines for us to deal with issues relevant to identity in more depth.

---

[48] Sumner, 1981, p. 25-27.

[49] Wu, On-tai. "An Architectural Challenge for China's Future," (Dwelling in China, vol. 1., No. 2, June, 1988), p. 39.

[50] David, 1983.

2.2.2 Systematic Inquiries into Traditional Cultural Core Relevant to Architectural Design

Three studies of traditional architecture are reviewed in this section as they illustrate the approaches to obtain core elements systematically. These studies are Nader Ardalan's investigation of Islamic "visual language" in mosque architecture in the world, Henry Glassie's representation of vernacular architecture in terms of diagrammatic formulas, and Donald Preziosi's architectonic analysis of generic space-cells as the codes composing the tradition.
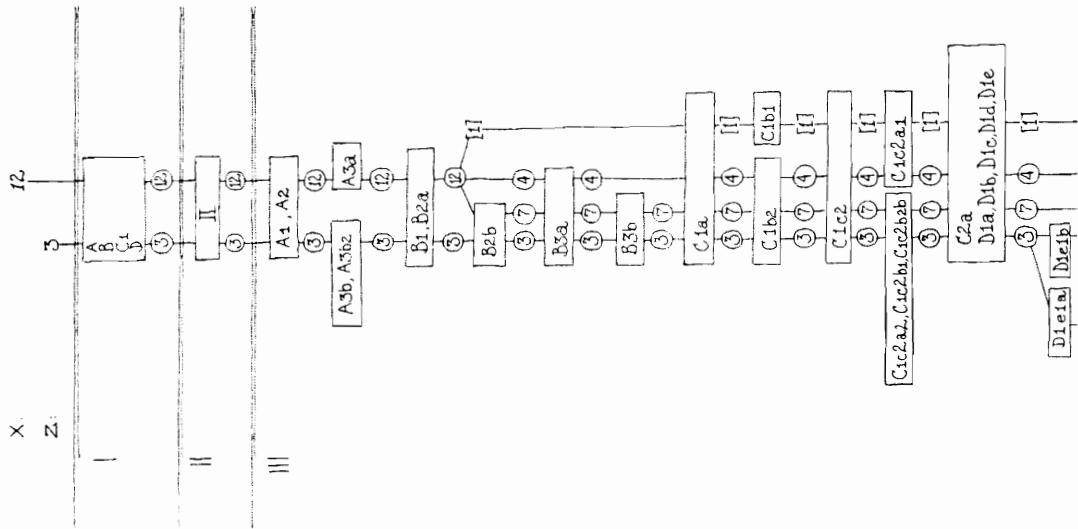
Ardalan assumes that the "vocabulary" and "grammar" of Islamic origin are imbedded in the recurring features in various Islamic mosques.[51] And these features can rightfully become aesthetic inspirations of contemporary Islamic designs if they are uncovered. To him, the vocabulary concerns aesthetic characteristics of forms, materials, and details; the grammar concerns how these characteristics are organized within the concepts of Islamic spirit.

In his investigation, Ardalan compared mosques of various geographic regions through floor plans, photos of buildings and site visits. In conclusion, he deduced these eight major features: mihrab, courtyard, minaret, dome, gateway, portico, plinth and ablution place. No spatial organization was recognized as significant in the investigation. In fact, Ardalan examined the mosques on these eight features and found support[52] from the majority of buildings under study. Despite this, Ardalan could only conclude that these features are possible visual sources of contemporary Islamic architecture. He did not illustrate, as far as this study is concerned, how

---

[51] Ardalan, Nader. **"The Visual Language of Symbolic Form: A Preliminary Study of Mosque Architecture,"** (in Jonathan G. Katz (ed.) Architecture as Symbol and Self-Identity, Proceeding of Seminar Four in the Series Architectural Transformation in the Islamic World. Philadelphia: Smith-Edwards-Dunlap Co., 1979), pp. 18-36.

[52] The incidence of these features are high, most of them occurred in different geographic areas more than 83%.
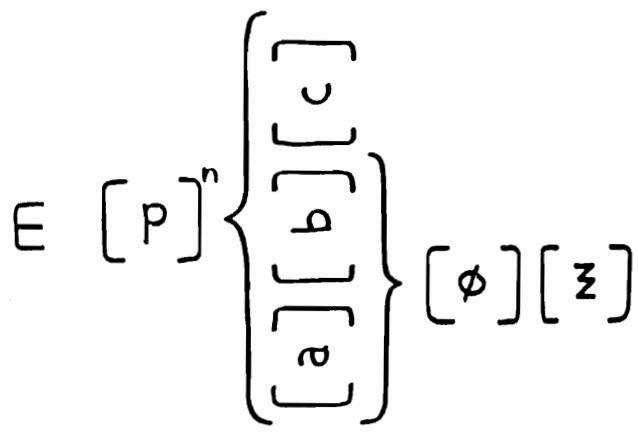
Figure 3. A building coded by Glassie's model

these sources can be meaningfully integrated in architectural designs to communicate Islamic distinctness.

In an attempt to document vernacular houses, Glassie proposes a notational scheme of "architectural competence" that enables the transformation of house patterns into a network of interrelations of physical features.[53] The scheme contains several sets of rules and codes useful for representing a building through diagrammatic descriptions of building features in a great detail (Figure 3). The building features to be coded include spatial arrangements and their interrelationships, openings (windows, doors), roofing, relation of house to the road, location of fireplace, partitioning and use of materials. In addition to such a description of houses, Glassie also observes the reasons to account for the existence of these features. But the reasons cannot be noted by the system. The coded diagrams can be used, however, as reference frame in the design of modern houses which recall the tradition.

---

[53] Glassie, Henry. **Folk Housing in Middle Virginia,** (Knoxville, TN: Univ. of Tennessee Press, 1975).

$$E \; [P]^n \left\{ \begin{array}{c} [c] \\ [b] \\ [a] \end{array} \right\} [\phi][\text{ƶ}]$$

E : EXTERIOR   p: PRIMARY ACCESS   ∅ : ONE CELL   ƶ : STAIRWELL

Figure 4. A floor plan coded by Preziosi's architectonic scheme

With similar intentions in coding traditional buildings, Preziosi develops a scheme for "architectonic analysis" of architectural essence.[54] He assumes that architecture is a combination of many geometric "space-cells," whose inter-relations are culture-specifically shaped. Application of the scheme involves systematic decoding and comparing processes which rely on preestablished codes to thoroughly represent various spatial features (e.g., rooms, and entrances). In this way, the relationships among spatial features can be transformed into simple and comprehensible "equations" (Figure 4). Other building elements are transformed into separate equations correlating to spatial features. Eventually, all features are bound together in terms of such equations ready for comparison among building patterns. The resultant common equations are regarded as "underlying regularities" - the invariable essence of architecture in a culture.

---

[54] Preziosi, Donald. **The Semiotics of the Built Environment,** (Bloomington: Indiana University press, 1979).

These three approaches are useful in identifying physical traces of past architecture significant and unique to individual cultural groups. In another sense, these techniques are meant to abstract common traits of past, rather than present, identities in terms of spatial, visual, and overall design considerations. The coded equations or images of the past can be reproduced or integrated into modern designs for the sake of cultural continuity.

2.2.3 Systematic Inquiry of Cultural Core in Contemporary Culture

As opposed to inquiry into traditional cultural core, two approaches are noted here to illustrate how inquiry may be made into the source of cultural distinctness in contemporary culture. These studies are Crigg's investigation of cultural criteria for a Chinese community design[55] and Gastal's proposal of a cultural analysis model for housing design.[56]

Criggs attempts to uncover the design of a worker's residential community in Shenzhen, China, a special economic zone meant to catalyze China's modernization. The design of such a community is oriented toward the cultural criteria of local people and limitations set by the government whose intention it is to make the design both economically sound and culturally sensitive. To meet these requirements, Criggs approaches the problem both sociologically and anthropologically. In the sociological approach, she acts as a designer who interacts with potential users for mutual understanding prior to implementation of design plans. In the anthropological approach, she applies on-site interviewing in her investigation.

---

[55] Criggs, Janis K. **Design Guidelines for a Workers' Community in Shenzhen, People's Republic of China: How Cultural Criteria Are Put to Work,** (Master Thesis, VPI&SU, 1985).
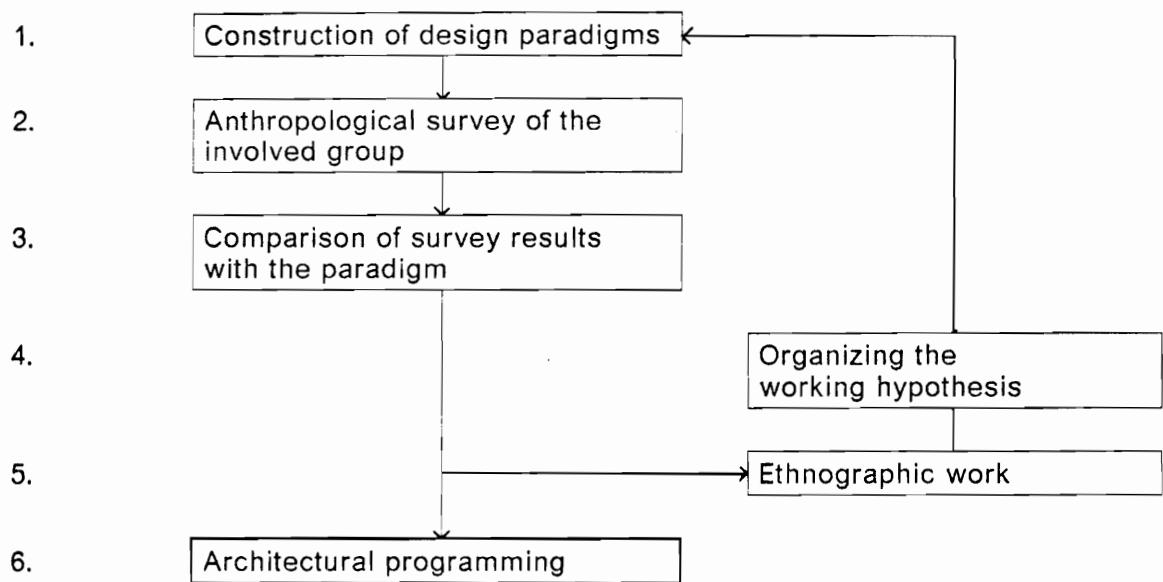
[56] see Gastal, 1982.

Through interviewing and observing workers and their families, Cirggs investigated Chinese people on these cultural considerations: social organizations (family and community structures), lifestyles, impact of the built environment on the sense of community, impact of socialist ideology on social organization, impact of politics on public services, impact of westernization on traditional philosophies and implications of these considerations.

Design guidelines resulting from the findings are not of our concern here. The approach, however, is significant because it unveils the identities of workers and their families. Although cultural criteria related to community design may not concern identity crisis in architecture, Criggs' study illustrates an approach which can be useful for identifying the elements of a selected group in contemporary culture.

Instead of searching for cultural criteria, Gastal structures a procedural approach for programming a culturally responsive environment. Like Criggs, Gastal hypothesizes that anthropological techniques can be used to enhance the designing process by obtaining significant information from the users. The information are cultural concerns ranging from history of potential user groups, belief systems, natural environment, to kinship and sex roles of an individual.

Gastal claims that built environment in every cultural context should respond to these concerns. As shown in Figure 5, Gastal's analysis involves comparison of cultural paradigms conceived by two groups of participants: designers and users. The objective is to include the cultural concerns designers have overlooked in preliminary design stages. Through case study of a Venezuelan community, Gastal concludes that the cultural analysis model can reduce failure in designing meaningful environments and close the gap of communication between user groups and designers.

```
1.   | Construction of design paradigms |<----------------+
                      |                                    |
                      v                                    |
2.   | Anthropological survey of the   |                  |
     | involved group                  |                  |
                      |                                    |
                      v                                    |
3.   | Comparison of survey results    |                  |
     | with the paradigm               |                  |
                      |                                    |
                      |              | Organizing the      |
4.   |                               | working hypothesis  |
                      |                        |
                      |                        |
5.   |              +------------------->| Ethnographic work |
                      |
                      v
6.   | Architectural programming |
```

Figure 5.   Outline of Gastal's cultural analysis model

Both Criggs and Gastal's approaches can be regarded as pre-occupation evalu-
ations similar to the "social design" of built environment, proposed by Sommer, that
consider these factors. They are (1) human use of space, (2) environmental aware-
ness and cognition, (3) environmental preferences, (4) user needs analysis, (5)
participatory design techniques and (6) post-occupancy evaluation.[57] Both studies
also indicate that cultural criteria set by users are essential to culturally responsive
environment and may be prerequisite to cultural distinctness in design.

---

[57] Sommer, Robert. **Social Design, Creating Buildings with People in Mind,** (Englewood Cliffs, NJ:
Prentice-Hall, Inc., 1983).

2.2.4 Systematic Analysis of Hybrid Design Patterns

As mentioned in 2.2.1, analysis of eclectic design patterns with regard to identity is important. One such study is noted here. Zhao investigates the "attributes" (i.e., principles or characteristics) of traditional design patterns useful for indicating the "spirit" of Chinese contemporary culture in architectural designs. In his study, the "spirit" resembles the meaning of taste or "Chineseness."[58]

Zhao hypothesizes that a synthesis of traditional "spirit" with modern forms cannot be achieved without the presence of old forms. As shown in Figure 6,[59] the study is structured in two parts to obtain Chinese spirit and physical attributes separately. Perceptual analysis is designed to elicit laypersons' perception of Chineseness in buildings, whereas formal analysis based on Gastalt Laws of Visual Perception is applied to identify principles of new/old synthesis in design. Both modern and traditional buildings of Swedish and Chinese origins are selected for analysis against such spiritual indicators as pleasantness, complexity, social status and oriental identity. Ten buildings are selected from each cultural backgrounds. These buildings are judged by both subject groups to learn how Chineseness is perceived among them. As for the formal analysis, only traditional features are selected.
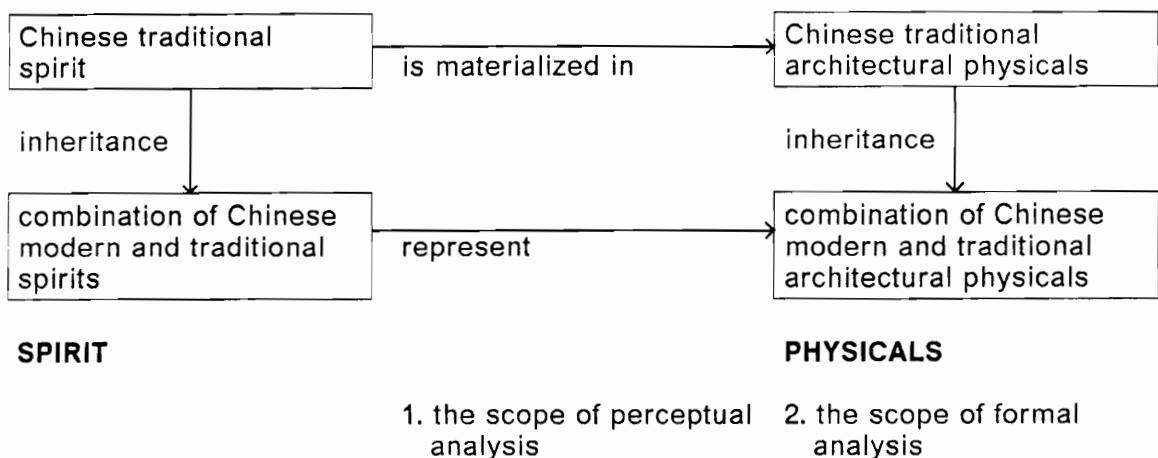
The result of perceptual analysis,[60] that is, the perceived spirit, is presented by semantic indicators quantitatively. Data in Table 3 shows that the most Chinese spirit is reflected in monumental buildings, particularly, temples. But, the survey result does not indicate whether these building patterns of high rating carry the spirit of

---

[58] Zhao, Xuedong. **Attributions of Architectural Form: Models for Understanding and Inheriting Characteristics of Chinese Traditional Architectural Form,** (Ph.D. Dissertation Sweden: Lund Institute of Technology, 1987).

[59] Zhao, 1987, p. 23.

[60] Zhao, 1987, pp. 58-113.

Chinese traditional spirit	is materialized in	Chinese traditional architectural physicals
inheritance		inheritance
combination of Chinese modern and traditional spirits	represent	combination of Chinese modern and traditional architectural physicals

SPIRIT   **PHYSICALS**

1. the scope of perceptual analysis   2. the scope of formal analysis

Figure 6.   Scope of Zhao's attribution analysis

Chinese culture, which features of a building indicate the various spiritual aspects, or whether these features should be considered as sources of cultural inheritance. Although the approach elicited survey subject's' impressions of traditional buildings, it fails to identify the elements to be inherited in modern designs.
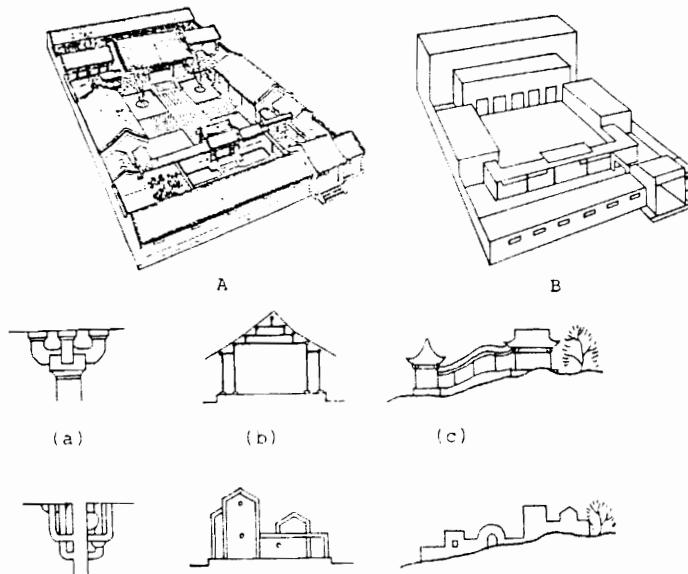
In the formal analysis, however, Zhao illustrates how traditional principles of design and their new applications can be reinterpreted. Base on the Gestalt Laws of Visual Perception he asserts, "A property cannot be defined as a Chinese charac-teristic if it can also be found in non-Chinese architecture . . . and [traditional] spirit can possibly be maintained . . . through relevant relations [between elements in a feature]." He further states, "If possible, this [formal analysis] may lead to deeper and more essential results than just copying forms and elements [from traditional archi-tecture]." Specifically, he suggests the application of Gestalt Laws to determine syntactic structures of constituent elements (figure) and their inter-relations (ground). The purpose is to distinguish dominant elements from those which compose the background. Diagrams in Figure 7 are examples of such an analysis.

Table 3. Summary of Zhao's perceptual analysis

Spirit indicator	Best example perceived by Chinese subjects	Best example perceived by Swedish subjects
Pleasantness	temple	courtyard house
Complexity	courtyard house	temple, pavilion
Unity	temple	storied building
Enclosedness	castle, palace	same
Potent	palace	castle
Social status	temple	same
Affection	palace, temple	pavilion, storied building courtyard house
Original	temple	pagoda
Oriental	courtyard house	villa, pavilion

Although Zhao did not embark on integrating new and old forms at length, the strength of his formal analysis is that many traditional design patterns may be re-studied this way for modern application. The weakness, on the other hand, lies in the lack of standards for evaluation of hybrid forms. There is no doubt that combination of Chinese and non-Chinese forms is inevitable, but this becomes insignificant if one is unable to distinguish between various degrees of combination. What is more, both perceptual and formal analyses did not include other cultural aspects as included in theoretical proposals mentioned in 2.2.1.

The review of previous approaches can be summed up here as shown in Figure 8. Above all, theorizing for identity in architecture is insufficient as far as it fails to offer a basis to examine design outcomes. This becomes a crucial requirement in resolving identity problems. Although none of the empirical inquiries of core elements from traditional and contemporary culture satisfies the requirement, collectively, they provide a comprehensive perspective to the identity problem. Through the anthropological investigation of traditional and contemporary culture, one may unveil numerous factors attributed to the nature of a cultural group but not necessarily related to identity in architecture. It is unlikely that a study can delve into all

Figure 7. Examples of Zhao's formal analysis

these factors completely. Thus, the scope of cultural core must be identified at the beginning of a study. As for re-presentation of past design patterns, the notational systems and formal analysis are able to reveal aspects of specific and distinct designs. But the task would be enormous if one attempted to analyze the entire gamut of traditional architecture. They are useful, however, for determining physical elements of cultural distinctness. What is left undone at this juncture is the approach that considers political, social, and economic distinctness in various hybrid forms. This is how the noticeable boundary that Rapoport has suggested should be determined. Such a need calls for the conceptualization of architecture as a means of communication of the core elements.

Core elements		Physical boundary	

Obtained through:

1. Traditional culture
-identification of unique visual images
-architectonic analysis
-architectural competence analysis
-perceptual analysis
-formal analysis

2. Contemporary culture
-anthropological surveys on
 social, political, and economic influences

Eclectic design patterns

Major core elements	Evaluation of eclectic design patterns based on major core elements

Figure 8.   Summary of previous approaches to resolving identity problem

2.3 Conceptualizing Architectural Communication of Cultural Identity

Conceiving the establishment of cultural identity as human communication is always controversial when the latter is based on semiology in linguistics. In the interest of this research, alterations in existing assertions of linguistic analogy in architecture must be done. We do not intend to consider architectural designs in terms of text and syntactic structures comparable to that of written languages. The relevance between identity in architecture and communication exists in so far as the model of architectural communication (Figure 9)[61] is applicable to the aspects and processes involved. In such an analogy, incorporating specific messages into a

---

[61] Krampen, Martin. Meaning in the Urban Environment, (London: Pion Ltd., 1979), p. 23.

the sender	(the architect or the architectural team)
the codes and lexicons	(the functional, legal, structural and economical rules in accordance with which a building is designed)
the signal	(the sum of drawings, models and written specifications of an architectural design)
the channel	(the construction-site)
noise	(environmental obstacles impeding perception and the physical disintegration of the architectural sign complex)
the receiver	(the human being, by means of his sense organs)
the significant aspect of specifying the message	(architectural space including the objects within it)
the codes and lexicons of the receiver	(functional, legal, structural and economic expectations) tions
semantic noise	(the prejudice of the receiver)
the receiver as a collective	(the city as a system of communication)
the meaning (signified) aspect of the message connotes)	(the original function which the architectural object denotes and the second function which it

Figure 9. Shannon model of architectural communication

building is considered an act of "encoding" while interpreting that message is regarded "decoding;" the building and the surrounding environment are taken as "signs;" the client or the person who designs the message is a "sender" while building users or onlookers are message "receivers." Ideally, a successful or effective communication, according to Kawama, is that "encoding process and decoding processes are symmetrical, because what the sender encodes must be the same thing as the receiver decodes."[62] In this sense, if core elements encoded in architecture by insiders are perceived by outsiders, the communication can be considered symmetrical.

Many authors have shown similar views, except that they termed the subjects of their studies as environmental communication,[63] architectural symbolism[64] or signification. In his "reading" of architecture, Gandelsonas states, "any individual act of communication, whether language or not, is defined by a set of factors comprising sender, receiver, channel, code, referent and the message itself."[65] He stresses that it is unequivocal that our physical surroundings, created by man, are varying media of communication, although the media may not necessarily be created to influence or inform the perceiver.

In recent years, researchers from many disciplines have completed work - far too voluminous to list here--on communication related issues such as "meanings signified in the built environment," "Environment/Behavioral studies," "environmental perception, environmental preferences," "cognition," "behavioral evaluation of envi-

---

[62] Kawama, Tetsuo. "An Analysis of the Decoding Process of Internal Signs," (Semiotica, vol. 57-1/2, 1985), p. 106.

[63] Rapoport, 1981; and Christensen, 1979.

[64] Nasar, Jack. "Architectural Symbolism: A Study of House-Style Meanings," (EDRA, 19, 1988), pp. 163-171; and his "Symbolic Meanings of House Style," (Environment and Behavior, May, 1979), pp. 235-257.

[65] Gandelsonas, Mario D. "On Reading Architecture," (Progressive Architecture, 3: 37, 1972), p. 41.

ronmental settings," "post-occupancy evaluation of the built environment" and the like. In much of this work, two orientations are relevant to the study: (1) environmental perception: connotative meanings laypersons infer from various built forms, and differences in the perception of building patterns among studied groups, and (2) linguistic analogy in architecture and its application in interpreting architectural designs. The advantage of establishing such an analogy is that these studies provide a significant body of empirical perspectives of communication. Although empirical study of communication of identity in architecture does not exist, this does not imply that one cannot view it as such.

2.3.1 The Study of Environmental Perception

In studying environmental perception, researchers measure laypersons' perception using simulated environments (photos or slides) and the techniques of Semantic Differential developed by Osgood.[66] They regard buildings as the media, otherwise known as environmental cues, fronts or "signifiers" which carry "signified" meanings such as "messages from past generations, from owners and users who have left them behind as the material relics of varying ways of life . . . ," "[information] about present-day changes, new social conditions, or repetition and stability . . . ,"[67] "social status, aspirations, friendliness, and personal identity,"[68] "characteristics of

---

[66] Osgood, Charles E. **The Measurement of Meaning,** (Urbana: The University of Illinois Press, 1957).

[67] Christensen, 1979, pp. 68-88.

[68] Nasar, 1988, pp. 163-171; James Duncan Jr. **"Landscape Taste as a Symbol of Group Identity: A Westchester County Village,"** (The Geographical Review, 63, 1973), pp. 334-355.

likely residents in an area,"[69] those associated with particular home styles[70] and so forth.

But it is argued that focusing solely on traditional social scientific categories of social phenomena (environmental preferences, environmental cognition, meaning in architecture, crowding and privacy, etc.) does not necessarily relate the findings to the design of built environment. The problems are caused by the diverse employment of research techniques, i.e., participant observation, questionnaires, laboratory studies, language and statistical techniques. As evidences of environmental findings, application of these techniques make mutual understanding between disciplines difficult. On the other hand, in undertaking objective investigation, the simulated environment tends to be viewed as a whole without touching upon the roles of constituent elements which may have decisive effects on environmental perception.

Although these subject matters remain legitimate approaches to studying environmental communication, their research techniques and methods are insufficient in dealing with the complex relationship between identity and building patterns. Problems like these are not likely be solved immediately, for they call for the development of an elaborate and objective investigation of building patterns and communication. With regard to such a problem, Krampen suggests,

> The universe of the signified must now be established to further develop the semiotic structure of architectural connotation. This may be done by "objectively" analyzing visual architectural objects. A semiotic structure combining such an objective analysis with subjective reactions can only be postulated if the nature of objective visual stimuli can be established.[71]

---

[69] Royse, D.C. **Social Inferences Via Environmental Cues,** (Ph.D. Diss. MIT, Cambridge, 1969).

[70] Hayward, D.G. **"An Overview of Psychological Aspects of Homes,"** (in R.L. Brauer (ed.) Priorities for Environmental Design Research: Workshop Summaries, 1969), pp. 418-419.

[71] Krampen, 1979, p. 244.

As suggested, it may be helpful to determine how semiotic perspective of architectural objects can be objectively achieved and how signs that are informative and effective for communication of the desired core elements can be identified.

2.3.2 *Semiotic Perspectives in Architectural Communication*

Many studies have shown the usefulness of architectural interpretation based on semiotics, but the way they attempt objective analysis varies. In these studies, most obvious variance is the conception of signs.

The human science by which meanings are studied was called "semiology" by de Saussure who considered it a branch of social psychology.[72] But semiology and semiotics have come to be virtually synonymous terms, even though they were separated.[73] In its broad sense, semiology regards both physical and non-physical elements as possible "signs" of communication. A sign may not only be a perceptible thing outside of us, but also something in our feelings and thoughts. In our daily world, a sign can be a traffic light, a trade mark, children's behavior in a playground, an architectural drawing, a painting, or a group of noisy crowd. In this sense, every visually encountered object and events are eligible signs, or sometimes, as the "object" a sign is designed for. Variously interpreted by viewers, the signs have meanings. Some call the meaning "interpretant."

A common tendency toward meaning in architecture is similar to Hershberger's remarks that,

---

[72] Saussure, Ferdinand. **Course in General Linguistics,** (London: Geral Duckworth & Ltd., 1983).

[73] Wurtzel, Gary I. **A Theory of Semiotics, Communications, Technologies, and Culture,** (Ph.D. diss. New York University, 1978), p. 189.

It is people who bring meanings to architecture. The forms, spaces, colors, etc. of buildings do not contain any meaning whatsoever. Architects intend meaning for what they design; laymen attribute meaning to what they experience. In either case, the meaning of particular forms, spaces, etc., is felt to depend on the interpreter's previous experience with them or with similar forms, spaces, etc.[74]

The major purpose of semiology is transforming objects to signs operating in human communication. It dissects a design object into various sign qualities. As Krampen notes,

Since architectural subjects are always a combination of various elements, they can be seen as systems and, as relational objects, as sign systems . . . . Semiology is capable of a precise description of the mechanics whereby a building or city becomes a message.[75]

And Bonta indicates,

The distinction between architectural form and meaning naturally leads to regarding architecture as a systems of signs. Semiotics is the science which studies the life of signs within a society. Semiotic analysis can help clarify certain issues concerning meaning in architecture and art.[76]

In this sense, architecture is taken as a visual system comprising signs of semiotic qualities in addition to its use values.

As indicated in Peircean semiotics, the nature of a sign should be conceived in terms of a triadic relationship among the interpreted meaning, the sign itself, and the "object" (Figure 10). In other words, the following relationships are formed: the sign-material relationships; the sign-object relationships; and the sign-interpretant relationship respectively.[77] Like Peirce, Krampen also points out that, "the design object is a special type of sign, in that it realizes a combination of particular charac-

---
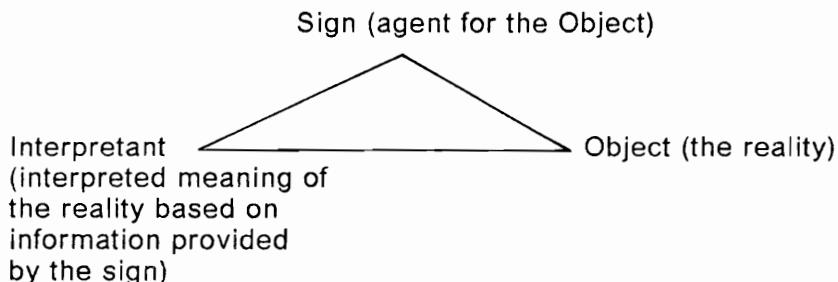
[74] Hershberger, Robert. **A Study of Meaning and Architecture,** (Ph.D. Dissertation, University of Pennsylvania, 1969b.

[75] Krampen, 1979, p. 44.

[76] Bonta, Juan. **Architecture and Its Interpretation,** (New York: Rizzoli, 1979), p. 26.

[77] Peirce, Charles. "**Logic as Semiotics: the Theory of Signs,**" (in Justus Burchler (ed.) Philosophical Writings of Peirce, New York: Dover Publications, Inc., 1955), pp. 98-119; and Umberto Eco. **A Theory of Semiotics,** (Bloomington: Indiana Univ. Press, 1979).

Sign (agent for the Object)

Interpretant
(interpreted meaning of
the reality based on
information provided
by the sign)

Object (the reality)

Figure 10.   Triadic relationships of a sign

teristics from all three dimensions. It has a material aspect . . . it possesses a se-

mantic dimension . . . Finally it exhibits a functional aspect."[78] To Bense, the meanings

of a design object are reflected in its instrumental use; connotations beyond its in-

strumental use; and values to those who use the object.[79] Morris categorizes the

meanings of a sign into syntactic, semantic and pragmatic aspects.[80]

Acknowledging the variety and complexity of diverse semiotic theories, our in-

terest is in one that justifies the analogy between semiology and architectural fea-

tures.   The major signs desired to communicate core elements can thus be

interpreted in terms of these qualities.

2.3.3 *Stylization of Major Signs*

It is presupposed in linguistics that signs such as words are organized according

to a "code," the syntactic principles that regulate meaningful composition of signs.

Semiotic coding, on the other hand, is a signifying process which purposefully de-

---

[78] Krampen, 1979, p. 10.

[79] Krampen, 1979, p. 10.

[80] Morris, Charles. **Signs, Language and Behavior,** (New York: Prentice Hall Inc., 1950).

fines a semiotic system and forms of signs (e.g., picture, drawing) to inform and influence a perceiver. Eco calls such a process "sign-production," and "stylization." It refers to the way signs are created by selection of appropriate codes, and means to articulate them. In sign-production, buildings are stylized with preestablished sign systems.

Stylization in architecture involves time factors. According to Bonta, because of the distinction between a signal and an index,[81] "Designers may consider their products nothing but indexes when they design their forms. But as soon as their products begin to be used, they are socialized. Indexes will become signals, and these signals will become out-worn and then de-semanticized."[82] Every architectural design undergoes such a process except that the indexes may not carry the same messages as originally coded in time.

Nevertheless, intentional stylization is needed in order to produce a specific type of signs such as signals or indexes. To satisfy the need, Broadbent suggests, a designer would have to selectively incorporate culture-specific features in design within the domain of conventional architecture.[83] The purpose of this, according to him, is to deliberately provide sources of cultural association meaningful to the public of the involved group. He holds, "having [provided] the deeper structure of architecture by designing a building to certain human activities . . . the building should act as a cultural symbol - by intentionally building in cultural reference which the users

---

[81] Bonta, 1979, pp. 28-29. Signals are signs that are deliberately produced through intentional emitters (signs) for the purpose of communication, and are recognized as such. They are independent of physical reality. Signs on the ambulance is purposefully used to communicate, thus, are signals. Indexes, on the other hand, refer to reality in a more direct way than signals. An object or event itself can be the information emitter. They are not deliberately produced to communicate information but could be recognizable as meaningful signs to those who are familiar with them.

[82] Bonta, 1979, p. 49.

[83] Broadbent, 1982, pp. 45-54.

Table 4. Demarcation of signs in architecture

Preziosi	Gamberini	Christensen	Becker
-spatial order (functional and geometrical)	-floors plans	-internal organization of the building	-shape and layout of the building
-characteristic use of color, forms, and materials		-use of materials and quality of craftsmanship	-exterior materials
-relationship to an urban fabric		-location relative to other buildings	
-characteristics of formal elements (openings, vertical) circulations, etc.)	-vertical connection between floors -connection in walls between interior and exterior spaces (i.e. window, door) -pillars and beams	-exterior facades, decorative elements, and entrances -type and exploitation of outdoor spaces	-landscaping features
-symbolic motifs used domestically -pattern of furniture arrangement	-objects used to accentuate meaning in spaces (furniture)		
	-walls -roofs	-form and dimension of building mass	

could read."[84] Yet, should all signs in a building provide cultural references? Or only major signs do so? Thus, not only is there a need to determine sign-types in architecture, but also a need to determine which type of signs play the major role in communication. This is the purpose of sign-comparison.

In studies of environmental preferences, a building is regarded as a major sign since it was simulated through a single photo. The sign may be sufficient for an investigator to study the general connotation of an overall structure. In which case, the sign is large compared to those Eco has identified in his "Componential Analysis," "Type-token Ratio comparison," and "Information Measurement" of facades. In order

---

[84] Broadbent, Geoffrey. "**The Deep Structure of Architecture,**" (in his (ed.) Signs, Symbols and Architecture, London: John Wiley and Sons, 1980), p. 163.

Table 5. Summary of major signs in architecture

major signs:
I.**Building itself** 　forms and facades 　culture-specific designs
II.**Exterior spaces** 　spatial order 　formal elements 　culture-specific designs
III.**Interior spaces** 　spatial order 　formal elements 　culture-specific designs

to distinguish between different styles, Eco's analyses consider in every building components such as window, terrace, baulestrade, and cornice as major signs.[85]

In addition, some studies define signs in architecture according to physical separations of formal elements. As shown in Table 4, these "constituents" of architectural language (or, the componential signs) and the "sign types" are respectively proposed by Gamberini, Preziosi,[86] Christensen,[87] and Becker.[88] The table provides a tentative reference frame about what can be considered major signs. The categorization can be further summarized as shown in Table 5. It appears, therefore, that the more specific the signs are classified, the easier they can be identified.

In some cases, categorizing signs is insufficient, particularly when the focus of communication needs to be identified. To compare signs, one may consider the theory proposed by Charles Peirce. Peirce distinguishes signs in terms of "levels of

---
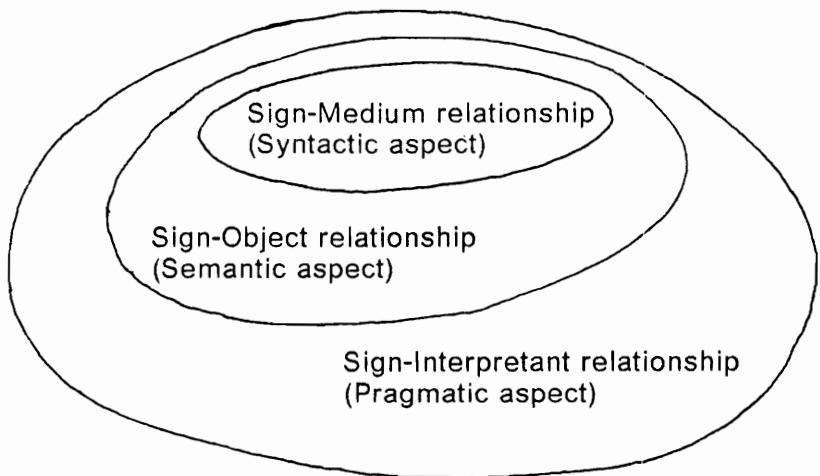
[85] Krampen, 1979, pp. 245-260.

[86] Preziosi, 1979.

[87] Christensen, 1979, pp. 70-72.
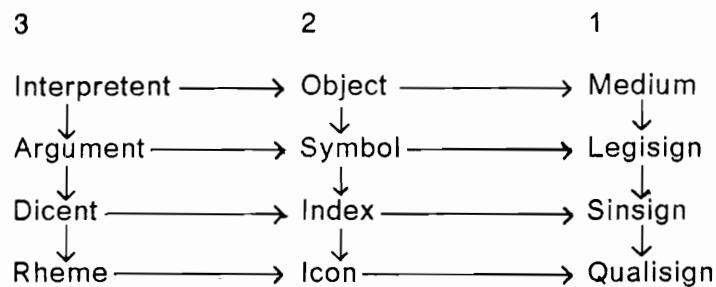
[88] Becker, Franklin. **Housing Messages,** (Stroudsburg, PA: Dowden, Hutchingson & Ross Inc.), 1977.

Sign-Medium relationship
(Syntactic aspect)

Sign-Object relationship
(Semantic aspect)

Sign-Interpretant relationship
(Pragmatic aspect)

Figure 11. Hierarchy of logical inclusions of Peircean sign relationships

communication" which are indicated by such parameters as "sign-relationships" and

their sub-categories distributed in a "hierarchical degradation" manner (Figure 11,

12). Such a degradation exists because the significance of sign-relationships varies.

As shown in Figure 11, "pragmatic meaning" of a sign is inclusive of the others, thus,

the most important sign-relationship. Likewise, the importance of the semantic as-

pect surpasses that of the syntactic aspect. Figure 12 shows that the meaning of a

lower level can be interpreted with that of higher levels. Peirce calls such a hierarchy

of meanings "levels of communication." In theory, the higher the level of a sign, the

more informative and significant the communication is. The same hierarchy exists

within each group of subcategories. For instance, a symbol is on a higher level than

an index, just as an index is on a higher level than an icon.

Because a sign is interpreted through one out of each sign-relationship, there

would, theoretically, be 27 (3X3X3) combinations of subcategories. But according to

Peirce, interplay of these sign-relationships can only result in ten basic levels of

signs following a degrading hierarchy of levels (Table 6). The reason for ten rather

```
       3                      2                      1

Interpretent ——————→ Object ——————————→ Medium
     ↓                      ↓                      ↓
Argument ——————→ Symbol ——————————→ Legisign
     ↓                      ↓                      ↓
Dicent —————————→ Index ——————————→ Sinsign
     ↓                      ↓                      ↓
Rheme ——————————→ Icon ——————————→ Qualisign
```

Figure 12.   Matrix of hierarchically nested relationships

than twenty-seven levels, Peirce indicates, is because "a sign which realizes its sign-interpretent relationship can realize its object and medium relationship only on its own or the higher level."[89] Since a sign of level one, for instance, is more important than those of level two or five, the hierarchy of levels can be used to distinguish major from minor signs.

2.3.4 Empirical Measure of Architectural Communication

Architectural theoreticians[90] are considerably consistent in their applications of Peircean assertions of "level of communication" when interpreting meaning in signs. Yet none has questioned the relevance between architectural communication and the ten-level limitation proposed by Peirce. Table 7 contains few changes in sign defi-nition from Peircean theories. These changes are made to better suit architectural

---

[89] Peirce, 1955, pp. 98-119.

[90] Some of the architectural semioticians and their works are Blomeyer, Gerald, and Rita M. Helmheltz. "**Semiotics in Architecture, A Classifying Analysis of An Architectural Object**," (Semiosis, 1, 1976), pp. 42-51; Broadbent, 1982, pp. 45-54; and his "**Meaning in the Islamic Environment**," (in German Agdin (ed.) Islamic Architecture and Urbanism, 5-10, Jan, 1980); Agrest, D. and M. Gandelsonas. "**Critical Remarks of Semiology and Architecture**," (Semiosis, Vol. 9, 1973), pp. 252-271; Chen, Chipeng. **Architecture and Signs,** (Taipei, Taiwan: Ming Wen Pub. Inc., 1985); Charles Jencks. "**Rhetoric and Architecture**," (Architectural Association Quarterly, 4, Oct/Dec, 1972), pp. 4-17; and his The Language of Post-Modern Architecture, (New York: Rizzoli International Pub. Inc., 1981).

Table 6. Level of signs

Sign relationships:	sign level:
Rhematic-Iconic-Qualisign	1
Rhematic-Iconic-Sinsign	2
Rhematic-Indexical-Sinsign	3
Dicentic-Indexical-Sinsign	4
Rhematic-Iconic-Legisign	5
Rhematic-Indexical-Legisign	6
Dicentic-Indexical-Legisign	7
Rhematic-Symbolic-Legisign	8
Dicentic-Symbolic-Legisign	9
Argumentic-Symbolic-Legisign	10

interpretation. Most noticeably, the researchers introduce these architecture-related meanings in various schemes such as qualities of building materials, relationships between materials and forms, architectural programme, and economic values of a building. Upon examination, one finds that researchers have treated the Peircean triadic sub-categories (Figure 12) differently. The focuses vary from planning phase to creative processes.[91] The differences also lie in various definitions of pragmatic, semantic and syntactic sign-relationships. As the meaning of a sign is subject to various definitions, its final level also varies. Thus, Blomeyer and Helmheltz point out that "Semiotic terms define specific aspects of and analyze architectural object in relation to a given situation. A semiotic analysis always depends on or defines a singular situation with respect to singular relations. This [sign-] relation is consequently different in each situation."[92] In most cases, architectural semioticians define the parameters and levels of signs to achieve their research objectives. Krampen describes a typical approach to studying signs empirically.

---

[91] Krampen, 1979, p. 90.

[92] Blomeyer, 1976, pp.42-51.

Table 7. Sign types defined by architectural semioticians

Semioticians/ meanings	Blomeyer & Helmholtz	Dreyer	Krampen	Broadbent
Syntactic:	Sign-medium relationship	material realization	relationship between a sign and its medium	Firstness
Quallsign	Sensory perceptible substance	element	various qualities of building materials in relation to human perception	single quality of an object as a sign
Sinsign	realization in an individual, singular form and its aesthetic states	relationships between elements	relations between building materials or forms with regard to contrast and distinction in architecture	a whole object as a sign
Legisign	physical, constructive and static laws, conventions	general order of elements	standardization of architectural components and the structural organization	a built form which reflect an agreed upon design principles
Semantic:	Sign-object relation	architectural programme	relationship of the sign to its object	Secondness
Icon	frame systems, habitation systems	construction type	manifestation of the idea of the plan in the realized construction	a sign which is "like" its object in some way
Index	directional systems, access systems	functional type	visual relationship between external forms and internal functions	a sign which "indicates" its object because it is "affected" by that object
Symbol	selective systems, metric systems	formal type	form and its traditional and symbolic capacity	a sign established by the convention
Pragmatic:	Sign-interpretant relationship	interpretation	relationships among a sign, its object and its interpretation	Thirdness
Rhema	object interpreted as an element of an open context	economic value	a sign is subject to multiple use and interpretation	a sign which shows some kind of "potential" or "possibility"
Dicent	object interpreted as an element in a closed context	use value	a sign's clear and unequivocal interpretation	a sign which "tells" that something exists
Argument	object interpreted as a necessary part for a complete context	ideological value	the scope and limits of architectural system within a historical, political and economic context	a sign which applies certain design principles

If buildings, or cities, are signifiers of semiotic structures these might be objectively tested by (1) taking a well-defined "corpus" (sample) of buildings, (2) carrying out a repeatable analysis to extract the general features of their semiotic structures, (3) finding the appropriate metalinguistic (verbal or symbolic) terminology for these features, and (4) testing this terminology against other samples of buildings or cities.[93]

Thus, semioticians claim that "Any building may . . . be classified by a combined consideration of the [sign] relationships,"[94] regardless of a common lack of sufficient evidence. None of the studies has proved that Peirce' ten levels-of-communication is all-inclusive of architectural meanings. Chen's study, for example, suggests twenty-seven sign levels for comparing significance of design patterns without arguing about its validity.[95] The result of applying Peircean theories can be illustrated here. A typical Mies van der Rohe building may be classified as a rhematic-iconic-legisign (e.g., level 5); a typical Gropius house may be classified as a dicentic-indexical-sinsign (e.g., level 4); and Le Corbusier's Ronchamp Church may be classified as an argumentic-symbolic-legisign (e.g., level 1). Inspired by the illustration, it is possible that Peircean hierarchy of sign-relationships be structured to distinguish major from minor signs on the basis of economic, social, and political meanings.

Chapter Conclusion

Rapoport suggests that the distinction between internal and external identities should be made in the pursuit of identity in the built environment. He also stresses that any partial definition of the culture is an identity component; identifying cultural criteria is essential to preserving identity; and continuity and cultural consideration

---

[93] Krampen. 1979, p. 244.

[94] Krampen, 1979, p. 45.

[95] Chen, 1985, p. 100-101.

of design underlie the need for identity in architecture. Adopting the theoretical

constructs of Gastal, Sumner, Sommer, and Criggs, these major aspects: political,

social and economic influences on design, and sign-production approaches can be

considered as the sources of cultural distinctness in our research. These sources,

as listed below, can be related to cognitive, psychological, and emotional definitions

of a cultural group under study. They are:

1. Political influences on architecture.
2. Patterns of behavioral and social structure reflected in architecture.
3. Social philosophies, beliefs and values reflected in architecture.
4. Economic influence and availability of resources on design and construction.
5. The roles and characteristics of traditional architecture in modern culture.
6. Sign-production though hybrid forms.

The empirical approaches designed to obtain core elements in traditional archi-

tecture are useful and can be applied in future studies. These proposed notational

systems, formal analysis, and Architectonic analysis would be more useful if they

were combined with anthropological investigation of the cultural context. Except for

political and economic concerns, Gastal, Criggs, Rapoport, Sommer, and Zhao have

all repeatedly stressed the importance of users' perceptual responses toward archi-

tecture, environmental preference, and behavioral patterns. By combining empirical,

sociological, and anthropological approaches, one should be able to identify political,

social and economic components of cultural identity.

Moreover, as cultural distinctness cannot be communicated through contempo-

rary elements alone, traditional architecture and its characteristics remain important

sources of identity components. Hybrid design features, as well as evaluation of the

resultant designs, become inevitable in this research. A possible resolution is to

evaluate core elements reflected in hybrid designs based on a semiotic scheme

which is developed from constructs of architectural semioticians.

One then can apply the scheme to measure the "levels of communication" exhibited in architectural signs. Since the levels follow a degrading hierarchy, the extent to which a major sign exhibits core elements could be determined. Architectural signs defined in such a hierarchy should then be used to encode identity components. If the syntactic aspect of a sign is defined to study economic meanings, a Legisign would reflect the major strength of an economic system. Eventually, the physical boundaries which stand for the identity of a cultural group can be identified. This is possible when core elements are reflected in major signs, and when the findings agree with that perceived by the majority of laypersons. Meanwhile, techniques used in previous studies of environmental communication would be useful in determining whether architecture contains messages of cultural distinctness. If the built forms are coded with the core elements successfully they can be considered as noticeable and unique means of communication.

The study concludes from the review of related studies that identity in architecture ought to be studied with an interdisciplinary approach including architecture, social science, anthropology, semiotics and environmental psychology. In this manner, one would make a case in which identity in architecture is not solely judged by formal elements and elite concepts. The above notes will be further structured as the method to illustrate such a case.

3.0 METHOD OF STUDY

Chapter Summary

This chapter includes the development of a coding scheme, or weighting sys-

tem, to establish a common ground for the study of core elements and design pat-

terns. The research method follows the intellectual supports of some of the authors

mentioned in the last chapter, namely Gastal, Zhao, Criggs, Sumner, Peirce,

Rapoport, Morris, Krampen, Gandelsonas, Blomeyer and Helmholtz[96] and Dreyer.

Design and application of the coding scheme and a survey to test the hypotheses are

also described.

3.1 An Empirical Approach to the Investigation of Distinct Identity in Architectural Signs

Dealing with the correlation between design patterns and cultural identity is not

as straightforward as pointing out social status and personal identities implied in

---

[96] Blomeyer and Helmoholtz, 1976.

dwellings. The implication may not exist in the architecture of lesser developed so-

cieties. Furthermore, there are many cultural elements, or variables, involved in

shaping built forms, each affecting and being affected by others. It is not possible for

an investigator to cover all of them in one research. None of the elements operate

in an equivalent way in all settings, and simple causal effects between elements do

not usually hold in culture/environment relations. In other words, one should not take

one or all elements as the most important. Consequently, it is more feasible to study

the patterns of relations among elements than to study every single element.[97]

Rapoport's method is the appropriate way to theorize the relations. He suggests

that identification of noticeable means of communication for the core elements would

elicit the foundation of perception of cultural identity in architecture.[98] Specifically, he

proposes two basic steps in communicating cultural identity. They are:

1. To realize and define the "core elements" of one's own distinctness, i.e. the
   internal identity to be communicated.
2. To provide identifiable and noticeable media through environmental and non-
   environmental means for the expression of distinctness to both the insiders and
   the outsiders, i.e. the external indicators of the core elements.[99]

In other words, before a design pattern can be regarded a noticeable means of

communication, it is necessary to demonstrate that the relations between core ele-

ments and characteristics of design have some degree of validity. To be valid, how-

ever, two conditions should be satisfied. First, both the core elements and the

correlation process are determined by insiders. Second, identity inferred by

perceivers which is based on architectural features must be significantly related to

the core elements of the cultural context. To satisfy these conditions and to provide

---

[97] Altman, 1986, pp. 308-309.

[98] Rapoport, 1981.

[99] Rapoport, 1981.

supporting evidence for the hypotheses, the author proposes a method for the study

of cultural identity in architecture. It includes the following steps:
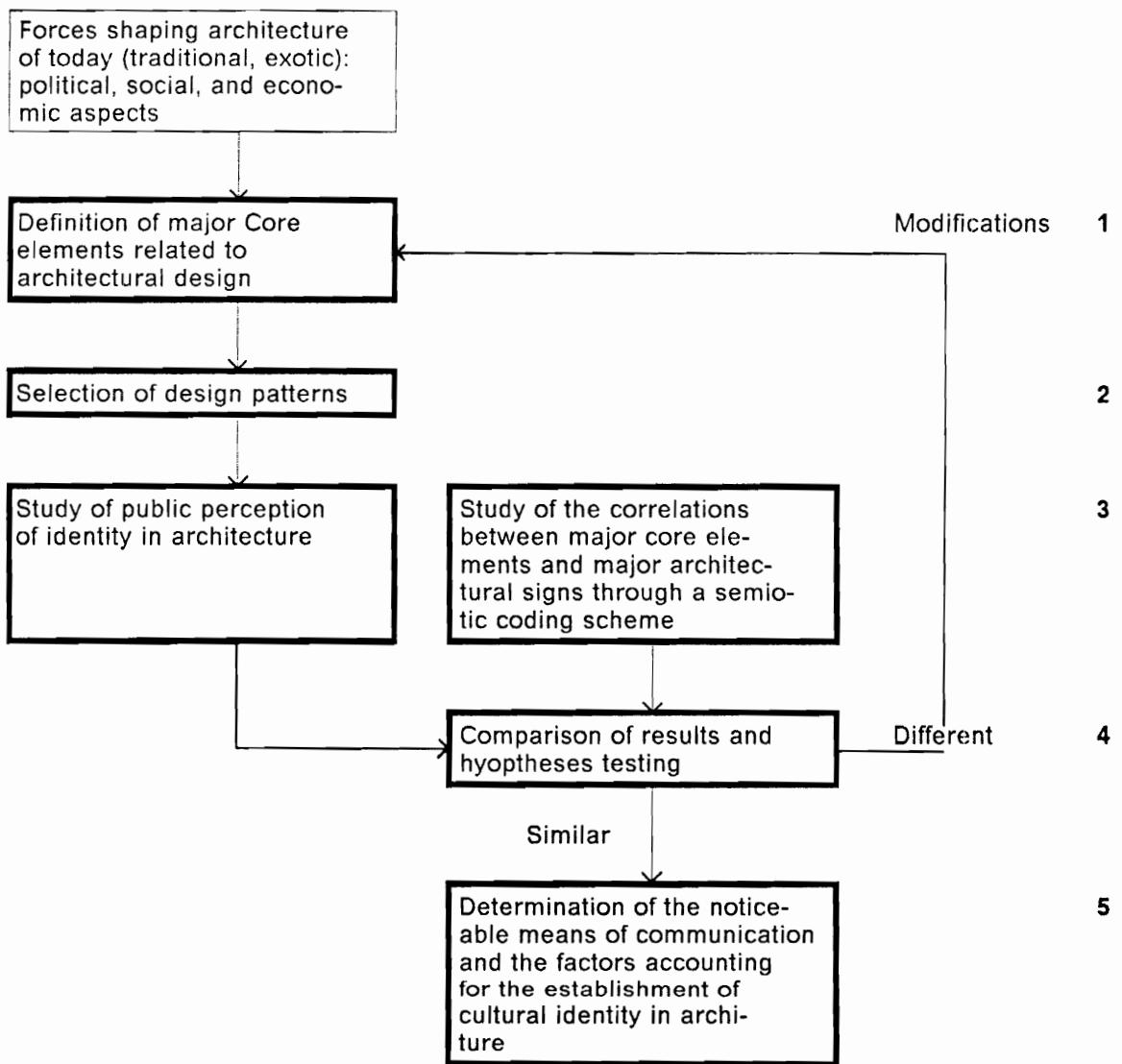
1. Definition of core element as related to architectural design.
2. Selection of design patterns which represent samples of design pattern.
3. Study of the correlations between the core elements and design patterns through a semiotic coding scheme and a survey.
4. Comparison of the results and hypotheses testing.
5. Determination of the factors which account for the perception of cultural identity in architecture.

3.2 Description of the Empirical Approach

Indicated in the thick boxes of Figure 13 are the above steps organized into a

sequence of tasks. The initial phase, Step 1, is designed to identify the core elements

considered important to cultural identity. This step is important because an identity

may not be unique without showing strong relations to that important to a cultural

group. An investigator would need to apply social/anthropological disciplines as il-

lustrated by Gastal and Criggs to elicit the core elements of political, social, economic

meanings.

Step 2 involves the selection of design patterns. The criteria of selection is

based on their relative variation in design. Since the purpose is to search for the

design patterns representative of cultural identity, the greater their variation the bet-

ter. The second criteria is the necessity that these buildings maintain certain pub-

licity so they may be recognizable to laypersons. Awarded projects, for example, are

particularly favorable because they are usually sufficiently documented in practically

accessible and opinionated reference materials.

The following step, Step 3, includes two tasks designed to compare the re-

lationships between core elements and design patterns. By focusing on the re-

Forces shaping architecture
of today (traditional, exotic):
political, social, and econo-
mic aspects

Definition of major Core
elements related to
architectural design

Modifications   1

Selection of design patterns

2

Study of public perception
of identity in architecture

Study of the correlations
between major core ele-
ments and major architec-
tural signs through a semio-
tic coding scheme

3

Comparison of results and
hyoptheses testing

Different   4

Similar

Determination of the notice-
able means of communication
and the factors accounting
for the establishment of
cultural identity in archi-
ture

5

Figure 13.   Outline of the empirical approach to the investigation of distinct identity in architectural
signs

lationships, the comparison is to be done among various design patterns such as public housing and tourist hotels. Specifically, the investigator needs to construct a systematic scheme of coding and measurement which structures the core elements identified in Step 2 into a degrading hierarchy of scales. The scheme becomes a weighting system of cultural association in various design patterns. Second, the investigator studies the same kind of relationships by surveying public judgment on the sample buildings. In other words, these two tasks determine if a design pattern is culturally identifiable from the stand point of the core elements.

The results of these two tasks are to be compared in Step 4. When the results are distinctly different there are three possible causes. First, the major core elements are not included in the designs. Second, the group of laypersons involved in the survey cannot conceive the meanings of core elements in the sample buildings. And third, the designs selected for study have not expressed the core elements appropriately. These causes should be resolved either by reexamining or modifying the hierarchical order of the core elements, redesigning the buildings, or reconducting the survey on another group of laypersons. When the results are significantly similar, the meanings of core elements are recognized by laypersons. The investigator will, then, carry out Step 5 designed to identify the noticeable means of communication any the factors which account for the culturally identifiable architecture under study.

3.2.1 An Analytical Scheme for Architectural Communication

It is acknowledged that although semiotic theories focus on different aspects of a sign, they can be selectively and collectively structured to "decipher" cultural meanings in built forms. Because of this, an analogy is conceivable between core
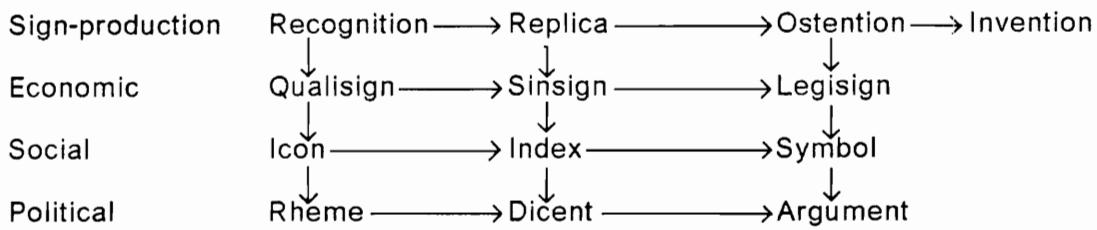
Figure 14. Hierarchical Importance of Meanings Related to Identity in Architecture

elements and semiotic sign-relationships. Applying semiotic theories in the same way as Blomeyer and Helmholtz and Drayer, a hierarchical degradation of core elements is designed in the study. It is presupposed that the extent to which an architectural sign reflects the core elements can be interpreted in terms of hierarchical "levels of communication," or "signs-relationships." Figure 14 exemplifies a possible hierarchy of these sign-relationships. Each sign-relationship indicates three or four "sign-types" (Figure 15) defined by the selected "core elements." Core elements in the outer most ring are the highest "levels of communication," dominating the others; those belonging to the inner most ring are of the lowest level. A sign-type related to the highest level can be regarded as a noticeable means that communicates distinct identity. In such a manner, various core elements are coded in the scheme as shown in Table 8.

Exemplified in the table, the pragmatic aspect of a sign is designed to examine political meanings reflected in architecture. Likewise, the semantic aspect is designed to study social meanings reflected in architecture and the syntactic aspect is for economic meanings. Sub-categories can be assigned under each aspect to fur-

Sign-production   Recognition ⟶ Replica ⟶ Ostention ⟶ Invention

Economic   Qualisign ⟶ Sinsign ⟶ Legisign

Social   Icon ⟶ Index ⟶ Symbol

Political   Rheme ⟶ Dicent ⟶ Argument

Figure 15. An example of the hierarchy of sign types as related to identity in architecture

ther delimit the meanings of the core elements. The general concerns of each aspect can be categorized as below.

1. Core elements of political meanings include: (1) the ideologies of the political system reflected in architectural design, (2) the political purposes (e.g., integration) of architectural designs, (3) the influences of political power on building users and designers, (4) the political activities affecting the design and use of buildings, (5) the political education of the people.
2. Core elements of social meanings concern: (1) the social structure and settlement patterns reflected in spatial organization, (2) the social philosophies reflected in architectural design, (3) the moral demands and psychological needs reflected in physical and non-physical features of a building, (4) the group identity of users reflected by building features, (5) the popular culture associated with building features, and (6) the type of social environment for building users.
3. Core elements of economic meanings concern (1) the land use in relation to architectural design, (2) the economic system that realize architectural production, (3) the living arrangements and living conditions, and (4) the economic policies and reforms affecting architectural design and its usage.

An additional aspect is added to derive core elements imbedded in design concepts and approaches. To classify these elements, Eco's definition of "sign-production approaches" is adopted. Four types of signs are classified, namely (1) Invention, i.e., synthesis of the old and the new into a brand new sign, or sign system, with ignorable distinction between them; (2) Ostention, i.e., "illustrative" combination of modified old features on modern buildings with conspicuous distinction between the old and the new; (3) Replica, i.e., spurious duplication, or "pseudo-revival" of past design features which exhibits more of the old than of the new; and (4) Recognition,

Table 8.   The semiotic coding scheme

Meanings of Core elements	Signs types		
Pragmatic meanings:	the extent political meanings are shown in architectural designs		
	Argument	**Dicent**	**Rhema**
	Scale: 3	2	1
1. political ideologies reflected in a design 2. political purposes of a building 3. political influence on building users and designers 4. political activities affecting a design 5. political education of the people			
Semantic meanings:	the extent social meanings are shown in architectural designs		
	Symbol	**Index**	**Icon**
	Scale: 3	2	1
1. life pattern and social structure reflected in spatial organizations of a design 2. social philosophies reflected in a design 3. social ethics and moral demands reflected in a design 4. group identity of users reflected in a designs 5. popular culture associated with a design 6. social environment designed for building users			
Syntactic meanings:	the extent economic meanings are shown in architectural designs		
	Legisign	**Sinsign**	**Qualisign**
	Scale: 3	2	1
1. land use in relation to a design 2. economic system that realized architectural production 3. living arrangements and living conditions reflected in a design 4. economic policies and reforms affecting a design and its usage			
Sign production:	the extent the new and the old is synthesized in a design.		
			Scale:
Invention: hybrid of the old and the new into a brand new sign, or sign system, with ignorable distinction between them.			4
Ostention: illustrative combination of modified past design features on modern buildings or spaces with conspicuous distinction between the old and the new.			3
Replica: spurious duplication, or "pseudo-revival" of past design features which exhibits more of the old than of the new.			2
Recognition: architecture of the past and of the exotic cultures.			1

i.e., architecture of the past and of the exotic cultures. The hierarchical importance of these signs follows the same sequence indicated above.
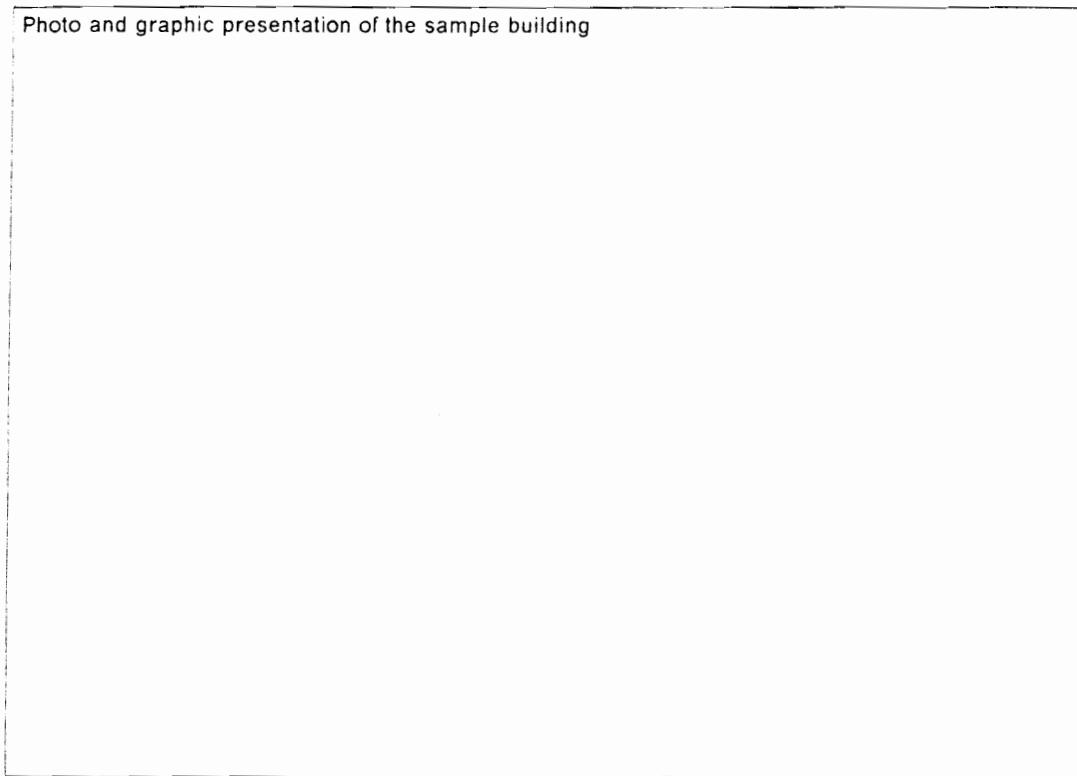
In comparison, design patterns of the first two subcategories would display fewer traditional cues in appearance than the latter two. Although a "Recognition" sign may contain more cultural cues of the past than an "Invention" sign, it may not reveal modern interpretation of the tradition. New interpretation of past signs in terms of contemporary culture can be found in an "Invention" or an "Ostention" sign.

Regardless of their hierarchical importance, interplay of syntactic, semantic, pragmatic, and sign-production approaches results in (3x3x3x4) 108 levels of architectural communication (Appendix-I). When interpreted by these elements, an architectural sign can be characterized by these four types of sign-relationships of corresponding levels. The hierarchical levels do not necessarily reflect the extent to which a design pattern communicates identity. They are, however, employed to differentiate levels of communication among design patterns.

Careful steps ought to be taken in the semiotic analysis to arrive at an objective result. For one thing, each building is a unique sign system due to uniqueness in its form, spatial organization, opening and relation to immediate environment. Thus, signs in different buildings would unlikely be of the same level of communication. Second, when a building reveals more than one sign-type, only predominant signs will be selected for analysis. Otherwise, a basic semiotic analysis should consider major signs in external forms, facades, and details; signs in exterior spaces; and signs in interior spaces.

Table 9 illustrates the format of a coding sheet designed to record the semiotic data of a building, element by element. The exterior and interior signs, including site planning, landscaping and details, are represented by photographs and drawings. A typical analysis of each building involves two steps. First, it must read and identify

Table 9. A sample coding sheet for semiotic analysis

Photo and graphic presentation of the sample building

Figure 1. Sample building

Table 1. Semiotic Analysis of the sample building

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	31212	311211	333323		
Average of scales	1	(9/5≃1.8) 2	(9/6≃1.5) 1	(17/6≃2.8) 3		
Forms and facades	Recognition	Sinsign	Icon	Argument	32	80
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	21211	111212	333313		
Average of scales	1	(7/5≃1.4) 1	(8/6≃1.3) 1	(17/6≃2.8) 3		
Exterior signs	Recognition	Qualisign	Icon	Argument	36	84
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	21211	311112	333313		
Average of scales	1	(7/5≃1.4) 1	(9/6≃1.5) 1	(17/6≃2.8) 3		
Interior signs	Recognition	Sinsign	Index	Argument	36	84
Final level			(32 + 36 + 36)/3≃34.7		35	
Final level when the semantic aspect is most important			(80 + 84 + 84)/3≃82.6		83	

3.0 METHOD OF STUDY

the extent to which architectural signs reflect the core elements. As shown in the Table, numbers 1, 2 and 3 indicate the weight-scales that may be given to a sign. The final sign-type of each major sign is obtained by on average of these weight-scales, i.e., to divide the sum of scales by the number of core elements applied in the analysis. The number of core elements may vary in different cultural contexts. But in this case, the syntactic aspect has six elements and the semantic aspect has five elements. The levels of each major sign and final levels of communication are determined in the same way. Taking an average of levels of major signs would avoid focusing only on the exterior signs of a building. A sign weighted in terms of the coding scheme can be, for instance, a Recognition-Sinsign-Index-Argument. When transformed into corresponding scales, it is 4-2-2-3, and is of level 20 (Appendix-I). Second, it must identify major signs, their meanings and the identity reflected in them.

After completing the semiotic analyses, final comparison of levels of communication among buildings can be carried out. Forming a hierarchy of levels in the comparison, a sign of low level (e.g., level 2) is much more meaningful than that of a high level (e.g., level 10). A high level could result from a very low cultural association in one or all of these four types of sign-relationships. Likewise, a low average could result from a high cultural association by a single sign-type. Taking the average does not mean that cultural identity has to be indicated collectively through the combination of facades, exterior and interior spaces. A major sign among the signs may account for cultural distinctness. Eventually, a hierarchy of levels of all the buildings under study is obtained from which the investigator can determine the type of signs that communicate cultural identity. Signs of similar levels will be further analyzed to make distinctions between them.

3.3 Application of the Empirical Approach in a Case Study

To illustrate the proposed method, this study conducts a case study of distinct identity in China's architecture. Information with regard to core elements of identity in China is obtained through on-site observations, interviews, and a literature review (Chapter 4). A semiotic coding scheme is developed by structuring these core elements into coding scales. Forty-six buildings are selected for the semiotic analysis (Chapter 5). Some of them have drawn upon popular architectural language of the world, some others may be called "pure" examples of Chinese vernacular and classical forms. Still others are considered hybrid forms of the East and the West. Except for vernacular architecture of ethnic minorities, the entries represent the majority of building patterns in China.

3.3.1 Survey Design

The case study also surveys laypersons' shared perception of building patterns that are associable with Chinese identity (Chapter 6). Specifically, the survey delves into these four aspects: (1) laypersons' attitude toward cultural identity, (2) the design patterns which communicate cultural identity to laypersons, (3) comparison of perceived cultural identity with regard to various design patterns and (4) the factors attributed to laypersons' perception of cultural identity in architecture. In the survey, randomly selected Chinese laypersons are asked to sort and rate the buildings into groups of similar identity, and to answer questions (Appendix-II) concerning anticipated images of Chinese modern architecture. The purpose is to find out how cul-

tural identity is evaluated and how hybrid and historical architecture vary in reflecting identity to laypersons.

Instrument

"Questionnaires" and "interviews" are the techniques applied in the survey to obtain knowledge of people's mental involvement with the built environment. The correlational methods which rely on statistical calculations are to be used to specify the relationship between "variables." Variables are the qualities assumed to be related to the above aspects of the survey. In the survey, every question contained in the Questionnaires (Appendix-II) stands for a variable attributable to the test of the hypotheses. The results of survey subjects' responses to these variables are the "data" to be further evaluated by the measurement and scaling techniques.

There are four sections of questions designed in the questionnaires. The first section explains the nature and purpose of the survey as well as the general instructions about the use of game pieces (i.e., photos of design cases) and questions. The second section consists of general comparison and sorting of buildings into similar groups of Chinese identity. After each sort, the participants are asked to rate the groups of buildings into a hierarchical order with the criteria or construct by which he/she sorts the design patterns. The third section is comprised of questions relevant to the variables. The last section is made up of questions to elicit respondents' expectations of Chinese architectural design. Through thorough "measurements" of survey data, the indication of variables can be obtained and a correlational analysis carried out.

Sample

As pointed out in the limitations of research (Chapter 1), this study focuses on identity as seen by "insiders" only. Thus, Chinese people are the subjects who are asked to participate in the survey. This study expects subjective responses from a "biased" population group whose opinions reflect those of the "target" population: overseas students and scholars who came from China since 1979. The "sample insiders" chosen are Chinese students and their spouses who are currently staying on Virginia Tech campus for the duration of this survey.

The reason for concentrating on such a population group are threefold. First, based on the author's personal observations, the overseas Chinese (e.g., from China or Taiwan) are generally sensitive to racial and cultural issues originating from their homelands. These people could easily have an influence on the results of the study compared to those who never went abroad. After being exposed to a multi-cultural context such as the United States of America, these people may be more apt to understand the problem of cultural identity. Second, these students are mature enough to deal with questions concerning ideological issues since most of them are graduate students. Another characteristics which may reflect subject variety is the heterogeneous nature of the Chinese - a mixed population of ethnic groups and professions. Finally, with diverse attachment to Chinese culture, these subjects possess essential knowledge of the stimulus, China's architecture. In sum, they can offer a wide variety of responses to the survey questions.

Visual stimuli

How do professionals and laypersons vary in their perception of cultural identity cannot be evaluated without a set of stimuli - buildings. It is not our concern to identify a single design pattern capable of reflecting Chinese identity of all types - although all design cases are deliberately selected to reflect certain directions of

design. Nor is it our concern to match a specific type of design with identity. The selected design patterns are meant to evoke as many types of identity as possible.

As the survey is not to be conducted in China, a subject could only make his/her intuitive judgments based on the first impression of a building presented through photos and drawings. Nor are responses based on past experience of on-site observation possible since not all of the survey respondents have visited each design case personally. Thus, the survey is unable to provide the actual settings which exhibit architecture and landscape features for the subjects to obtain a direct experience. Such visual stimuli of architectural design is appropriate to the extent the study is designed because, ". . . previous studies that have explored the validity of various simulation media have generally concluded that responses to color photographs correlate highly with responses to the real environment."[100]

Procedure

The survey is conducted on one-by-one basis without any assistance of physical settings. The photos and drawings of buildings are exposed to a subject as the survey commenced. A pilot test is conducted to modify the organization of the survey package. Interview and data collection are conducted individually at the location determined by the respondent. The data from the returned questionnaires are analyzed and computed with the SPSSX program provided by Virginia Tech to obtain frequency distributions, multiple regression analysis, correlation measures and plots between different groups of variables. In order to draw proper conclusions from the sample results of a target population, meticulous statistical calculation and evaluation are performed.

---

[100] Groat, Linda. "**Meaning in Post-modern Architecture: an Examination Using the Multiple Sorting Task**," (Journal of Environmental Psychology, No. 2, 1982), p. 9.

The data and results of semiotic analyses and the survey are presented in Chapters 6 and 7. A final comparison between the results are discussed in Chapter 7 to determine the core elements significant to the perception of identity in China's architecture and the usefulness of the semiotic scheme.

4.0 THE CORE ELEMENTS OF IDENTITY IN CHINA'S ARCHITECTURE

Chapter Summary

The second part of this study, which includes this and the remainder of chapters, seeks to test the hypotheses by employing the method proposed in Chapter 3. China's architecture is selected for the case study because, first, the identity crisis of China's contemporary architecture is not yet solved; second, up to this point, no systematic study of China's building patterns, such as public housing and its relationship with cultural identity, has been done; and third, the author shares the Chinese cultural background. In this chapter, a list of core elements of Chinese distinctness in architecture out of four areas of cultural forces[101] will be identified.

4.1 Method of Analysis

Little cultural distinction in architectural design may be found in buildings such as high-density assembly housing. But under similar conditions (i.e., construction

---

[101] Chapter 3.

method, materials, climate, geographical features, and knowledge of design), cultural distinction in architecture can be caused by the cultural differences between those who design and use it. In this sense, physical aspects of architecture are constants and manipulable while human behavior and preferences are variables and uncontrollable in the built environment. Men are not born with equal characters; their cultural products, such as architecture, reflect political, economic, historic, religious and cosmological concerns of their users and designers. These concerns may all need to be considered as the domain of our search for core elements.

To study architecture in China, one must consider the external and internal, political, economic and socio/behavioral changes China has experienced. The fast pace of national change has occurred at the expense of a built environment of Chinese identity. As I.M. Pei, the Chinese American architect, cautions,

> The face of China will be totally changed in the coming decades . . . It will be modernized to such an extent that it will no longer be distinguishable as "Chinese" and the Chinese personality will lose out in the process . . . They are building buildings that you won't find any different from second and third grade buildings anywhere in the world.[102]

And Wu criticizes, "We found the aesthetic criteria of most [modern] . . . buildings [in China] to be terrible, dated, and repetitive of the very worst in Western modern architecture."[103]

The modern non-Chinese vistas of Hong Kong, a British colony, foreshadow a possible consequence unwanted by those who care about the future of China's architecture. For this reason, Chinese scholars and professionals have embarked on the search for the theory and elements that will help to define the identities of modern

[102] Chang, Chao-Kang, and Werner Blaser. **China, Tao in Architecture,** (Birkhauser Verlag Basel, 1987), p. 210.

[103] Wu, 1988, p. 39.

architecture. To do so, these scholars have realized that it is essential to determine how cultural legacy and present-day culture have affected the built environment.

Although the leadership of China has deliberately erased or modified the meanings of the traditional legacy, they might not have succeeded in cutting off the tradition completely. Traces of the cultural tradition remain in architectural design. Thus, the composing elements of identities in China's architecture should be elicited from both contemporary culture and from the tradition. To do this, it is necessary to compare cultural concerns of the feudalist tradition period (before 1911), the post-imperial period (1911-1949), and the post-liberation period (1949-present).

The first period includes more than three thousand years of traditional architecture, characterized by relatively monolithic design patterns and principles. In the second period, foreign economic, technological, scientific, social and political thoughts had profound impact on Chinese culture. But this eventful period, which lasted for less than four decades, was constantly interrupted by imperialist colonizations, domestic wars between warlords and foreign invasions. During this time, Chinese architecture was able to survive in this war-dominated environment, but did not evolve into a phase significantly different from the past. During last period, architecture shifted from tradition significantly due to deliberate substitution of Communist ideologies for traditional culture. The uprising of peasant conflicts against landlords, teachers, family structures, social relations and so forth, appeared to be waged to reject every bit of the tradition. Considering these changes, the identification of core elements will be carried out in a format as shown below.

1. **Political elements:**
    *   political ideologies
    *   governmental structure, rulers
    *   methods of administration
    *   measures to achieve political goals, methods of political influence on people and the built environment
    *   land use

- education
2. **Social elements**:
   - social structure, social groups
   - family life
   - behavioral patterns
   - social relations outside families
   - social values and ethics
   - living arrangements, dwelling patterns
3. **Economic elements**:
   - economic systems, patterns of business
   - food production
   - private business
   - types of work and income, wage system
   - natural resources and their application
   - living condition

4.2 Political Elements

Before the Chinese Nationalists unified the country, China had more than three thousand years of feudalism. According to historians, China began her feudalist society around the Chou (1122-221 B.C.) and Chin (221-206 B.C.) Dynasties. During these waring decades, China was divided into many states which were characterized by strict status difference among the various social classes. Confucianism, which was recorded during that period, was adopted by the scholar-official class and became the essential ideology ensuring the political unity of China and the design of traditional architecture.[104]

The features of Chinese feudalist politics, as Wei puts it, include four aspects. First, there was a large bureaucratic structure under a monolithic and hierarchical imperial government. Second, individuals who passed the civil examination consti-

[104] Fisher, Robert, & Leslie Brown. **Fodor's People's Republic of China,** (New York: David Mckay Company, Inc., 1979), P. 187.

tuted the backbone of the bureaucracy.[105] These scholar-officials of the state were the ruling class. By uniting with local landlords to form a close-knit social class - the gentry, they dominated the life of workers, peasants and merchants. The power of the imperial government did not ordinarily penetrate into the local social structure. Control of the local community was exercised through the gentry in various localities. These scholars controlled land, political power and served as the spokesman of the people in the local community.[106] With such a long history of bureaucracy, the Chinese feudalist society has nurtured political power of Confucian scholars as well as local exploitation and oppression by landlords and government officials. Class distinction was established among scholars, farmers, workers, and soldiers, the four most easily distinguishable classes that follow a degrading order of status.

Because education was generally restricted to the upper classes, only those who sought to pass the imperial civil service exams could obtain a post in the government. As early as the Han dynasty (206 B.C.-A.D. 220), official schools were established to provide instruction in Confucian classics and prepared students to enter the official services. Later on, most dynasties set up institutions based on Confucian classics as well. By the time of the Song dynasty (10th century), privately established academies flourished along side the official school system.[107] And in most dynasties "lower education took place in . . . a clan school where children were taught by a tu-

---

[105] Wei, Yung (ed.) **Communist China,** (Columbus, Ohio: Charles E. Merrill Pub. Co., 1972), p. 111. "Familiarity with, and belief in, the Confucianist ideology was essential to pass this examination. Since in traditional China only the land-owning class had the means and leisure to prepare for the examination, which was theoretically open to all, most of the successful candidates came from that class."

[106] Wei, 1972, p. 111.

[107] Hook, Brian. **The Cambridge Encyclopedia of China,** (Cambridge: Cambridge Univ. Press, 1982), pp. 127-129.

tor. These tutors were usually invited by a family [such as a rich landlord] to teach their children in return for living quarters, food, and an allowance."[108]

Specifically stipulated for such a feudalist system, Chinese traditional architecture, particularly official buildings, has created tangible interpretations of the political system. This is evident in building patterns which were governed by strict color scheme, dimension of structural elements, spans, and patterns of design according to social status and class of the users.[109]

When the Chinese Nationalist troops and provincial warlords[110] overthrew the Manchu dynasty in 1911, they ended feudal monarchy and replaced it with constitutional democracy and a series of reforms.[111] But the new government led by Chiang Kai-shek was not formally established until 1927.[112] The government consisted of a cabinet and a five-branched structure under the president of the republic. Among the five, the most important was the Executive Yuan, the highest organ of administration. It in charged of national reconstruction, overseas affairs, Tibet-Mongolian affairs, etc. The other four branches variously governed legislation, laws, budget, amnesty, judiciary, civil service examinations and so forth. These administrative organs were

---

[108] The government information office, R.O.C. **"Education,"** in Republic of China, Taipei, Taiwan: Hilit Pub. Co. Ltd., 1988, p. 274, pp. 55-75.

[109] The standards were prescribed in architectural manuals such as Yin-Tsao-Fa-Shih compiled in 1103 A.D., and Kung-Ch'eng-Taso-Fa of Qing Dynasty (17-19th century), and formed the mainstream of wood-frame construction techniques, aesthetics, and values. The manuals were inclusive enough to regulate from official buildings and subordinate structures to dwellings for civilians. Formal adherence to historic principles made political influence a direct and imperative determinant of the built forms.

[110] Hook, 1982, p. 254. The term "warlord" is applied to sub-national politicians who enjoyed virtual territorial autonomy because military forces owing them personal allegiance. In the so-called warlord period (1916-28) hundred of such men dominated China.

[111] Wei, 1972, p. 19.

[112] Right after the 1911 revolution, the political power of the temporary government was dominated by the Northern warlord Yuan, Shih-Kai.

"dedicated to the fulfillment of Dr. Sun Yatsen's legacy - The Three Principles, the Five Power Constitution, the Fundamentals of National Reconstruction."[113]

However, the government did not formally organize administrative structure below the country level. The warlords and the landlords in charged of local government, they collected tax and maintained order.[114] With the support of the landlord in the country side and the bourgeoisie in the cities, the government had little support of peasants and workers.

Within a short period of time, the government did establish basic progress in education, communication, transportation, militarization, and light industry. In educational reforms, i.e., abolishing imperial examination and adopting the Western school system, great emphasis was placed on primary education, higher education and establishment of educational organs in the government to encourage equal education for all. As the programs progressed, a new intelligentsia distinct from traditional Confucian scholars emerged in China, consisting of young people who returned from studying science, technology, medicine, law, economies, education and military arts in Japan, Europe and the United States.

Unfortunately, the nationalist regime was constantly undermined by many coexisting impacts including foreign political thought, anti-traditional and anti-imperialist attitudes, infiltration of Western capitalism, warlordism and rising peasant discontent. In no more than one decade (1927-1937), after the establishment of the new government, China was invaded by Japanese and the proper functioning of the government was destroyed by the end of the war (1945). These factors made post-imperial politics unstable throughout 1911-1949.

---

[113] Hsu, Immanuel C.Y. **The Rise of China,** (New York: Oxford Univ. Press, 1990a), p. 645.

[114] Blecher, Marc. **China, Politics, Economics and Society,** (London: Feances Pinter Pub.,1986), P. 6.

While the architecture of the Western style was continuously built in large cities by Westerners in this period, architecture of the imperial style reappeared in reinforced concrete for the first time. Most of these faithful copies of traditional buildings were monumental and official, but design features did not necessary carry the same political meanings as before. The Sun Yatsen Memorial at Nanjing is one the distinct examples.

Concerning post-liberation (1949-present) politics, it is important to understand the role of Communism[115] in China's culture. Above all, Communism rejects traditional political structure and its cultural-ideological foundation Confucianism, because the traditional ideology was considered to support the interests of the "exploiting classes" of traditional society; the oppression of the poor peasants and workers; and feudalist and bourgeois leadership. Motivated by premises similar to those of the earlier peasant uprising, Marxism/Leninism provoked the need for revolution between classes, particularly the exploiters and the exploited. The ideal, whether of socialism or Communism, is to achieve a society free of exploiters, exploited, oppressors, oppressed, landlords, capitalists, imperialists and fascists.

Attempting to establish a classless society or a country composed of proletarian class[116] only, acute class struggles[117] is unavoidable between the proletariat and the

---

[115] Gove, Philip B. **Webster's Third New International Dictionary,** (Springfield, MA: G.C. Merrill Company publishers, 1965), p. 460. Communism is a social and political doctrine or movement based upon revolutionary Marxian socialism that interprets history as a relentless class war eventually to result everywhere in the victory of the proletarian and the social ownership of the means of production with relative social and economic equality for all and ultimately to lead to a classless society.

[116] The term implies the working class who have no tools of production but trade hard labor for food and wages. In Mao's era, the proletariat included the alliance of peasant mass and the worker classes who were the major forces of industrial and agricultural production. In Post-Mao era, however, Deng, Xiaoping, the current Communist leader, proclaimed the intellectuals to be part of the proletariat because modernization of China demanded knowledge and talent. It is conceivable that whoever contribute significantly to the modernization may be qualified a proletariat. Who knows, someday, the capitalists may contribute more than other classes to the progress of China's future.

[117] Bunge, 1981, p. 573. "In Marxist terms, the struggle waged by the masses of the toilers and the oppressed under the leadership of the vanguard of the working class - the Communist Party - against the privileged, oppressive, and property-owning ruling class."

"enemies" who are the rightist intellectuals, the "counter-revolutionary" students, uncooperative workers, former officials of the Nationalist government, "imperialist agents," the urban bourgeoisie and landlords.[118] In fact, "whoever denies the leadership of the Party is actually standing on the side of the bourgeois against the proletariat . . . ."[119] It is possible that all classes who oppose the proletariat will be erased one day, but before the day arrives, the "enemies," class conflict, and class distinctions will continue.[120] The class struggle campaign was so important that Mao stressed that "developing the socialist economy and improving industrial and agricultural production are all very important tasks . . . . Compared with the development of the class struggles, however, work on production can only take a secondary position."[121] To enforce the campaign, the government has established the law and the people's court as instruments of class struggle against class enemies.[122]

In order to realize such a class conflict, according to Marxist theory, a powerful leadership is needed. As stipulated in the new Constitution, the form of the state power is said to be a people's democratic dictatorship, or "all power in the state belongs to the people."[123] In theory, the "people" are composed of the peasants, workers and other qualified proletariat such as those who suffered the oppressions of imperialism, the bourgeois and the feudal forces, who lack the skill and tools of pro-

---

[118] Wei, 1972, p. 295. Nevertheless, the definition of "enemies" alter from time to time. The "American Imperialists" who were one of the greatest enemies in the fifties became one of the best allied countries in the eighties. Curious enough, an outsider may be confused by ideological confrontation of Chinese Communism with popularity of independent vendors who, some have been reported millionaires, are non less than the bourgeois class today.

[119] Perrolle, Pierre M. (Ed.). **Fundamentals of the Chinese Communist Party,** (White Plains, New York: International Arts and Science Press Inc., 1976), p. 12.

[120] Blecher, 1986, P. 127.

[121] Perrolle, 1976.

[122] Wei, 1972, p. 297.

[123] Ho, Kan-Chih. **A History of the Modern Chinese Revolution,** (Beijing, Foreign Language Press, 1959), p. 596.

ductions. But in real life, both the proletariat and the non-proletariat[124] are ruled by the Chinese Communist government, which is composed of three major groups. They are the Party, the Army and the State organs. Among them, the Party is the most powerful. In practice, "The Party dictates state policy, the state executes Party policy, the Party controls the army. Acting as the most important decision makers, Party members play leading roles in the state, social institutions and the army, at central and local levels.[125]

Under these three groups of leaders are subgroups of delegates nominated in towns and cities to form such organizations as municipal government, "military units, labor union, poor and lower-middle peasants associations, the women's federation, the Communist Youth League, the Red Guards,"[126] "People's Communes," "Neighborhood Committees" and "Residential Committees." The residents' committee is the smallest unit of control along the line of civic administration system. These delegates are officially regarded as representatives of the citizens rather than the central government. Most of their work involve social services toward people such as children, old people, and sick people.[127]

---

[124] See Ho, 1959. Non-proletariat, on the other hand, would be those who possess professional expertise such as engineers, doctors, teachers, and scholars.

[125] Fisher, Robert, and Leslie Brown (eds.) 1979, P. 108-110. "As the largest party organization (about 30-35 million) in the world which has three Party members out of every 100 Chinese, the Party essentially could rule the entire country effectively."

[126] Perrolle, 1976, p. 11.

[127] Moseley, George. **China Since 1911,** (New York: Harper & Row, Pub., 1969), p. 147; and Stretton, Hugh. "**Poor Communist Cities,**" (In his Urban Planning in Rich and Poor Countries, Oxford: Oxford Univ. Press, 1978), pp. 132-142. The neighborhood committee in a city generally administers up to sixty or eighty thousand people. The office of street committee, governed by the former, administer few thousand people.

Government officials and local cadres[128] are considered the most advanced individuals within the mass.[129] They are of a higher class than the others. The existence of this group of rulers undermine the practice of class struggle due to their many privileges over the ruled. Some of the privileges they are entitled to obtain are better housing, commercial commodities, food and use of public services. Moreover, when involved in production, construction, or distribution of mass housing in both urban and rural areas, the Party has control over the people from the national level to the smallest household units, and effectively inject their values to the daily life of the people.

As a result, architectural planning and design of housing is mostly done professionally without involving the users. Usually, new building projects as well as urban renewals are conceived by the "Street Residential Committee" which propose building patterns, budgets, site selection, purposes of the construction and so forth. After obtaining approval from Party leaders and city government, the proposal may be realized. Unlike the client-architect business pattern in most capitalist societies, building users are likely to see completed construction rather than being involved in design process and decision-making. Whether advantageous or not, such an elite-oriented design process is likely continue in China for many more decades before user-involvement in environmental design is possible.

In addition to the manifold political influences as noted above, the rulers employ other measures to achieve political integration and education. A variety of such influences can be found in work, in living arrangements, and in public education. As Wei uncovers,

---

[128] Bunge, 1981, p. 573. The "term is often used, in a more restricted sense, to denote a person who has been fully indoctrinated in party ideology and methods and is employed in ways that make use of this training."

[129] Perrolle, 1976, p. 8.

The first method . . . [was] achieved by executing, jailing, or sending to the labor camps those they considered to be 'the enemies of the people,' . . . . The second method . . . was the making of communist ideology the core of the curricula of the schools of all levels on mainland China . . . . [The Communists also] achieve the complete state control of the mass media, such as the newspapers, magazines, movies, and television. The Chinese Communists have been able not only to transmit to the people what the political authority wants them to see and hear, but have also prevented the people from getting any information from the outside world which might be detrimental to the indoctrination effort of the regime.[130]

And as observed by Fisher, "On arrival at work [the workers] will probably undertake an hour's political discussion or study class before joining workmates . . . if the worker does not show the correct political attitude he can expect to be severely criticized."[131] This control extends to the reading habits of the people. Fisher further states that, ". . . the performance [made by children in kindergartens in China] may raise doubts in your mind when you learn that many of the songs are little more than political slogans."[132]

Retaining much of the obedient nature of Chinese tradition, the people were mostly cooperative with these measures without significant complaint during the early years of socialist transformation. Some authors of China studies share the opinion that "while attacking traditional culture of China, the communist leaders have adopted, consciously or unconsciously, traditional methods to maximize their control of the populace of the Chinese Mainland."[133] Equipped with the largest Party in the world and an obedient populace, the Chinese Communist leaders have achieved a degree of political control and education never achieved by previous emperors in Chinese history.

---

[130] Wei, 1972, pp. 295-296.

[131] 1979, p. 10.

[132] Fisher, 1979. 12.

[133] Wei, 1972, p. 20.

To enforce the educational policy,[134] norms comparative with communist ideologies were indoctrinated and values of the tradition were overhauled and reinterpreted. Traditional philosophies such as Confucian teachings were deleted from classrooms completely. Because of the many changes in political policy, the role of the educated is always controversial in China. Because "[the Communist] educational system is strongly against creation of an educated elite,"[135] school teachers as well as other intellectuals were subject to harsh attacks from the Party-guided crowd.[136] It is often said that universities and institutes of higher learning are criticized for turning out an "elite" of technicians insufficiently motivated by political ideology.[137] Despised as "bad elements," these intellectuals have been looked down upon by workers, farmers and soldiers. This is due, partly, to the urgent need for technicians and laborers for socialist transformation and modernization of China. These worker-technicians considered themselves the intellectuals par excellence among the classes.[138]

In the post-Mao era,[139] the national economy has become important as politics, marks yet another stage of Chinese politics, but the intention to keep China a socialist country is unchanged, as are the plot to remain under dictatorship of the proletariat,

---

[134] After completing compulsory school years, Children may continue their education through work studies. Otherwise, they take part in various light work projects in factories or on the farm. This is the stage many children started to work but maintain regular participation of part-time classes. Most of such classes are vocation-oriented. Under the system, many worker-students, soldier-students, and peasant-students emerged.

[135] Fisher, 1979, p. 12.

[136] Wei, 1972, pp. 3-4. In 1957, Mao Zedong provoked the "One Hundred Flower Bloom" campaign and partly welcome by criticism from the intellectuals, but those who did complain were prosecuted and obtained severe punishments after the Party could not bear the criticism from non-party members.

[137] Fisher, 1979, p. 13.

[138] Moseley, 1969, p. 129.

[139] This era began after the Fifth National People's Congress in mid 1979 when prominent leaders associated with Mao were demoted and replaced with those associated with Deng, Xiaoping. Leaders of this era adopted the Open-Door, economic reform policies.

the leadership of the Communist Party and the guidance of Marxism-Leninism-Mao's Thought.[140] What is unprecedented in this era is the inclusion of Western technology and science (1978) as the catalyst to complete the so-called "primary socialist stage"[141] by the mid twenty-first century.[142]

A change in the targets of class contradiction and focus of national interest could be the most important political aspects occurring in the post-Mao era. Some of the former "enemies of the proletarian revolution" e.g., capitalist market-oriented economy, intellectuals of science, technology and business background, are regarded useful in the "primary socialist stage." Meanwhile, foreign values such as democracy, bourgeois liberalism, and multi-party politics have affected the youth, social theories, arts, fashions and architectural design. In architecture, for instance, flexibility in design is granted, tourist hotels are erected, renovation of historical cities is expedited, and existing housing estates are renovated.[143] The coexistence of values of the East and the West becomes unavoidable. As a result, people of all walks of life have started to show their loss of faith of the government. In the late eighties in particular, China experienced negative effects of her Open-Door Policy. Conventional Communist political and social values were challenged by their counterparts in the West. In this political situation, as Hsu describes, "[The] society was buffeted by student unrest, ideological confusion, a leadership crisis, widespread corruption, high

---

[140] Hsu, Immanuel C.Y. **China Without Mao: The Search for A New Order,** New York: Oxford University Press, 1990b, p. 207. These are the four cardinal principles that Deng, Xiaoping announced in 1979. Bunge, 1981, p. 575. The Thought refers to "sayings and writings of Mao that served as a major source of national ideology until his death in 1976 and since then have begun to undergo a cautious but critical reappraisal. By 1980 meaning of term had expanded to include the thoughts of all key party leaders."

[141] Qian, Jiaju. **"The Primary Stage of Socialism,"** (China Reconstructs, March, 1988), pp. 15-18. "...Party General Secretary Zhao...stated that China was in the primary stage of socialism, and would probably not be able to move to another stage until the middle of the next century."

[142] Hsu, 1990, p. 231.

[143] Lin, Zhi Qun. **"Summary of Residential Development in China,"** (City Planning Review, Jun, 1987b), pp, 3-5.

inflation, and a loss of a clear sense of direction."[144] To many intellectuals, Marxism is obsolete, and is "responsible for keeping China backward and for sanctioning the Party's unrestrained and inviolable exercise of power."[145] One Chinese theorist even asked: "Who knows what Marxism is, anyway?"[146]

In retrospect, it seems that the people's loss of belief in political ideologies is the largest loss of the Chinese Communist Party. Without the believers' support, the Party is relying on guns and armed forces instead of ideological elements to hold on to the power. Since current society is not sabotaged by exploitation or oppression of landlords, capitalists or the imperialists, there is no further need for the revolution or conflict between classes. Nor are there practical needs for anti-traditional and anti-feudalist campaigns. Nevertheless, while political and educational control continue Chinese leaders must continuously take precautions to prevent the formation of capitalist classes, multi-party politics and a whole array of foreign values which may be detrimental to the established system.

Relating to architectural design, the above mentioned political impacts can be summarized as the present-day distinct elements of identity. Of these, class distinction and reflection of ideology in architecture can be considered as two timeless qualities of Chinese culture which are taking different forms now. Others, such as the reflection of political education and integration, egalitarianism, proletarian architecture, and nationalization of design patterns are the products of communist culture.

Had the notion of class struggle been embodied effectively in design, all buildings would be identical and free of class difference, feudalist bureaucracy, bourgeois liberalism, intellectual thinking, poverty, imperialist oppression and so

---

[144] Hsu, 1990b, pp. 207-208.

[145] Hsu, 1990b, pp. 215-16.

[146] Hsu, 1990b, p. 242.

forth. In other words, buildings would be plain in appearance, easy to administer, mass produced, proletarian and utilitarian in function. But in reality, class difference is observable because buildings reflect users' classes honestly. Among other types of measures, the housing distribution system and household registration law have become a unique way to enforce building patterns on users. Low status, the ruled are prohibited from patronizing certain types of buildings such as modern tourist hotels and shopping centers which provide services to prestigious people[147] and foreign visitors. These buildings take on a modern look which is highly adorned to attract tourists.

Implemented in mass construction, design guidelines such as "The National Style,"[148] or "Utility, economy, and if possible, beauty,"[149] are encouraged to avoid unfair distribution as well as communicating the ideology of egalitarian and averagism. In this way, the majority of buildings can be nationalized with consistent political content.

The following list summarizes the political elements to be reflected in buildings. They are,

1. Reflection of the notions of class struggle and class distinction in building and user ramification
2. Reflection of the notion of proletarian architecture as the building providing service to the proletariat
3. Reflection of political influences on the people by official involvement in planning, design, housing distribution and household registration
4. Shaping the built environment without user involvement

---

[147] This generally refers to the people who are high ranking governmental officials, military officers, policemen, or national security personnel.

[148] Su, Gin-Djih. **Chinese Architecture: Past and Present,** (Hong Kong: The Sin Poh Amalgamated Ltd., 1964), p. 154-157. This style was an embodiment of the architectural ideology of Professor Liang Szu-cheng. In brief, Professor Liang upheld, in the early days of the communist regime, that any new buildings in China can be constructed in accordance with the traditional style and grammar. More specifically, the building should reflect the Three-Section principle of the tradition-platform, wall, and decorative eaves.

[149] Su, 1964, p. 163. The criticism campaign against building ideology was heated in 1956 when the Communist Party laid down the slogan. The criticism, however, was against the national style of large roofs but not box-like style at the expanse of beauty and utility for economy.

5. Reflection of the "socialism of Chinese characteristics" by duplicating foreign design patterns
6. Reflection of the nationalization of building patterns to fulfill political education, integration, egalitarianism to delete Confucian teachings and so forth

4.3 Social / Behavioral Elements

It is obvious that modern Chinese social structure and social relations are different from those of the tradition before the post-imperial period. The difference can be traced back to the last century when China was forced to open her door and give way to foreign interests in business and territory. The one hundred-year period (1842-1949) between the beginning of imperialist infiltration and the Communist taken over is characterized by gradual change. Compared with foreign influences, Chinese Communists attempted a much more ferocious change of social structure, social relations and so forth. It is thus important to find out what aspects of culture have been changed from the tradition, what are newly formed in Chinese society, and how they relate to architectural design.

As illustrated in Figure 16, Chinese traditional feudalist social structure can be divided into two major groups: the upper class comprised imperial bureaucrats, and the "gentry," Confucian scholars, local bureaucrats and rich landlords. People who formed the urban lower class were petty capitalists, merchants, workers of light manufacturing and religious people. Those of the rural lower class were primarily peasants.

But class change was possible in this society since mobility into upper class was open to all.[150] For instance, the son of a poor peasant could become a high-class

---

[150] See Jing, Yauji. **The Process of Chinese Modernization,** (Taipei, Taiwan: China Times Pub. Co., 1983). Some authors believe that China did not keep a rigid form of feudalist society because it failed to

Urban	Rural
Imperial	Rural bureaucrats
Urban bureaucrats	Landlords
Confucian scholars	Confucian scholars
Priests	Priests
Merchants, capitalist (few who commanded a nation-wide market as in the porcelain and silk industries)	Rich peasants
	Peasants
Petty capitalists (shopkeepers, traders, service providers, barbers	
Workers, industrial workers (since late 19th century)	

Figure 16. Traditional feudalist social structure

government official if he was able to pass the examination held in the national capital.

Likewise, a scholar-turned government official may loose his status overnight if

purged by the emperor. In other words, "the Chinese accepted hierarchy as proper

and inevitable, but one's place in the hierarchy was not rigidly fixed."[151] Since the

tradition of national examination had been formed for thousand of years, such status

mobility makes it a unique type of feudalism in China compared with those of other

cultures such as Japan.

Upper and lower classes form similar patterns of family-oriented social structure

and social relations in close kinship circle. Within the circle, a person is obligated

by a certain social order, which is primarily evolved from the Confucian teachings.[152]

The teachings, more a system of thought, a code of ethics, and moral philosophy,

conform to the conditions of a rigid one. A rigid feudalist society ought to include (1) a closed system of social classes which do not interchange, (2) the noble's system of its own, (3) a close relationship between the landlord and his workers, and (4) the stipulated distribution of merchants and occupation of land.

[151] Bunge, Frederica M. and etc. (eds.) **China, A Country Study,** (The American University, 1981), P. 83.

[152] Government Information Office, R.O.C., 1988, p. 273. Confucius did not write anything himself, but he had a circle of seventy-two disciples who followed him and kept a record of what he said and did. Eventually, these records were compiled as the Analects of Confucius and the Ta Hsueh or Great Learning. The teachings implied in these teachings became the most important subjects of the imperial civil service examination.

emphasize how people fit in a hierarchy of roles and how these roles act and behave in relation to people in other roles, such as one's immediate family members, kinsmen, and other close friends such as fellow workers, classmates, teachers, and neighbors. According to Bunge, "it was assumed that if every person, from emperor to the poorest peasant (and women and children in families at every level) could be socialized to play their designated roles properly, the society would be well run, and happiness and harmony would be generally enjoyed."[153] There were teachings about what it meant to be a filial son, a loyal official, a benevolent ruler; a person who is humble, considerate and modest, who pays deference to older people, supports the aged, reveres one's ancestors, dispenses influence among friends, respects the deeds of the saints and sages of the past, and loyal to social groups. But of them all,

> Obedience to the head of the family was considered the supreme virtue . . . in such a [teaching.] Obedience to parents was extended to the authority of the teacher, the community leader, the various government officials, and eventually, the emperor. Consequently, filial petty was considered a prerequisite to the loyalty required toward the state.[154]

In short, the code deals with relations between the ruler and the statesman, father and son, master and apprentice, teacher and student, husband and wife, and brothers and sisters. These relations indicate traditional values of propriety, righteousness, integrity, sense of order, hierarchy and altruism. The protection of an individual by his family and the extended kinship group - the clan - was considered natural and proper. There was almost no major aspect (e.g., moral upbringing, formation of sentiments and attitudes, educational training, and public career of an individual) of traditional social life untouched by the ties and influence of the family.[155] A person in conflict with his family may not have been left alone and taken as a

---

[153] Bunge, 1981, p. 83.

[154] Wei, 1972, p. 112.

[155] Yang, C.K. "**Social Structure and the Political System,**" (in Wei, 1972), p. 116.

disrupter, revisionist, or heretic, although there were only a few social organizations or associations outside the family (e.g., fraternities, sororities, clans, and literacy societies of the gentry to the business and craft guilds of the urban centers) to serve the individual's social needs. In other words, the individual would have to spend most of his time struggling with the relations with the family.

However, the emphasis of the social order devalued individuals without family or other kinship ties. Compared to social activities in traditional lineage groups, personal and private activities were less important because the nature of an individual tended to be introverted rather than extraverted. Partly due to Confucian teachings of "The Doctrine of the Mean," i.e. to be in the middle, neither best or worst, the notions of human rights, individualism, and equality never assumed primary importance in Chinese culture. Most people were reluctant to pursue a distinct identity which may have been reflected in speech, dress, residence and behavior. Also the success or failure of an individual was seen as a result of family support and influences. This makes a much stronger social bond within the closed system than outside of it. Thus, People whose social life operated outside their hometown, i.e., away from the protection of the kinship relations, had to rely on other sets of social order such as those of traveling traders and gangsters.

In addition to Confucianism, the other mainstream beliefs were Taoism and Buddhism. Other minor schools of thoughts included Islam, Judaism, Manichaeism, Zoroastrianism, and Christianity.[156] In addition, local tradition and local cults existed which related to specific communities or regional alliances. Some authors call these local beliefs "folk religions" that obtained little national popularity. These beliefs were unique from each other.

---

[156] Hook, 1982, p. 310.

Confucianism stresses that the scholar, who does not worship gods or Buddhas, should play an active role in changing society through full participation and by serving the people, preferably through a role in government, where he could serve as a model for the people to follow. As behavioral and spiritual guide, Taoism has been seen as an antithesis to Confucianism since around the first century B.C. Toaism advocated that the scholar should withdraw from society so that he could pursue knowledge without being disturbed by the needs of the common people. While Confucianists worshiped the deeds of sages and saints of the past, Taoists were involved in the pursuit of immortality which meant becoming a transcendent being with an undying physical existence. Regarding the social order imposed by Confucian thoughts as artificial, Taoism stressed action without contrivance and that which is spontaneous. Thus, a Taoist can be considered un-Confucian.[157] In addition to pursuing immortality through various processes such as meditation to communicate with the gods perceived within one's body, the Taoists play an important role in Chinese traditional society. Although they did not serve the people in the government, the Taoists, particularly priests, performed rituals for community festivals at regular intervals. In this case, the priests tried to communicate with the god, by burning written scripts, incense, or other spiritual media.

Imported from India and modified by the Chinese, Buddhism had already spreaded in China by A.D. 166.[158] But attitudes toward the religion can be found from a variety of standpoints in traditional Chinese culture. For instance, cremation of the dead was denounced as non-Chinese; joining the clergy through the ceremonial celibacy was seen as a threat to the continuity of the family. Nevertheless. Buddhism, like Taoism and Confucianism, thoroughly permeated Chinese society.

---

[157] Government information office, R.O.C., 1988.

[158] Hook, 1982, p. 320.

Following inspirations from different spiritual leaders, Buddhist schools of thought vary widely. One of them, called Lamaism, still practiced in Tibet. Otherwise, the two most important were the "Pure Land" and the "Ch'an."[159] Both schools intrigued patrons with such ideals as being delivered to the Pure Land or realizing one's Buddha-nature.

Other folk religions that constituted Chinese tradition, such as Islam, Christianity, and Judaism were dominated by these three schools just mentioned. In most cases, the worshipers of folk religion established their personal relationships with the supernatural being. For instance, ancestor worship which may have evolved from Confucian teaching regarding deference to the aged and the dead, became popular with the Chinese. Its popularity made ancestor worshiping a basic element of Chinese life. As Fisher describes it,

> Although Confucianism, Buddhism and Taoism represent the great religious "movements" in China, the most pervasive of all Chinese religious practices was ancestor worshiping. It was practiced by all Chinese regardless of their other religious loyalties . . . it has greater historical continuity than any other religious practice in China.[160]

Some authors regard ancestor worshiping as the main religion of traditional China, for it was practiced in all classes of society throughout the country. Moreover, it has greater historical continuity than any other religion practiced in China.

More or less reflecting the Confucian code of ethics, traditional rural living arrangements were houses constructed with earthen walls and thatched roofs. If not forming a courtyard, most houses were simple in layout (Figure 17).[161] Otherwise, the courtyard house was the general dwelling pattern for most people including those in

---
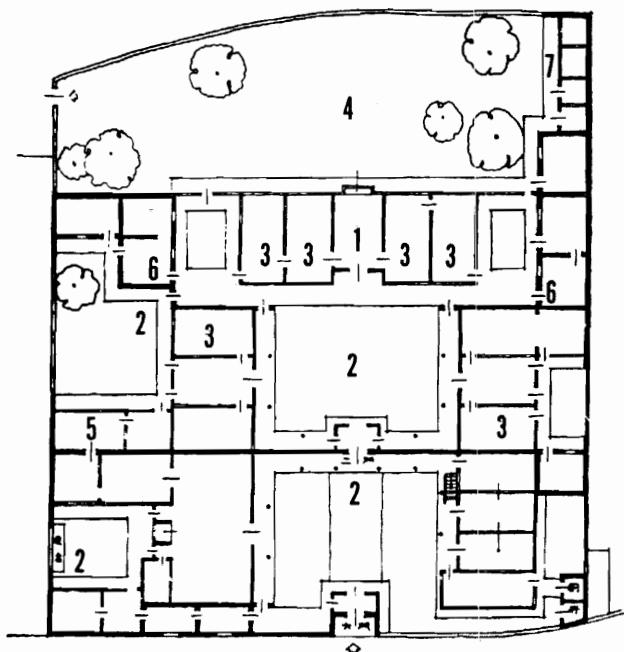
[159] Hook, 1982, p. 323.

[160] Fisher, 1979, p. 19.

[161] Liu, Duenzhen. **A Brief Review of Chinese Traditional Dwellings,** (Taipei, Taiwan: Ming Wen, Pub. Inc., 1981), p. 88.

1 Central Hall
2 Courtyard
3 Bedroom
4 Garden
5 Study
6 Kitchen
7 Livestock

Figure 17.   An   example of traditional rural housing

the cities.   In spite of differences in ethnic origin, climate, geography and building

materials, general principles in courtyard houses can be identified. For the members

of the family to live together, to grow, and to manipulate and accumulate crops, a

courtyard surrounded by buildings was a good solution. With the courtyard as a unit,

a house can have any number of such units.

Generally, social spaces in traditional living arrangement were emphasized over

personal spaces in such a layout. In other words, personal space and privacy were

less important in traditional social life. Social spaces such as the central hall, the

courtyard, and the gardens (Figure 17) were always highly decorated, centrally lo-

cated, elaborately constructed and crafted for important activities such as eating,

working, ancestor worshiping, reception and ceremonies. Functions of subsidiary

spaces such as kitchen and bedrooms are specific, private, informal and occupy no

definite locations (Figure 17). They may be temporary setups placed either outdoors, at the back of the home, or in a side room.

In all, Confucian teachings and their embodiment in social behavior and living arrangements maintained a stable social structure in Chinese traditional society for several thousand of years.

During the post-imperial period (1911-1949), ethical codes for behavioral pattern and values of social relations preached in Confucianism and Taoism were maintained in rural communities and to a lesser extent among certain sections of the urban population. The social structure of this period (Figure 18) was somewhat different from its predecessors. Revered as previous imperial families, the Nationalist Party officials and officers became the center of leadership in China. Other social classes included warlords, foreign capitalists, petty capitalists, bourgeois class, intellectuals and the working class. In rural areas, the landlords and the "gentry" class which was comprised of intellectuals and local government officials still prevailed over the majority of peasants. However, the structure did not last long due to several factors.

A particularly significant factor was urbanization caused by the need for labor forces in urban industries established by foreign and national capitalists. The development of capitalism in China coincided with the growth of the Chinese working class as numerous young men were intrigued by urban life style and opportunities of career change. The class was made up of wage-workers who had no means of production, and who sold their labor power and lived on wages. At the same time, the disintegration of the agriculture-based national economy to serve as a component part of imperialist economy made China a combination of both semi-feudalist and semi-colonial society. Together with the growth of the bourgeois and capitalist classes, Chinese people were confronting the threefold oppression of imperialism, feudalism and capitalism. Still another factor of the complete destruction of social

Urban	Rural
Nationalist Party leaders	Rural Party leaders
Warlords	
Urban bureaucrats	Landlords
Intellectuals	Intellectuals
National capitalists	Rich peasants
Foreign capitalists	Peasants
Private entrepreneurs	Private entrepreneurs
Petty capitalists (shopkeepers, traders, service providers, barbers, etc)	Wage labor
Regular urban working class	

Figure 18. Post-imperial feudalist social structure

structure was the Japanese invasion. To escape from this, people migrated from eastern to western and from northern to southern China.

While pursuing socialist goals, Chinese Communists have attempted a severe social transformation in many aspects of Chinese life which had been in effect since the Nationalists were in power. They targeted their social changes at a number of relations including that between landlord and peasant, friends, relatives, family members, man and woman, teacher and student, father and children.

In order to disintegrate the strong bonds between family members, the Communists encouraged separate eating, working and studying habits of individuals. They made the family "a source of progress," with "political life in first position,"[162] and substituted new "comradeship" obligations for traditional relationships and common ideology. Comradeship was intensely instilled among the mass organized population and between party cadres and worker-peasant classes.[163] Once engaged in collective organizations, family members were unavoidably separated from family activities. Also, the traditional practices of polygamy and concubinage were terminated, so

---

[162] Lewis, John W. "**Traditional Social Structure and Communist Goal**," (in Wei, 1972), p. 135.

[163] Lewis, in Wei, 1972, p. 134.

sexual life could be relegated to a minor position to make men and women equal.

The party cadres further manipulated the emotions of the youth to alienate them from

their parents, and to leave school and stay in country side to learn from peasants.

Otherwise, most people were combined into hundreds of household groups to form

"cooperatives," "production teams and brigades," and "communes."[164] Concomitant

with these changes, private ownership of land was abolished and there was a general

decrease in family size due to the job allocation system. In this way, the Communist

Party linked social life and loyalty to the state. As Goldstein describes,

> Everyone is a member of a work unit or a residential unit - in many cases
> the two are the same. An individual's work unit defines one's special sta-
> tus; sets the level of income, health care, and old age pension; provides (in
> cities) ration coupons for scarce commodities; may regulate the purchase
> of durable consumer goods; authorize marriage; and even attempts to reg-
> ulate the conception of children. One's unit often also provides a family-
> like social support. Organizations are responsible for a wide range of other
> social activities - schools for children, medical facilities for health care, ur-
> ban housing office for living space, retail outlets for consumer goods, the
> police and the courts for social control, and the Communist Party and mass
> organizations for political indoctrination.[165]

Figure 19 illustrates the resultant social structure.[166] The new upper class was

composed of government leaders, officials and military officers. No longer an elite

class, the intellectuals were considered to be "bad elements" of the society. Factory

workers and peasants, on the other hand, held superior status to these "bad ele-

ments." The intellectuals did not gain an equal status to the peasant-worker until the

post-Mao era.

As new social and residential unit which organized Chinese society, the com-

munes in both urban and rural areas are large communities in which hundreds of

---

[164] Defined in the Webster's Third New International Dictionary, 1965, a commune variously means a community espousing revolutionary or communist principles, or a collective residential unit.

[165] Goldstein, Steven M. and etc. (eds.) "**Economic Development and Foreign Trade**," (in The People's Republic of China, A Basic Handbook, New York: Learning Resources in International Studies, 1984), p. 151.

[166] See Moseley, 1969.

Urban	Rural
Communist Party leaders	Rural Party leaders
Urban bureaucrats	Peasants
Intellectuals	Private entrepreneurs (Post-Mao period)
Private entrepreneurs (Post-Mao period)	Wage labor
Foreign capitalists (Post-Mao period	
Petty capitalists (shopkeepers, traders, service providers, barbers, etc)	
Regular urban working class	
Contract workers	

Figure 19.   Post-liberation social structure
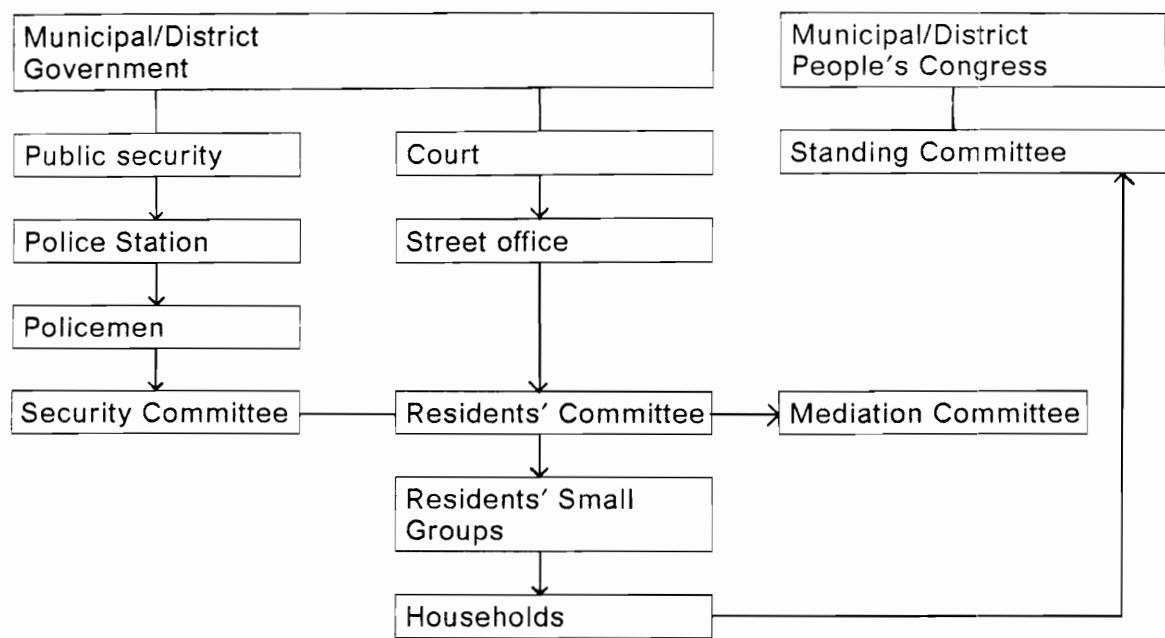
households live a collective habitual life, sharing limited public facilities such as kitchen, bathroom and latrines.   Through control of housing distribution and the household registration law, such a commune could locate as many as seventy thousand people.   Peasants, for instance, are classified as rural residents who are forbidden from taking up employment or residence in towns until the eighties.[167] In fact, "there is no general individual right to change job or address without permission."[168]

An urban individual's work and residential life in the commune is structured by the community organizations (Figure 20).[169] As shown in the figure, the smallest unit is a household which composes four to five persons. Fifteen to forty households form a small residential group.   The range of jurisdiction of a resident's committee covers several hundred households.   Likewise, a neighborhood committee supervises se-

---

[167] Blecher, 1986, p. 145; and Goldstein, 1984, p. 158.   Such a prevention of out-migration of the rural population inevitably hindered the growth rate of urbanization in China.   Moreover, during the years full of political movements, e.g., numerous urban youth were transferred to rural areas to answer to the call of "Up to the Mountains, Down to the Villages."   This involved at least 11,600,000 of urban youth particularly middle school graduates between the year 1962 and 1971.   They were persuaded to settle on communes and state farms at varying distance from their home cities for varying lengths of time.

[168] Stretton, 1978, p. 134.

[169] Goldstein, 1984, p. 161.

```
┌─────────────────────┐                              ┌─────────────────────┐
│ Municipal/District  │                              │ Municipal/District  │
│ Government          │                              │ People's Congress   │
└─────────────────────┘                              └─────────────────────┘
     │                                                        │
┌──────────────┐        ┌──────────────┐        ┌──────────────────────┐
│ Public security│      │ Court        │        │ Standing Committee    │
└──────────────┘        └──────────────┘        └──────────────────────┘
     │                         │
┌──────────────┐        ┌──────────────┐
│ Police Station│       │ Street office │
└──────────────┘        └──────────────┘
     │                         │
┌──────────────┐
│ Policemen    │
└──────────────┘
     │                         │
┌──────────────────┐    ┌────────────────────┐    ┌──────────────────────┐
│ Security Committee│───│ Residents' Committee│──→│ Mediation Committee   │
└──────────────────┘    └────────────────────┘    └──────────────────────┘
                               │
                        ┌────────────────────┐
                        │ Residents' Small   │
                        │ Groups             │
                        └────────────────────┘
                               │
                        ┌────────────────────┐
                        │ Households         │
                        └────────────────────┘
```

Figure 20. Urban neighborhood organizations

veral residential committees. Units at each level work under the supervision of police and various administrative agencies.[170]

In addition to these organizations, there are other facilities in a typical commune. As shown in the Quyang Small Residential Area, Shanghai (Figures 21),[171] there are grocery stores, fleet markets, nursery school, primary school, cultural center, neighborhood committee, clinics, leisure parks, management offices and walk-up apartment blocks.

The rural communes were originally established during the "Great Leap Forward" period (1957-1958) as a scheme for mobilizing labor on a sufficient scale. Its ideal was to unite working and living by making the communes self-efficient in their

---

[170] Goldstein, 1984, p. 154.

[171] Tsai, Zheuyi. **"Design of the Quyang Commune,"** (Jian-Zhu-Xue-Bao, No. 3, 1984), p. 42.

1 Cultural Center
2 Shopping Center
3 Neighborhood Committee
4 Nursury School
5 Primary School
6 Middle School
7 Clinic

Figure 21.   Site plan of the Quyang Commune

basic daily requirements. By 1958, ninety-nine per cent of China's peasant population were put into the commune system. By the eighties, the average number of house-holds per commune were about 15,000 people, or roughly 3,000 families. Most rural commune organizations were built on top of preexisting villages and family units. As a constituent unit of the commune, a production brigade encompasses about 1,000 people or 200 households. A brigade which composes several production teams[172] usually runs a primary school or lower middle-school classes. In addition, there is a commune clinic station providing medical services, police station and the basic level political organization. The creation of communes gave the Party an un-precedented degree of authority over rural life in China.[173]

While urban households are supervised by street committees, rural family members belong to production teams which organize daily farming activities. The

---

[172] Bunge, 1981, p. 573. The production team is the lowest administrative level in the commune system.

[173] Bunge, 1981, p. 96

family is usually a member of a production brigade and work alongside about a hundred or so other peasants. For hundreds of years, the pattern of work throughout the year followed a regular cycle. Rice cultivation, for example, has dominated most of farm life.

These communes and their facilities not only provided basic daily services but, most obviously, suggested a new social structure and life pattern in both urban and rural areas. After the commune system weakened family bonds, kin loyalties, and lineage organizations, social interactions outside of family are more likely be formed between members of a neighborhood affiliated with the same work unit or government institutions.

As a result, group identity attained significance while individual identity was further obscured in present-day culture. The socialist system regulates identity of virtually all kinds, including housing, clothing, art, literature and so forth. Unless in a group, a person is discouraged to challenge an existing norm. As before, people tend to have persistent attachment for things they are familiar with and resistance to unknowns. A person who, with such a nature, intends to physically define territoriality, boundary, personal space, and sufficient privacy from others is unrealistic. Consequently, distinctiveness, an essential factor of identity, is not the property of the people's mind, but rulers'.

The omnipresent supervision of personal life left the Chinese relatively little time for private social and leisure activities, let alone the practice of religion. As traditional customs and religions were abolished, particularly during the Great Proletarian Cultural Revolution (1966-1977),[174] political activities surrogated much of the content

[174] Bunge, 1981, p. 573. "Short term for the Great Proletarian Cultural Revolution, a political campaign designed to rekindle revolutionary fervor through mass actions outside the formal party organizations. Begun in 1966 by Mao Zedong and his radical supporters, the Cultural Revolution began to wind down after 1968 after the violent excesses brought on by Red Guards. Officially, however, the

of Chinese spiritual life. For a long time, Mao was the new spiritual head, the communist thoughts became the content of popular beliefs, and the workers, peasants, Party members, and soldiers made up the new priesthood. Temple and church organizations were removed under this condition.[175] These institutions became public meeting places, and priests were turned over to productive labor.

The old religions have been swept away, but they do not seem to have disappeared. As Fisher points out that, "Whether ancestor worshiping is dying out completely under the new regime is difficult to judge . . . . Travellers in China report frequent evidence suggesting that some graves are still being swept."[176] And Peng notes, "The policy of freedom of religious belief was again firmly implemented after the fall of the 'gang of four,'[177] and new impetus came especially after 1979. The state poured funds into restoring temples . . . ."[178]

This means that, under supervision, some forms of worship are allowed at appointed temples or churches which, in many cases, are for exhibition. These exhibitions are seen to mix with politics in spite of their virtue of bearing certainties in life chances and mind. As pointed out by Fisher,

> In 1952, the Chinese Buddhist Association was formed under Communist auspice . . . to convey the impression that religion observance is allowed in China. The stance was considered particularly important in China's relation with countries in southeast Asia possessing Buddhist populations."[179]

---

campaign was seen as having continued until October 1976 (although for all practical purposes, it was dormant) after the Gang of Four was purged.'

[175] Fisher, 1972, p. 21.

[176] Fisher, 1972, p. 19.

[177] Bunge, 1981, p. 574. The 'term is used to denote the four leading radical figures - Jiang Qing (Mao's widow), Zhang Chunqiao, Yao Wenyuan, and Wang Hongwen - who played a dominant role during the Cultural Revolution . . . and had continued to influence the political process until they were arrested in October 1976.'

[178] Peng, Hanqun. "**Buddhism in China Today,**" (China Reconstructs, Oct, 1988), p. 8.

[179] Fisher, 1972, p. 21.

And by Zhao Puchu, Chairman of the Chinese Buddhist Association, that,

> "We have made and are continuing to make our contribution to Buddhism
> and the renewal of the Chinese nation . . . The last 30 years' experience
> has shown that "earthly Buddhism" has found a way to integrate Buddhism
> and socialism, both in theory and practice."[180]

However, ardent followers of traditional religion are usually older people who cling to belief in traditional rituals, supernatural power and auspicious signs (Figure 22). They are the generation who have been nurtured by centuries-old traditions. To them, icons of animals and plants are powerful in preventing natural disasters; idols of gods and goddess, calligraphies or paintings are variously indicative of literary, religious and auspicious meanings. To some extent, these forms of worship enrich local culture and covertly satisfy a believer's psychological needs. Since these signs are no longer associated with class distinctions, they can be integrated into buildings and locations at the designer's discretion (e.g., Cheng Huang Shopping Mall, Chapter 5, Figure 64). Without them, a building simply lacks popular and associable meanings.

Whether the building belongs to an upper class person or a peasant, traditional architecture reveals features of aesthetic values preferred by the Chinese. Some of the values are shown in complex and pluralistic figures (Figure 23) such as landscape painting, calligraphy, sculptures and fabric designs, in the ". . . interpretation of indoor and outdoor spaces, harmony between courtyards and the natural environment, and blending of living accommodations with garden features . . . ."[181] But suppressed by

---

[180] Peng, 1988, p. 9.

[181] Zhao, Xilun. **"Inheritance and Innovation in China's Rural Housing Development,"** (Building in China, Selected Papers. China Building Technology Development Center, No. 2, 1982), p. 16-26.

Figure 22.   Some examples of Chinese symbols of auspicious meanings

traditional teachings and socialist disciplines, the Chinese people are reluctant to

pursue excessive sensual pleasure and cannot tolerate the bombardment of unor-

thodox aesthetics, those other than traditional art forms.   This partly justifies the

prevalence of everyday architecture of similar facades and floor plans.

In the wake of socialist reforms, the distinct identity of social meanings should

include the collective life pattern, social structure and living arrangements resulting

from the commune system.   Although Confucian teachings are continued covertly,

their implications are not considered to be important in today's architecture.   Popular

culture of this type may have been deserted for so long that when it is revitalized it

does not give much spirit to the present day.   Still, the Chinese rely a great deal on

group identity and group life to pursue proper roles in the society.   In spite of the fact

that the socialist transformation fosters a new set of ethic standards for the Chinese,

observers have pointed out the gradual revival of traditional culture and inevitable

synthesis between Chinese and foreign cultures.   As pointed out by Wei, "There is
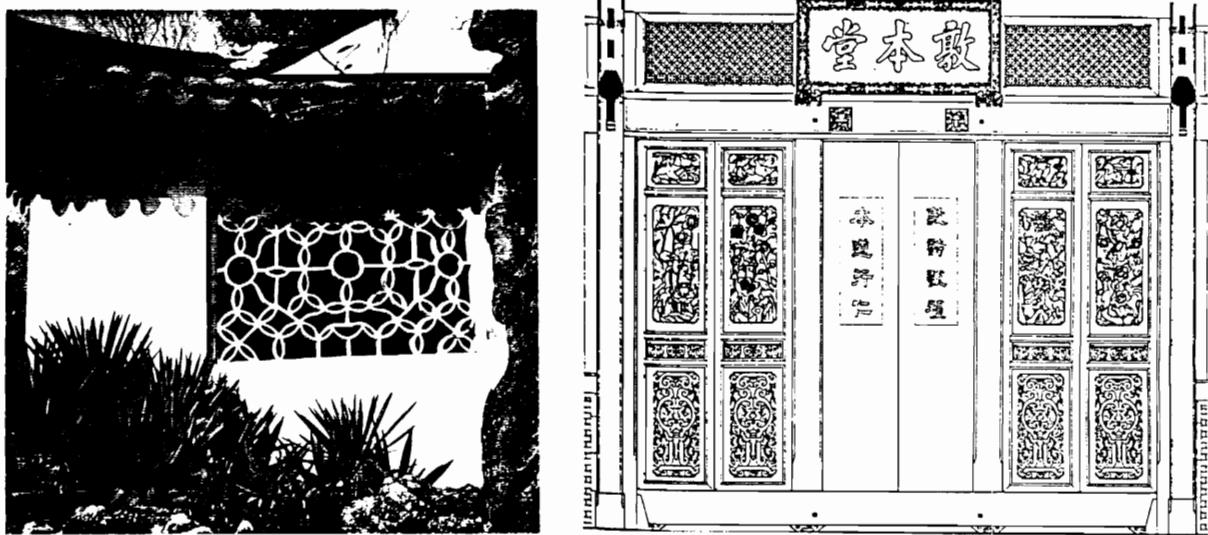
Figure 23. Some items of Chinese artistic designs

reason to believe that there must be a residual attachment of the Chinese people on the mainland toward the socio-cultural order of the "order society."[182] Given the demand to mass produce and modernize buildings, emphasis ought to be given to public identities reflected in public and personal spaces. The following list illustrates the core elements of socialist meanings.

1. Reflection of new social structure, social organization, break of family and kinship bonds
2. Reflection of the continued tradition of Confucian and Taoist teachings
3. Reflection of new social ethics and moral demands
4. Reflection of users' group identities
5. Reflection of popular signs of associable meanings
6. Reflection of the collective habitual way of family life and social environment under the commune system

---

[182] Wei, 1972, p. 20.

4.4 Economic Elements

The Chinese economy in traditional society was capitalist in nature for several thousand years. People such as merchants and peasants owned their means of production, and managed their products in competitive market places and shops within cities. Under the system, "the family has been the most important unit of organization, for not only has agriculture been almost exclusively a family undertaking, but also in industry and commerce the family has been the most numerous organizational unit in investment and operation."[183] Kinship bonds were pervasive in the system of basic economic relations. In general, rural families would strive to be self-contained with agricultural productions and sufficient surplus to exchange for other daily needs. Urban families, on the other hand, would rely on their business with farmers for food. China would have developed into a capitalist economic system had she not been interrupted by the socialist system or foreign capitalism.[184]

Under such a "natural economy,"[185] Chinese people considered family finance, livelihood and foodstuff the most important objectives in life. Achieving a great fortune was traditionally viewed as important as living a long life, establishing a family of Confucianist scholars and having a large family. In social relations, the Chinese helped friends and treated guests wholeheartedly, for instance, with good food and drink. Most people were hard working and thrifty, and they kept their habitual way of plain living. The peasants, in particular, saved their earning to build houses for their sons and their descendants.

---

[183] Yang, in Wei, 1972, pp. 116-117.

[184] Wei, 1972, p. 57

[185] See Ho, 1959.

By the mid-19th century, the penetration of foreign capitalism disintegrated China's natural economy, and it stimulated and accelerated the emergence and growth of capitalism. In addition to the natural economy, a commodity market for capitalism was built up in China, and a labor market for it was created. Thus, it can be said that neither the economic system nor values related to family finance, were altered significantly even after the Nationalist government overthrew the last empire.

However, no significant change or improvement of national economy was achievable in less than three decades (1911-1937) in this huge agriculturally-oriented land.[186] Plagued by wars, political divisions, foreign invasions, and conflicts among schools of ideologies, the traditional capitalist mode of economy was accelerated due to increasing competition between native and foreign industries. This competition gave rise to the emergence of bourgeois and proletarian classes in treaty ports such as Shanghai. Modern banks were established to facilitate growing financial needs. The coexistence of traditional, colonial, semi-colonial and semi-feudalist societies[187] in that period brought China abundant notions of the Western capitalist mode of economy and gradually changed Chinese economic thinking. And the family was devalued in Chinese economy with the emergence of the bourgeois, capitalist classes and the urbanization of the rural population.

Due to the devastation of wars, most statistical figures about the the pre-imperial and post-imperial periods are not available. There is no quantitative conception of living condition, types of work and income, food production, private business, gross national product, annual income per capita or natural resources. But it has been commonly accepted that traditionally the building construction sector was not an in-

---

[186] Blecher, 1986, p. 5. In the 20's and 30's, around one-third of China's peasant households were tenants, and around 85 percent of the land were owned by landlords.

[187] Wei, 1972, p. 57.

dustry but rather a group of artisans who worked together to process materials and products for other industries, that situation of housing in rural areas could not have been any better than in urban areas before the year 1949, that peasants were continuously under that dominations of the landlords/local gentry class economically, that state investment in urban industries and private business created working as well bourgeois classes during the Nationalist period, and that natural resources were utilized to serve the interest of foreign capitalists. But all these aspects were chaos between the years 1937-1949 due to Japanese invasions, during which the industrial sector was ravaged and food supply reduced, hyperinflation devalued the currency, commercial links between urban and rural areas were disrupted, and communications were in disrepair.

After the Chinese Communists reunified the nation, the family-oriented financial unit as well as many previous industries were abandoned to carry out the socialist transformation of the national economy. By eliminating the human exploitation, the Communists presumed that the socialist economic system would make possible a higher rate of labor productivity and a faster expansion of the forces of production.

The "Land Reform" (1950-1953)[188] which redistributed land and grain to peasants headed other reforms such as the socialist industrialization that came latter. The leadership firmly believed that all modernization in China, politically, socially, or economically, should begin with land reforms. They destroyed traditional family production units so that workers and peasants could be controlled and guided. Thus, agricultural collectivization in country side accelerated. With the emphasis on

---

[188] Ho, 1959, p. 565. The process of land reform included these activities. First, the government raised peasants' consciousness of the Party policy. Second, the peasants waged resolute struggle against the landlords. Finally, the land and property of landlords were confiscated and distributed among peasants who were short of land and tools of production.

egalitarianism, communes are said to provide greater productivity and savings than ever before, with the peasants being paid according to work performed.

By replacing former private enterprises with communal businesses in urban areas, the Communist leadership not only successfully unified many economic sectors including industrial and agricultural production, materials, currency, revenue and expenditure, but also established state-operated ration system (e.g., for food and clothing), career allocation[189] and wage systems. It was a centralized economic system in which the state controlled and organized enterprises of all kinds.

After having experimented two five-year economic plans (1953-1962) during which economic issues were dominated by political upheavals, China experienced disastrous loss of resources and human life. Not until the leadership realized the defects of over-centralized control in economy and politics, had effective reconstruction and modernization been launched in the late seventies. Without doubt, previous applications of the socialist economic system failed to shorten the distance between primitive and ideal Communist stages. In the "Primary socialist stage," thus, economic reforms, including a number of experiments, were tried to realize the "Four Modernizations" in industry, agriculture, science and technology by the end of this century. The central features of these reforms included enhancing agricultural and industrial products in quantity, variety and quality, management at different levels to reduce state control of enterprises, distribution of important materials such as coal, iron, steel, timber and cement, a new labor wage plan, a new plan for public health and education, new economic laws and management rules and regulations, and so forth.[190] The results are observable in China's opening of "Special economic zones"

---

[189] Fisher, 1979, p. 10. According to working stipulations, "Everyone in the family who is not a student, or too old, sick, or lame, will be assigned to work..."

[190] Hinton, Harold C. (ed.) **"A Preliminary Reform, 4 October 1984,"** (in The People's Republic of China 1979-1984, Wilmington, Delaware: Scholarly Resources Inc., Vol. 2, 1986), pp. 625-627.

in southeast coastal cities of China for international trade, legitimization of the individual entrepreneur or private businessman, promulgation of rural "responsibility system,"[191] emergence of agriculture-turned industry, and investment in natural resources such as coal, oil and nuclear power.

The coastal economic zones which cover a relatively tiny percentage of territory of China, became congested with land of industries including those which are owned by foreign capitalists. Considering both import and export industries, these zones have boosted China's international trade with foreign countries. They act as the liaison between foreign technology and China's urge for industrialization. The private businessmen who can be seen nationally tends to be street vendors. Otherwise, they occupy small shops to trade daily objects, food, clothing, home appliance and so forth. The rural responsibility system allows peasant families to be in charge of parcels of farm land by long term contract with the production teams the families belong to. After fulfilling their responsibilities with a certain amount of agricultural output determined by the government, peasants can consume or sell any remaining output of their own. Apart from factories and brigades of industrial production, "the homes of peasants also serve as millions of workshops for industrial or sideline productions."[192] It is thought that the combination of production concentrated in factories and production dispersed in millions of individual homes has the advantage of less investment, quicker effects, full utilization of surplus labor and spare time. Since most such lightweight manufacturing takes place within or around farm houses, the so-called "courtyard economy" is developed.[193] And the family regain its role as a principle institution for production, savings, consumption and socialization. Highly

---

[191] Defined below.

[192] Zhou, 1982, p. 26.

[193] Zhou, 1982, p. 26.

involved in light industry, the traditional role of rural housing and its courtyards has become an obvious sign of socialist transformation after the adoption of the Open-Door Policy.

Despite these economic changes, China is still very much an agricultural country. Of the total labor force in China, about 75 percent work in farming, 10 percent in the manufacturing sector and the remainder in the service sector.[194] Contrary to the responsibility system executed in the rural areas, the vast majority of enterprises in urban areas remain controlled by the state. While the family reestablishes the basic economic and work unit in the countryside, family members in urban areas usually belong to different work units. Unless establishing small business of their own, urban workers receive supplemental payments to compensate for a higher living cost in addition to monthly wages.[195] The existing work pattern in the urban state-run businesses includes factories responsible to the province or city, a number of shops responsible to the neighborhood committee and a variety of workshops and service run by the resident's committee providing light industrial goods as well as local services.[196] In general, the urban income level[197] is higher than in rural areas. Thanks to such a change, national income per capita of Chinese people has risen gradually. The figure is doubled from 1977 (U.S.$175.0)[198] to 1989 (U.S.$360.0).[199]

---

[194] Goldstein, 1984, p. 152.

[195] Fisher, 1979, p. 10. "Most workers are subject to the eight-grade wage system, and an average can expect to earn Y 50 per month. Out of this will be paid 4-5 per month rent, inclusive of charge of water and electricity, for a family apartment." For reference, the exchange rate for Chinese Yuan and U.S. Dollars is about 1 to 3.7.

[196] Stretton, 1978, p. 138.

[197] Goldstein, 1984, p. 137. For instance, the estimated Urban-Rural income ratio of 1977 was 6.3:1, and was 4.8:1 of 1980.

[198] Goldstein, 1984, p. 118.

[199] According to **Roanoke Times & World News,** (Roanoke, Virginia, September 27, 1990).

The city and countryside also differ considerably in the living arrangements available to families. Great changes did not occur until 1979 because architectural construction was slow prior to this year. Housing construction between 1949-1979 accounts for only 1.5 percent of annual Gross National Product,[200] and the living conditions remain under the average of the Least Developed Countries.[201] Originally, existing housing in China's villages and street blocks were reorganized for communal living. Since the early sixties, numerous contemporary buildings, completely functional, were erected to facilitate the national formation of communes. So were workers' accommodations, which were equipped with block after block of apartments.
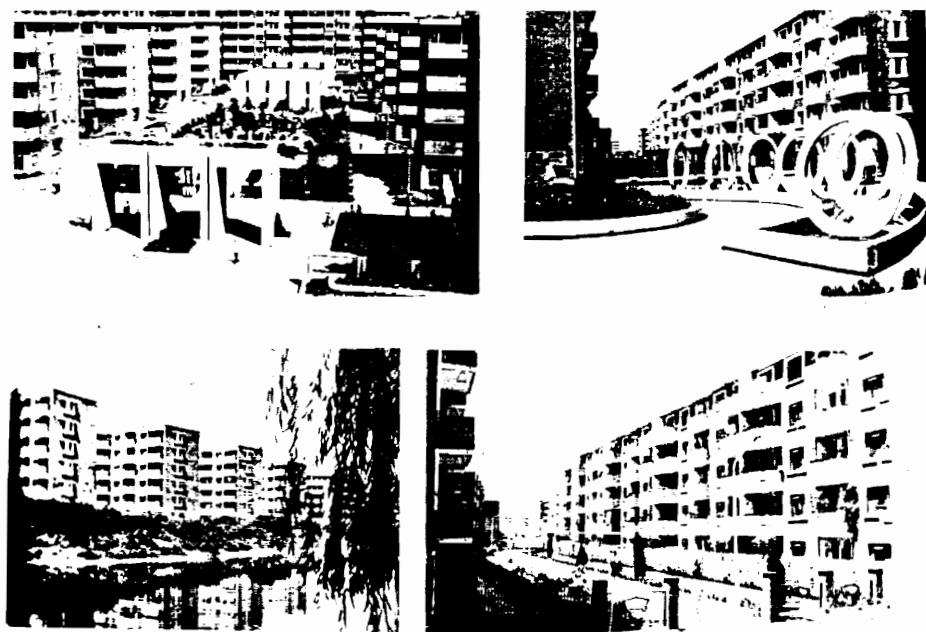
Housing construction has greatly increased since the year 1979. For instance, it is estimated that residential area per capita in urban areas increased 76.7 percent from 1978 to 1985. However, since the supply of housing could not keep pace with population growth, families must live in very tight quarters. In 1984, residents of 192 municipalities have roughly 39 square feet of living space per capita. The condition was even worse in rural areas, where only 2.4 percent of the households were accommodated with running water in 1985. By 1987, it was estimated that 8.4 square meters (roughly 90 square feet) of floor area (including living, production, and storage spaces) was provided to each person.[202] Taking into consideration of remodeled housing, a space of one room for each person can be expected by the turn of the century. By limiting urban population to 20-25 percent of the total population, and by executing a high speed of construction, China intends to provide one dwelling unit for

---

[200] Lin, 1987b, p. 3.

[201] Lin, Zhi-Qun. "**Development Policy in the Process of Industrialization, Modernization and Urbanization in China**," (Building in China, China Building Technology Development Center, 1987a, No. 2), p. 1.

[202] Zhao, 1982, p. 16.

Figure 24. Some examples of new urban housing

each household in both urban and rural areas by the year 2000. In other words, beginning the year 1985, China will construct 90 million square feet of new housing to reach the 650 square feet per dwelling unit objective.[203] Figure 24 illustrates some examples of new urban housing.[204]

In rural housing construction, collective production activities and political impacts have discouraged the formation of courtyard houses. Thus, in most new housing design for peasants, only a few principles from traditional dwellings have been preserved. They are use of local materials, responses to local climatic and geographic conditions, and characteristics of formal elements. Figure 25 illustrates some examples,[205] in which elements such as doors, windows, grilles, balustrades

[203] Lin, 1987b, p. 5.

[204] Zhao, Yuanxiang et al. **"Tiyuanbei Residential District, Tianjin,"** (Jian-Zhu-Xue-Bao, No. 5, 1985), pp. 11-16.

[205] Tang, Zudin. **"Exploration on Certain Problems in Rural Housing Construction, Hunan,"** (Jian-Zhu-

Figure 25. Some examples of new rural housing

and decorations are applied to walls, gables and eaves. Diverse in style, the new

housing blends well with the natural environment, providing variety in the appear-

ance of rural communes. While most new two to three-story apartments are provided

by the government, others are built by local efforts by individual contractors and the

production brigades which provide technical guidance and other necessary help.[206] In

many places, houses with brick and stone walls have taken the place of old ones.

Nearly 3 million square meters of rural housing were built from 1978 to 1983.

In order to realize the construction objective, the Chinese government has de-

cided to stimulate the development of the building industry by the following measures

in 1984. First, strategies were formulated to adopt the experience accumulated by

developed countries, particularly the use of tendering and bidding, contracting and

Xue-Bao, No. 5, 1989), pp. 42-47; and Nia Weina. "**Magic? - Example of Rural Boom,**" (Building in China, Vol. 1, No. 4, Dec 1988), pp. 36.

[206] Lin, 1987a, p. 3. In rural areas, for quite a long time, peasants could not afford to build their own houses as most who could prior to the Communist economic system.

competition, etc. Second, continuous recruitment and renewal of construction labor for permanent positions was substituted for permanent positions to eliminate the less effective employment plan. Third, the wage system was reformed to produce a higher income level on contract teams and workers. Fourth, competition was encouraged among design institutes and construction teams without government monopolies. Fifth, the development of design, construction, consultation, research and development units were authorized to enhance the initiatives of technical professionals. Finally, the guiding role of the government was enlarged by enactment of acts and regulations to monitor production qualities from the state to localities.[207]

Although the government plans to maintain a state-run economy all the way into the next century and possibly forever, the current reforms are gradually reviving and raising living standards. Personal income has risen for some professionals such as individual vendors, petty capitalists, and architects who are motivated by competition and hard work. The pursuit of higher income will not only cause spatial change of the population structure due to increasing urbanization, but also the transformation of the socialist mode of life to other patterns. In short, the identity of economic meanings may be reflected by the following elements. They are:

1. Reflection of land reform in rural and urban areas, and the destruction of the traditional economic system
2. Reflection of the socialist economic system, i.e., centralized control of revenues, production, resources, job allocation and ration system
3. Reflection of the socialist living conditions
4. Reflection of the "primary socialist stage" and the Open-Door Policy
5. Reflection of urbanization resulting from state establishment of enterprises in urban areas and permission of peasants to depart from their agrarian livelihood

---

[207] Lin, 1987a, p. 5-6.

4.5 Sign-production Approaches
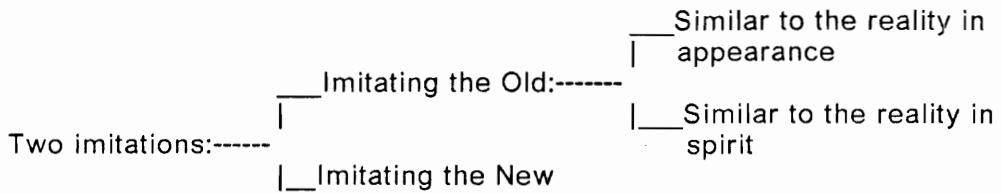
The sign-production approaches are considered to be in the last category of core elements. Since both intellectual and approaches to synthesize architectural signs are attributed to cultural distinctness in design, there is a need to identify their contribution to Chinese identity.

Generally, Chicness designers agree that simplicity in design is attributed to the integrity of Communist ideology, but is antithetical to the evolution of traditional architecture. Additional design theories are needed but what they would be is controversial due to ambivalent opinions about preservation or abandonment of architectural heritage. The heritage includes two major categories, philosophies of design and characteristics of architectural design. The former embraces the Taoism, Confucianism, and Buddhism which collectively express their implication in built forms by the relationships among universal, natural and functional relationships. The latter includes, (1) harmonious blending of a building with its immediate environment, (2) greater importance placed on group relationships between buildings than to a single building, (3) standardization of building patterns, (4) curved roof pattern as the most important feature, (5) rich color schemes, (6) imitation of the nature in garden design,[208] and (7) artistic decorations such as furniture, paintings, artifacts and calligraphy.

However, most notable theoretical disputes concern the "Two imitations," (Figure 26), i.e. imitation of the new (foreign origin) and the old in appearance or in

---

[208] Wang, Shi-Jen. "**Cultural Form of Contemporary Chinese Architecture,**" (In Interaction of Ration and Romance, Beijing: Chinese Architectural Industry Publications, Inc., Dec, 1987), p. 174.

```
                                            ___Similar to the reality in
                                           |   appearance
                    ___Imitating the Old:-------
                   |                       |___Similar to the reality in
Two imitations:------                          spirit
                   |__Imitating the New
```

Figure 26.   Two imitations

spirit.[209] The state-of-the-art of these works can be illustrated by the implications of

the National Design Awards held since 1983. Since the inception of this event, more

than one hundred design projects have been awarded for their interpretation of de-

veloping China in terms of three conspicuous design trends. They are:

1.   Classical revival
2.   Westernization
3.   Hybrid of the Chinese and the West

The first prize entries of 1986 clearly exemplify such a classification. First, the

Chuei Li Tourist Hotel (Figure 27),[210] an addition to an existing Confucian temple

complex, Shandong province. It demonstrates how additions can be harmoniously

articulated into a historical site by adopting imitated design features of the existing

structure. This approach is common to preservation of historical buildings where the

purpose is to retain the ethos of past times. Second, the Chinese International Exhi-

bition Hall (Figure 32, Chapter 5), a multi-purpose building, shows how progressive

design models of the West can be emulated and appreciated. An example of the

International Styles,[211] this approach demonstrates a popular solution to construction

projects all over the nation. Finally, the Lhasa Hotel in Tibet (Figure 33, Chapter 5),

---

[209] Imitating traditional architecture in its "spirit" is considered the best policy in this trend of design.
However, the content of such a spirit has yet been appropriately defined since 1981.

[210] Dai, Nianci. "**On the Design of Chuei Hotel**," (Building in China, 1986), p. 15.   .

[211] One of the major doctrines of the International Styles is "free of ornamentation," that is, free of at-
tached modifications which, sometimes, are very cultural in nature.
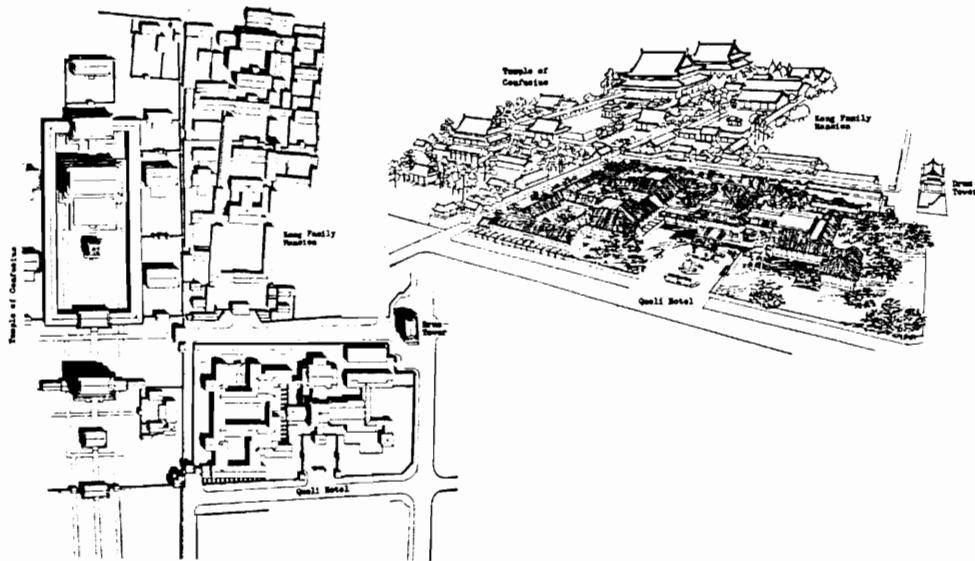
Figure 27.   The Chuei li Tourist Hotel

a building complex permeated with local religious meanings. It is a combination of local cultural traits and modern construction techniques available.

Compared to the second trend, the Western approach, the hybrid approach entails more budget and creativity in reinterpreting cultural traits through design features distinct from existing patterns. Thus, it is also less practiced unless the project is large in scale and significant to local developments. But none of these three trends is established without controversial outcome. The small number of works exemplified by the third trend are particularly controversial although they are the only stream of thought exploring identity problems in architecture. These awards are publicized without involving laypersons' opinions or post-occupancy evaluations which may help determine if designs are appropriate functionally and behaviorally.

At first glance at the works of the third trend, one may not sense a conspicuous shift in architectural design from previous classical revivals of this century. For this reason, once a while a designer will claim a design of Chinese distinctness simply by adding a "cap" - the sloping roof, on top of a modern building. But with a closer

look, one can distinguish designs of the third trend from those early revivals and capped buildings. Making such a distinction is necessary because "the idea of using traditional forms [is] in conflict with Communist ideology."[212]

The genesis of the classical revival was first propagated in the "Chinese Renaissance Movement"[213] of the thirties and forties. Advocated by a group of western trained architects, the objective was to interpret the "roots" in Chinese architecture through new materials and technologies. For the first time classical buildings, primarily Ming and Qing dynasty, were faithfully duplicated (Figures 37, 51, and 70, Chapter 5). As seen today, these buildings are "crowned with lofty roofs in the style of Chinese imperial palace or clad with Chinese traditional decorative elements over cubic boxes."[214] Not necessarily a direct expression of political ideologies and cultural roots, the products of this movement were built to carry out official intention in communicating national images (e.g., the Sun Yatsen Memorial in Nanjing, Figure 51). With similar intention, the communist leadership also propagated "Socialist content and Cultural Form" for architectural design in the 1950's. It applied ". . . official, old rules of traditional architecture, even duplication of ancient palatial architecture as models of new designs." Common drawbacks of the first two approaches, i.e., classical revival and Westernization, are excessive use of material, classical features, budget and disagreement between forms and functions.[215]

Duing the historical preservation movement of the seventies and eighties, attention has paid to classical design features. It attempted to restore old buildings from further decay and to recover a building's original look. No creativity is needed

---

[212] Tao, Ho. **"The Problem of A Chinese Architectural Spirit,"** (Ekistics, Vol. 20, No. 120, Nov, 1965), p. 129.

[213] See Su, 1964.

[214] Wu, Guang-Zu. **"Chinese Architecture: Tradition or Innovation,"** Spazio e Societa, 1986, P. 84.

[215] Wu, 1986, p. 86.

in this type of revival. Finally, the latest attempt was made to creatively incorporate classical features on modern buildings. Because an equilibrium cannot be reached between these two "imitations," architects can only transform, simplify, enlarge or exaggerate classical features via modern design concepts and materials.

It took Chinese architects almost half a century to dispense with direct duplication of classical features and realize the need to give spirit to a mixture of present lifestyle and modern technologies in architecture. Particularly devoted to resolving problems in hybridizing the old and the new, the following theoretical discourses are considered to be intellectual resources which contribute to the sign-production approaches.

In most of his comments, Pei postulates that traditional design patterns and principles should be reexamined and reinterpreted for modern application. Specifically, he states, "synthesize out of life, out of history, whatever is still valid . . . [no matter] how old it is, use it. And what is not valid, abandon. There are many elements in Chinese architecture that are still very valid."[216] In support of this postulation, Ho gives credit to one of Pei's designs, the Fragrant Hill Hotel, Beijing (Figure 37, Chapter 5), by stating, "it combined the best of the Oriental and the Occidental into one, it does not matter so much that the building looks neither Chinese nor Western as long as it assimilates something good for Chinese and foreign culture."[217]

The image of "Chineseness" which permeated in the hotel complex is expressed through applying building features of vernacular architecture. Like Pei and Ho, many architects believe that the intricacy of traditional artistic designs (Figure 23), whether of wood or masonry construction, are worthwhile developing. Without doubt, these

---

[216] Diamondstein, Barbaralee. **American Architecture Now,** (New York: Rizzoli International Publications, Inc., 1980), p. 161.

[217] Ho, Zhaoshu. **"A Chinese View of Fragrant Hill,"** (Architectural Journal, Nov. 1983), pp. 33-34.

artistic designs can be dissected into units of systematic configurations full of color, texture and pattern. Thus, they can be reorganized and integrated into modern structure.

Thinking along the same line, Wang and Chang hold that new Chinese images, or the timeless spirit, should be holistically expressed in physical features (e.g., interior decoration, door, window, gardens, plants) to provide multiple cultural associations and functions.[218] This can be illustrated by the ambiance around a hall or an open courtyard which produces religious, imposing, serene and leisure effects. In contrast, Lu and Tsau suggest that "new" signs should signify traditional aesthetic principles, the "spirit" which underlie the thousand-year old designs. They maintain that presentation of the spirit ought not to rely solely on the tangibles.[219] Further, Luo and Tsau propose that a hybrid form should be "organic" between form and content. That is, traditional elements hybridized in the form should retain their original roles and meanings.[220] Zhang adds that imitation of the new ought not to be too precise lest it should become a product of other cultures, while imitation of the old ought to provide sufficient clues about the Chinese, lest it should become unrecognizable.[221]

In absolute contrast to the above, some theoreticians forsake the pursuit of identity in architecture in favor of a needed modernization. As Hu suggests, architects ought to devote themselves to the discovery of new design styles and to learn-

---

[218] Wang, Dihua. "**On Symbolic Content and Nationalistic Form in Architecture,**" (Architectural Journal, No.2, 1981), pp. 29-31.

[219] Lu, Shishao. "**Comments on Imitation of Reality In Spirit,**" (Jianjushi, No. 22, 1985), pp. 22-26; and Tsau, Qinnan. "**The Term: Cultural Form Should Not Be Used in Architectural Discourses,**" (Jian-Zhu-Xue-Bao, No. 5, 1980), p. 24.

[220] Luo, Changren. "**Urban Development and Architecture in Shenzhen,**" (Jian-Zhu-Xue-Bao, No. 8, 1986), pp. 2-7.

[221] Zhang, Shaogui. "**Form and Spirit in One,**" (Jian-Zhu-Xue-Bao, No. 4, 1981), p. 38.

ing foreign design models.[222] Luo echoes that only by using modern design methods and technologies can architects solve the architectural problems lying ahead.[223] In addition, Wu suggests that particular attention should be given to the development of systematic construction, artificial intelligence and the establishment of building guidelines and codes.[224] In short, the general consensus of this group, as Wang notes, is that in order to stimulate new design ideas, China should open her doors to foreign influences and put aside the worry about cultural heritage.[225]

In light of the above discussions, it is obvious that the Post-Mao regime has brought very different attitudes to the society, and to the use and design of buildings. The guiding thoughts remain dominant in the culture, although the tradition is revolving slowly and inconspicuously. Notwithstanding the acute shortage of housing and modernization, Chinese architects are officially encouraged to portray the images of national growth and prosperity, and to adopt progressive design models. Current attention to developing an architecture of more cultural relevance is virtually an attempt to combine socialist and capitalist values. But whether hybridization of the past and the new is done in details, portions of a building, or the entire building mass, no design has been considered to be successful reflection of Chinese identity.

Chapter Conclusion

Under the guidance of Communist ideologies, profound changes have taken place in China politically, socially and economically. All show conspicuous difference

---

[222] Hu, Dunchang. **"More Stress on the Present in Architecture Design,"** (Jian-Zhu-Xue-Bao, No. 8, 1981), pp. 35-36.

[223] Luo, 1986, pp. 2-7.

[224] Wu, Jinxiang, et. al. **"A Joint Speech,"** Jian-Zhu-Xue-Bao, No. 8, 1986), p. 26.

[225] Wang, Mingshen. **"Symposium on the Great Wall Hotel and Conservation of Old Cities,"** (Jian-Zhu-Xue-Bao, No. 7, 1986), p. 34.

from their predecessors of the post-imperial and imperial traditions. As a result of the above discussions, it is clear that many aspects of Chinese culture are retained in contemporary culture but they are carrying meanings redefined in socialist norms. Traditional characteristics in new housing, hotel, government buildings, and so forth are strong proofs. While keeping a strong grip on tradition, the Chinese are preparing for their future architectural design by adopting a variety of Western products and values. This adoption was speeded up after the Open-Door Policy and has caused the coexistence as well as clash of value systems. Three major sets of values, traditional, Western and governmental. There is no need to argue over which set of values is more attuned to Chinese people. Nor is it possible to determine which kind of combination of these value systems characterizes the identity of the Chinese people. As a result of their clash, for instance, architectural design and behavioral patterns, which reflect a mixture of identities of the East and the West, should be considered a cultural product of the present time.

In favor of the imitation of the past neither in spirit nor in form, this chapter concludes with the proposition that cultural distinctness in China's architecture should communicate the following core elements, political, social, economic and sign-production approaches. Political elements form the predominant aspect because of political control over designs, designers and funding. Thus, these elements are assigned under Pragmatic aspect of architectural signs.

This is followed by social elements maintained by the people. Since political and economic problems are not solved, the social/behavioral patterns of the people are under going change. Thus, the preferred criteria for this aspect are primarily based on the tradition - although they may not be conducive to a modernized China. After all, changes occurring in technology, physical environment may not necessarily change social factors of settlement patterns, and the Chinese can never be cut off

from these traditional principles. Thus, social elements are assigned under Semantic aspect of architectural signs.

Economic elements are the next important because they are employed to serve the public rather to be served. They are assigned under Syntactic aspect of architectural signs. Finally, sign-production approaches form the last category of meanings of architectural signs. The meanings of these approaches are assigned to distinguish between different hybridization of design features.

5.0 PRESENTATION OF DATA AND RESULTS OF SEMIOTIC ANALYSIS

Chapter Summary

Based on the proposed method described in Chapter 3 and the core elements

identified in Chapter 4, the semiotic data of forty-six buildings selected from China

are presented in this chapter. The presentation include the extent to which cultural

identity is reflected in building patterns, the hierarchical order of "level of communi-

cation" and the noticeable means of communication.

Introduction

The coding scheme shown in Table 10 indicates a hierarchy of four areas of core

elements analogous to pragmatic, semantic, syntactic and sign-production ap-

proaches. Each group of meanings will be applied to determine the sign-types of

building features under study. Eventually, every sign-type, as well as building pat-

tern, is coded with the "level of communication." These different levels will indicate

a hierarchy of the extent to which core elements are reflected.

The above scheme remains the same regardless of how the core elements vary

in importance, but the order of "levels of communication" varies if the hierarchical

importance of core elements is changed. Considering a possible change, the fol-

Table 10. A Semiotic Coding Scheme for China's Architecture

Core elements	Signs types		
Pragmatic meanings:	the extent political meanings are shown in architectural design		
	Argument	**Dicent**	**Rheme**
	Scale: 3	2	1
1. Reflection of the notions of class struggle and class distinction in building and user ramification 2. Reflection of the notion of proletarian architecture as the building providing service to the proletariat 3. Reflection of political influences on the people by official involvement in planning, design, housing distribution and household registration 4. Shaping the built environment without user involvement 5. Reflection of the "socialism of Chinese characteristics" by duplicating foreign design patterns 6. Reflection of the nationalization of building patterns to fulfill political education, integration egalitarianism, and deletion of Confucian teachings			
Semantic meanings:	the extent social meanings are shown in architectural design		
	Symbol	**Index**	**Icon**
	Scale: 3	2	1
1. Reflection of new social structure, social organizations, break of family and kinship bonds 2. Reflection of the continued tradition of Confucian and Taoist teachings 3. Reflection of new social·ethics and moral demands 4. Reflection of users' group identities 5. Reflection of popular signs of associable meanings 6. Reflection of the collective habitual way of family life and social environment under the commune system			
Syntactic meanings:	the extent economic meanings are shown in architectural design		
	Legisign	**Dicent**	**Rheme**
	Scale: 3	2	1
1. Reflection of land reform in rural and urban areas, and the destruction of the traditional economic system 2. Reflection of the socialist economic system, i.e., centralized control of revenues, production, resources, job allocation and ration system 3. Reflection of the socialist living conditions 4. Reflection of the "primary socialist stage" and the Open-Door Policy 5. Reflection of urbanization resulting from state establishment of enterprises in urban areas and permission of peasants to depart from their agrarian livelihood			
Sign-production approaches:			Scale:
Invention: hybrid of the old and the new into a brand new sign, or sign system with ignorable distinction between them.			4
Ostention: illustrative combination of modified feature on modern buildings or spaces with conspicuous distinction between the old and the new.			3
Replica: spurious duplication, or "pseudo-revival" of past design features which exhibits more of the old than of the new.			2
Recognition: architecture of the past and of the exotic cultures.			1
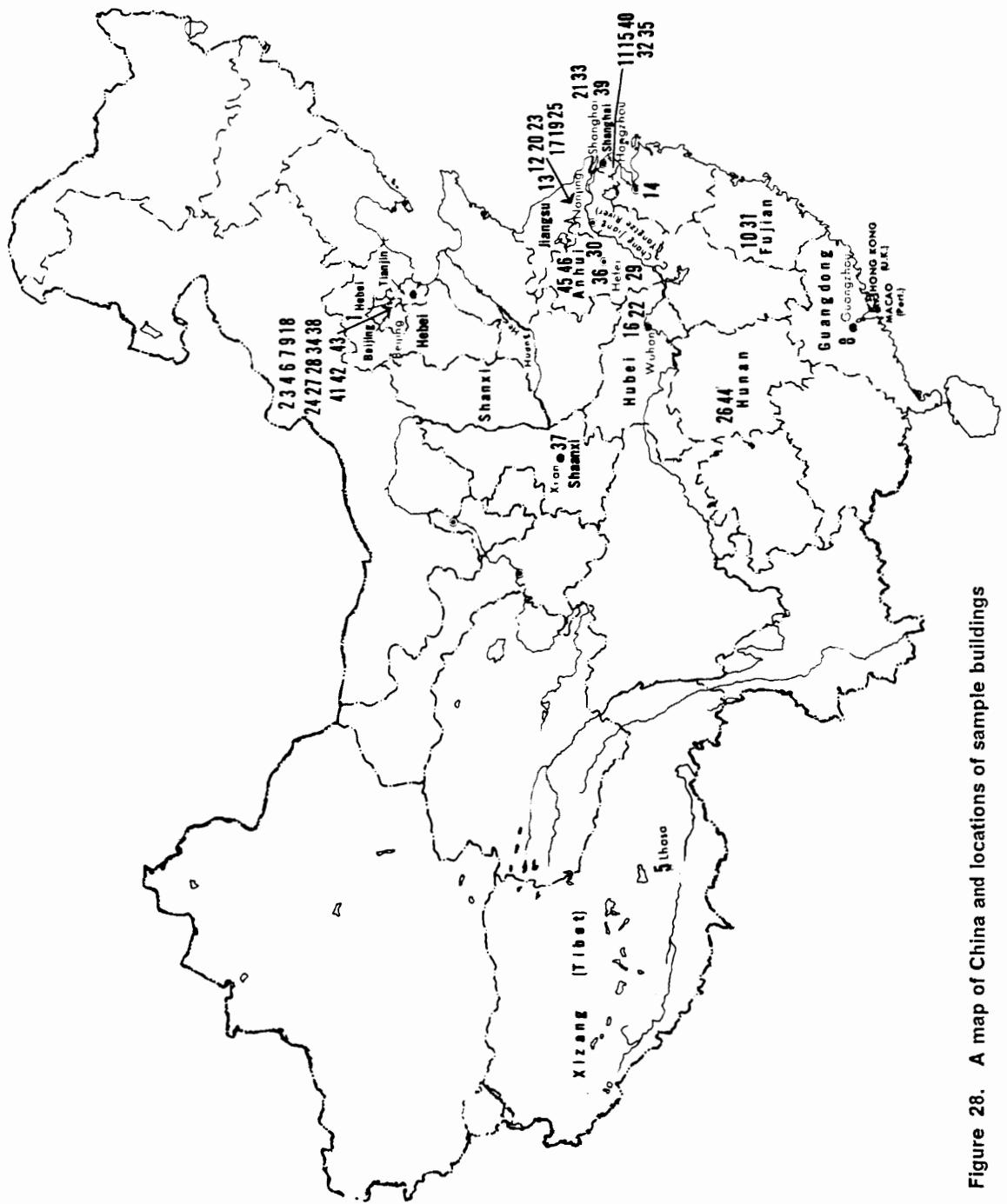
Figure 28. A map of China and locations of sample buildings

lowing analyses will include a different set of hierarchy of core elements, i.e., se-
mantic, pragmatic, syntactic, and sign-production approaches. Thus, two levels of
communication will result from the analyses for each sample building. Semiotic data
for the sample buildings will be summarized in the following tables and paragraphs.
The summary includes answers to the questions: What is the building designed for?
What are the building's most noticeable signs? What are the signs' relationship with
the core elements? Figure 28 shows a map of China and the locations of sample
buildings.

5.1 Presentation of Data

Building 1, Figure 29, the Sanatorium of Chinese People's Political Consulative
Conference (CPPCC) at Beidaihe, Hebei province,[226] is a conference and leisure cen-
ter for Chinese leaders. The most noticeable sings are large geometric shapes which
are outlined by triangular roofs, circular openings and rectangular masses. These
signs may not be considered as Chinese origin, but they reflect the lifestyles and
values of the subcultural groups who have the privilege to use these buildings. Other
signs such as functionally arranged exterior and interior spaces are ordinary design
outcomes related to the core elements insignificantly. Thus, the Sanatorium is not
proletarian, not designed to educate and to integrate the people. In addition to the
strong indication of class difference and political control in the built environment,
other signs reflect social and economic meanings. Particularly observable are the

---

[226] **Jian-Zhu-Xue-Bao,** (No. 1, 1988), cover page.
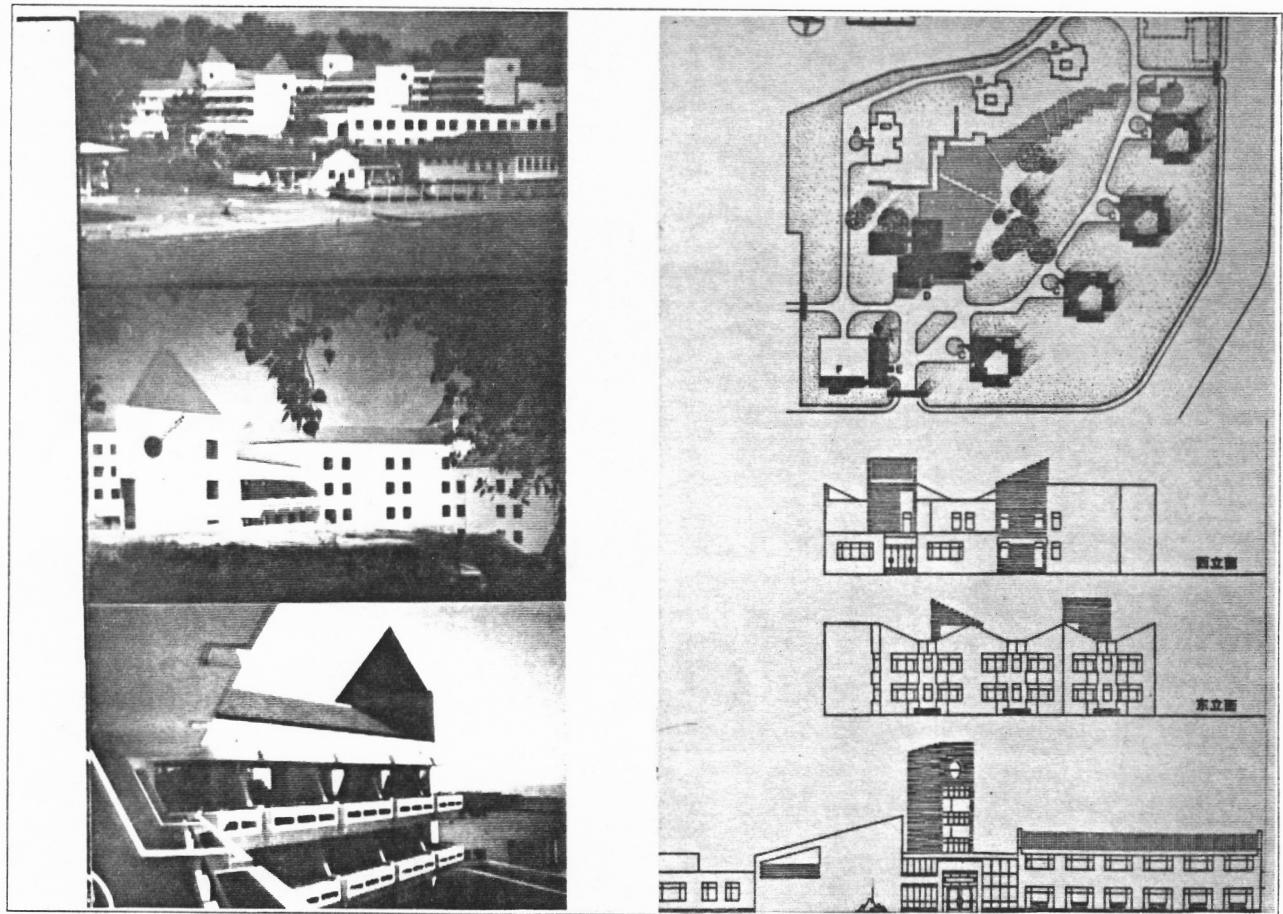
Figure 29. The Sanatorium for CPPCC

Table 11. Semiotic analysis of the Sanatorium of CPPCC

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	33113	321311	1133111		
Average of scales	1	(11/5≃2.2) 2)	(11/6≃1.8) 2	(11/6≃1.8) 2		
Forms and facades	Recognition	Sinsign	Index	Dicent	56	56
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	13112	221311	113331		
Average of scales	1	(8/5≃1.6) 2	(10/6≃1.7) 2	(12/6≃2.0) 2		
Exterior signs	Recognition	Sinsign	Index	Dicent	56	56
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Interior signs	no information					
Final level		(56 + 56)/2≃56			56	
Final level when the semantic aspect is most important				(56 + 56)/2≃56		56

new social structure, user identity, land reform, socialist economic system and adoption of foreign design patterns (Table 11).

Building 2, Figure 30, the High-rise apartments at Beijing, Hebei province,[227] is an example of a large residential commune constructed for worker-class residents. The buildings represent a typical dwelling pattern densely constructed in large quantity in most urban cities in China. They are proletarian buildings reflecting egalitarian distribution of living spaces, governmental control of population flow, urban environment, political influences and so forth. The signs represented by formal features, simple cubic shapes constructed with plain colors and materials, and uniformly distributed rooms and window indicate an equal distribution of individuals into a dense grid of dwelling units (Table 12).

The exterior signs are spaces that follow no principles other than "economy, utilitarian, and aesthetics if possible." They are designed to meet functional requirements and maximum use of land for construction at the expanse of social and behavioral needs. With a similar aim, interior signs are planned to accommodate many families with maximum use of floor areas. Although the communal housing pattern indicates a new life pattern and social structure, these signs lack social meanings (Table 12).

Building 3, Figure 31, the Terraced Housing at Beijing, Hebei province,[228] is constructed for prestigious users such as high-ranking school officials. Only two such clusters exist in China at the time of this investigation. It can be regarded as one of the urban communes designed for higher social classes. Compared to proletarian housing, this design contains spacious rooms and at least one patio for each dwelling unit. Also unique is the application of color schemes on exterior walls and traditional

---

[227] Photos taken by the author at Beijing in 1988.

[228] **Jian-Zhu-Xue-Bao,** (No. 10, 1986), cover page.

Figure 30.   The High-rise apartments

Table 12.   Semiotic analysis of the High-rise apartments

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	31212	311211	333323		
Average of scales	1	(9/5≃1.8) 2	(9/6≃1.5) 1	(17/6≃2.8) 3		
Forms and facades	Recognition	Sinsign	Icon	Argument	32	80
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	21211	111212	333313		
Average of scales	1	(7/5≃1.4) 1	(8/6≃1.3) 1	(17/6≃2.8) 3		
Exterior signs	Recognition	Qualisign	Icon	Argument	36	80
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	21211	311112	333313		
Average of scales	1	(7/5≃1.4) 1	(9/6≃1.5) 1	(17/6≃2.8) 3		
Interior signs	Recognition	Qualisign	Icon	Argument	36	84
Final level		(32 + 36 + 36)/3≃34.7			35	
Final level when the semantic aspect is most important				(80 + 84 + 84)/3≃82.6		83
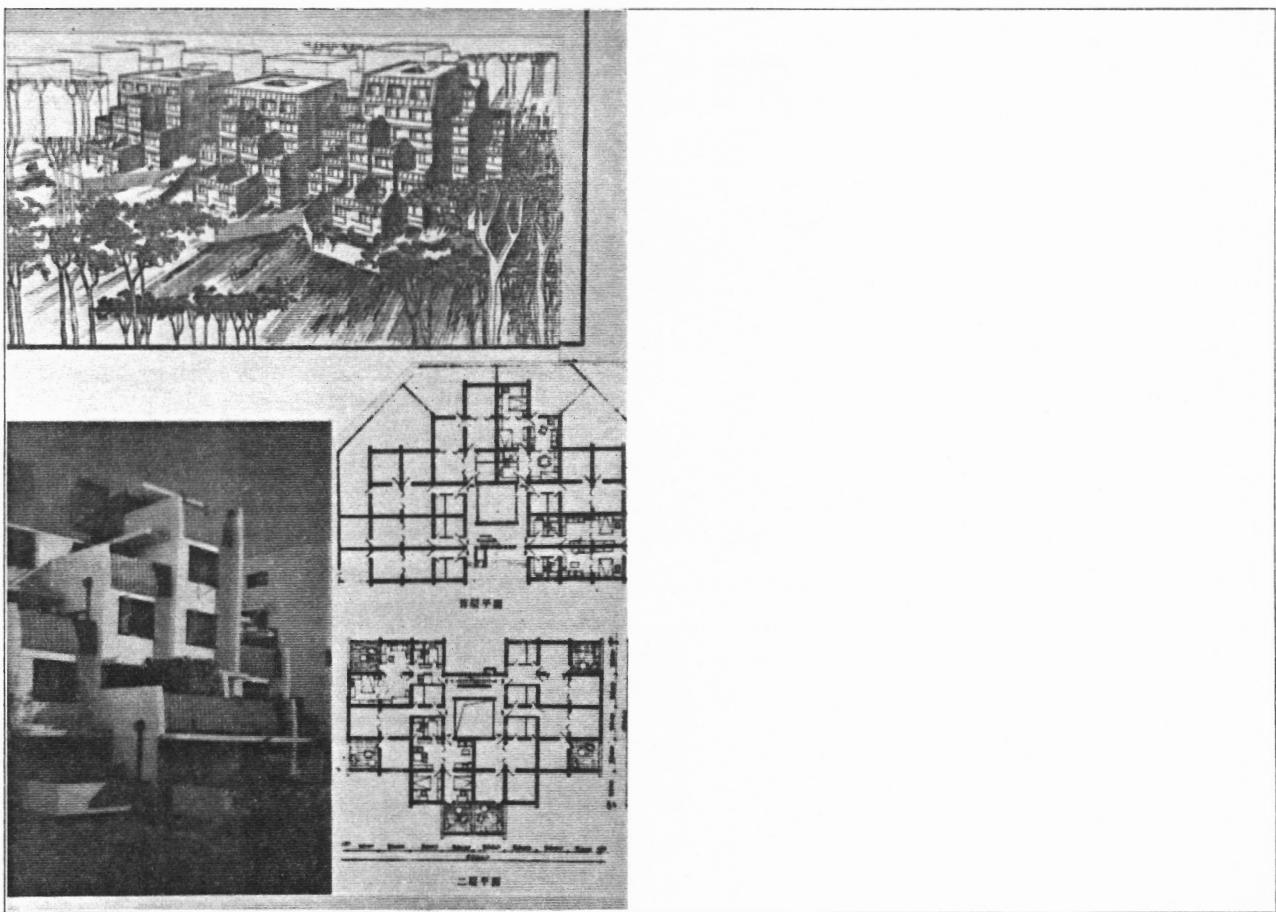
Figure 31. A Terraced Housing

Table 13. Semiotic analysis of A Terraced Housing

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	33323	312221	222331		
Average of scales	1	(14/5≃2.8) 3	(11/6≃1.8) 2	(13/6≃2.2) 2		
Forms and facades	Recognition	Legisign	Index	Dicent	52	52
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	23313	233331	222321		
Average of scales	2	(12/5≃2.4) 2	(15/6≃2.5) 2	(12/6≃2.0) 2		
Exterior signs	Replica	Symbol	Legisign	Dicent	55	55
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	32223	312211	212331		
Average of scales	1	(12/5≃2.4) 2	(10/6≃1.7) 2	(12/6≃2.0) 2		
Interior signs	Recognition	Legisign	Index	Dicent	56	56
Final level			(52＋55＋56)/3≃54.3		54	
Final level when the semantic aspect is most important				(52＋55＋56)/3≃54.3		54

garden features such as lake stone, bush, pavements, and short walls in exterior spaces. These additional applications characterize an important improvement on the existing commune pattern, and they reflect economic meanings in formal, exterior and interior signs in terms of the Open-Door Policy and the adoption foreign design concepts to strive for better living arrangements. Even so, data in Table 13 indicate that this building pattern is not free of political meaning. It cannot escape being a proletarian architecture full of political control, integration and education of such ideologies as socialism and egalitarianism (Table 13). Concerning social meanings, the design has introduced a new life pattern through a new social structure and pro-vision of few traditional signs.

Building 4, Figure 32, the International Exhibition Hall at Beijing, Hebei province,[229] is a new building complex providing service to the public. The Hall is distinct in reflecting economic meanings (Table 14), particularly the notion of the pri-mary socialist stage of Chinese characteristics. Using a sophisticated definition of Western architectural characteristics, the entrance design became a crucial feature contributing to its wining one of the four First Prize 1986 National Design Award. In contrast, the interior and exterior spaces are plain in design. It is a proletarian structure imitating Western design patterns. Application of these foreign signs sym-bolize a break from the past and discontinuation of the tradition. However, the Hall provides a social place for the people and the signs collectively produce psycholog-ical effects in terms of state achievement in national progress.

Building 5, Figure 33, the Lhasa Hotel at Lhasa, Tibet province,[230] was one of the First Prize entries of 1986 National Design Award. Built primarily for tourists, the most noticeable signs are reinterpretations of Tibetan elements in interior and exte-

---

[229] Liu, Kaiji. "**A Period of Transition in Chinese Architecture,**" Spazio e Societa, (No. 34, 1986), p. 88.

[230] **Jian-Zhu-Xue-Bao,** (No. 10, 1986), cover page.
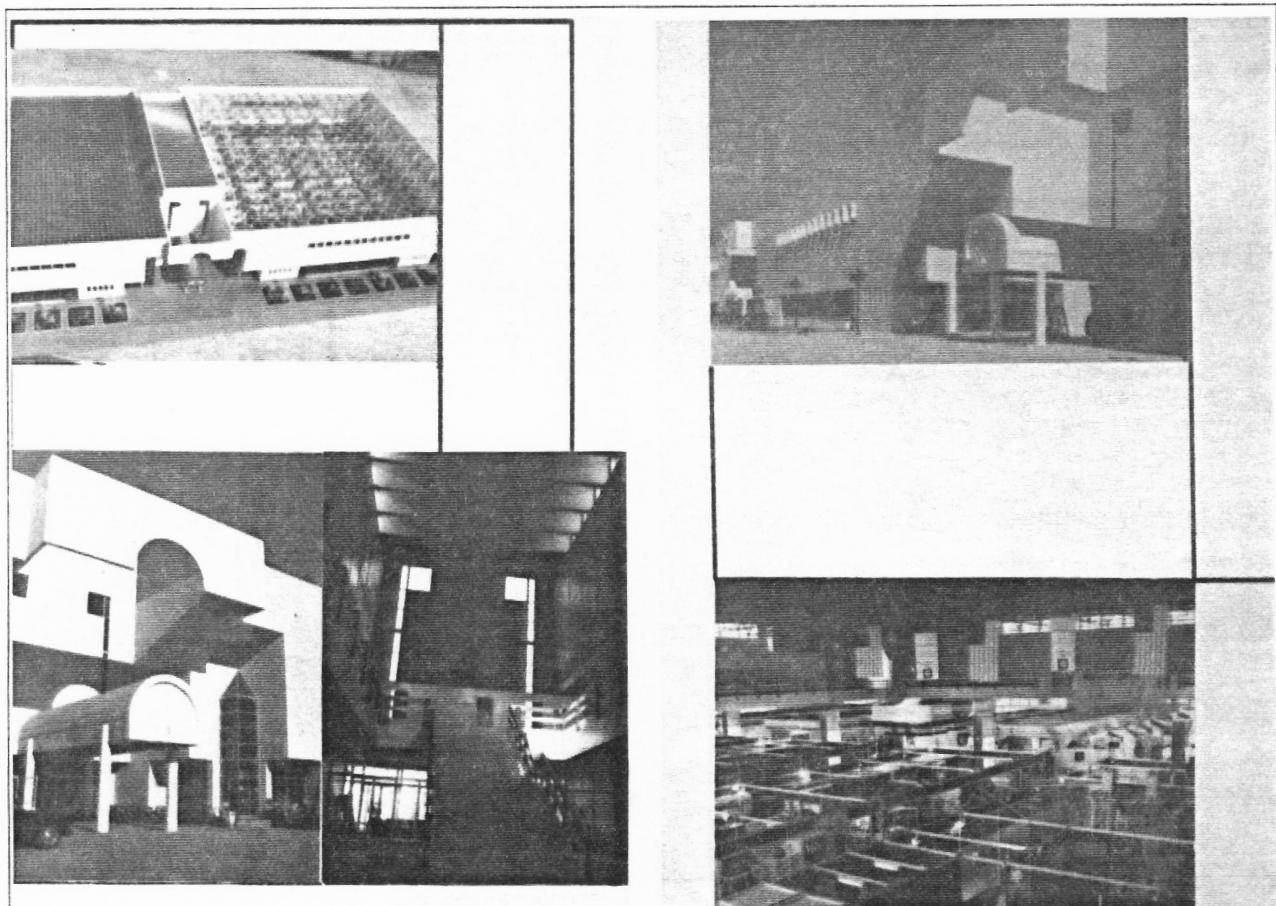
Figure 32. The International Exhibition Hall

Table 14. Semiotic analysis of the International Exhibition Hall

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	32223	132123	123131		
Average of scales	1	(12/5≃2.4) 2	(12/6≃2.0) 2	(11/6≃1.8) 2		
Forms and facades	Recognition	Sinsign	Index	Dicent	52	52
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	22222	122112	133132		
Average of scales	1	(10/5≃2.0) 2	(9/6≃1.5) 1	(13/6≃2.2) 2		
Exterior signs	Recognition	Sinsign	Icon	Dicent	68	92
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	33223	232122	133132		
Average of scales	1	(13/5≃2.6) 3	(12/6≃2.0) 2	(13/6≃2.2) 2		
Interior signs	Recognition	Legisign	Index	Dicent	52	52
Final level		(52 + 68 + 52)/3≃57.3			57	
Final level when the semantic aspect is most important				(52 + 92 + 52)/3≃65.3		65
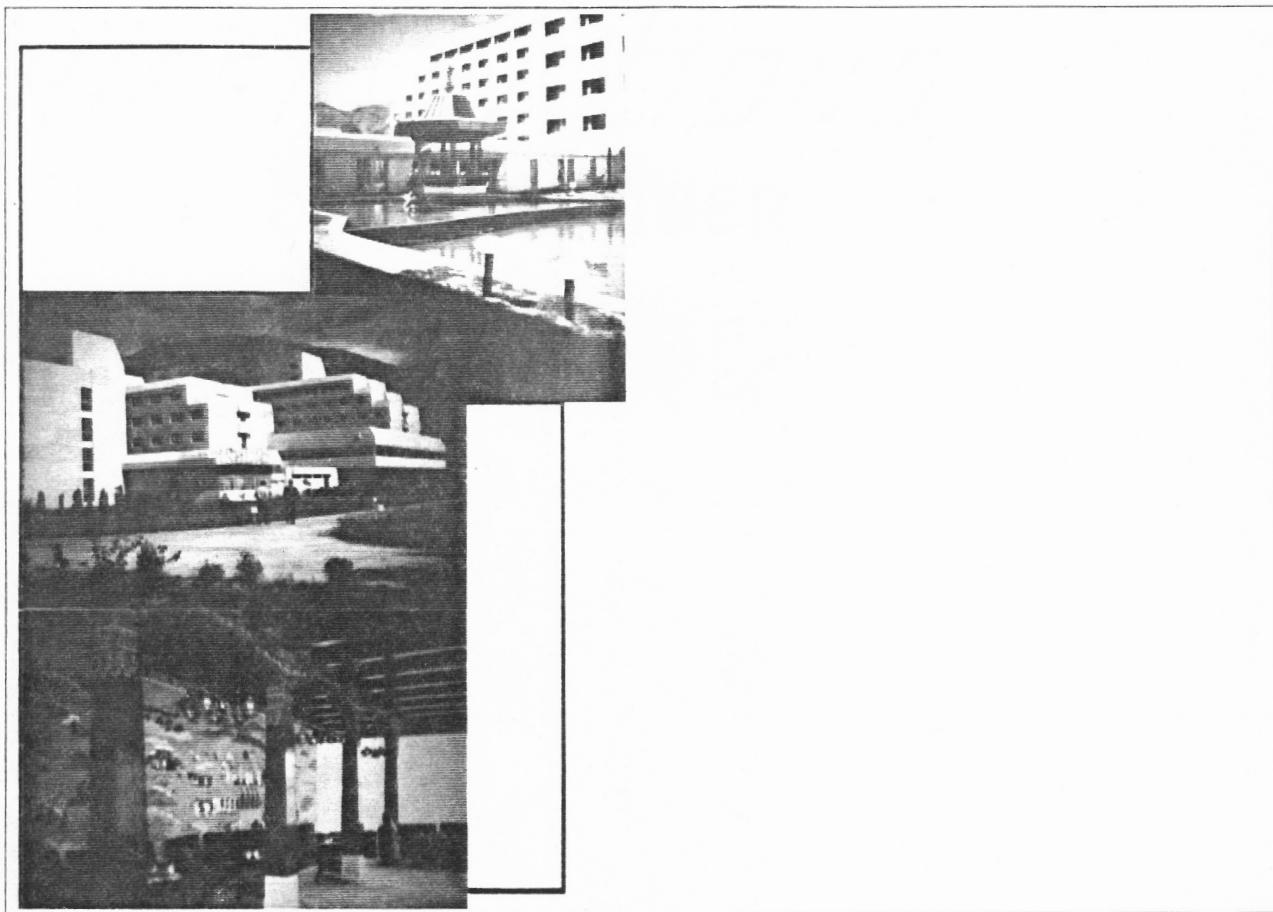
Figure 33.   The Lhasa Hotel

Table 15.   Semiotic analysis of the Lhasa Hotel

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	33223	132121	113333		
Average of scales	1	(13/5≃2.6) 3	(10/6≃1.7) 2	(14/6≃2.3) 2		
Forms and facades	Recognition	Legisign	Index	Dicent	52	52
Core reflected	3	33223	123131	113333		
Average of scales	3	(13/5≃2.6) 3	(11/6≃1.8) 2	(14/6≃2.3) 2		
Exterior signs	Ostention	Legisign	Index	Dicent	50	50
Core reflected	3	33223	113131	113331		
Average of scales	3	(13/5≃2.6) 3	(10/6≃1.7) 2	(12/6≃2) 2		
Interior signs	Ostention	Legisign	Index	Dicent	50	50
Final level		(52 + 50 + 50)/3≃50.7			51	
Final level when the semantic aspect is most important			(52 + 50 + 50)/3≃50.7			51

rior spaces. The main hall, for instance, reflects a modern interpretation of traditional lifestyle, customs, and religions of local people. Such an effect is not found in forms and facades but in spatial and decorative elements (i.e., walls, window frame, columns, etc.). Like most Western style modern hotels built for tourists in China, such a building reflects more economic than political and social meanings (Table 15). First of all, the award reflects the state intention to boost tourist business for more foreign reserves under the Open-Door Policy. Second, the construction of tourist hotels is one of the items of economic reform carried out in the primary socialist stage. Finally, such a hotel is non-proletarian and is not a social place for the people.

Building 6, Figure 34, the Xidan Commercial Building Complex at Beijing, Hebei province,[231] was also a first prize entry in the 1986 National Design Competition. Its major feature is the combination of a Chinese traditional gateway on the exterior wall that is characteristically Tibetan. Incorporated into the front elevation, the gateway camouflages the function of a restaurant and fits into the background. One could not help perceiving the combination without controversy since the walls are not significantly related to local culture at Beijing. The spatial arrangements are relatively Chinese, however, since they are organized in a way similar to the traditional pattern of an open market, an expression defined in the convention. Thus, the formal signs and interior layout associate with most of the social and economic meanings. By comparison, the building reflects fewer political meanings (Table 16). Thus, when traditional features are combined this way, the building can be considered a distinct sign of Chinese origin and have contemporary meanings.

---

[231] Fu, Kecheng. "**Competition design for the Xidan Commercial Shopping Center**," (Jian-Zhu-Xue-Bao, No. 7, 1985), pp. 19-23.
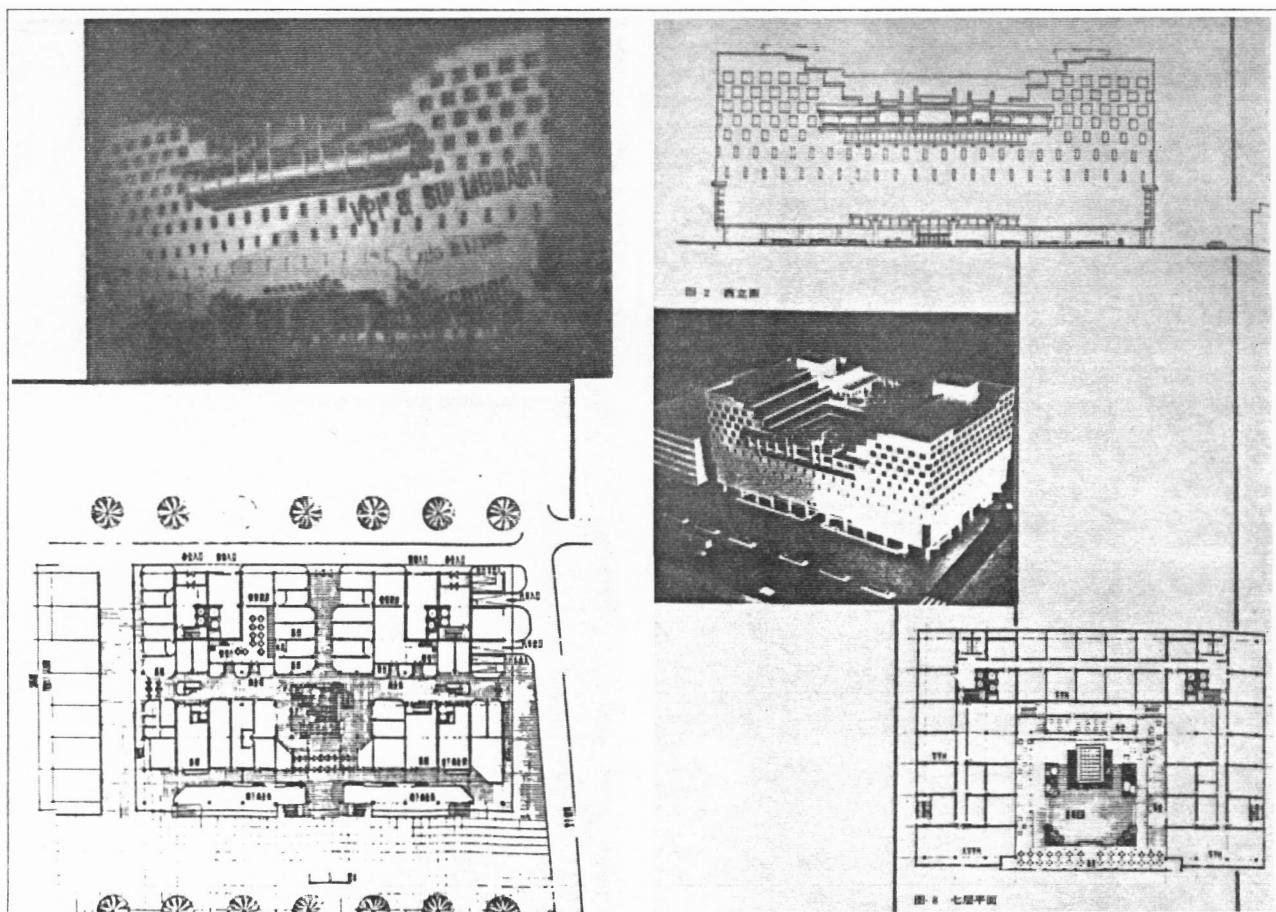
Figure 34. The Xidan Commercial Building

Table 16. Semiotic analysis of the Xidan Commercial Building

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	3	33333	133333	133131		
Average of scales	3	(15/5≃3) 3	(16/6≃2.7) 3	(12/6≃2) 2		
Forms and facades	Ostention	Legisign	Symbol	Dicent	38	15
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	21111	111112	232123		
Average of scales	1	(6/5≃1.2) 1	(7/6≃1.2) 1	(13/6≃2.2.) 2		
Exterior signs	Recognition	Qualisign	Icon	Dicent	72	96
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	33333	133233	233123		
Average of scales	2	(15/5≃3.0) 3	(15/6≃2.5) 2	(14/6≃2.3) 2		
Interior signs	Replica	Legisign	Index	Dicent	51	51
Final level		(38＋72＋51)/3≃53.7			54	
Final level when the semantic aspect is most important			(15＋96＋51)/3≃54.0			54

The architect of building 7, Figure 35, the Fragrant Hill Hotel at Beijing, Hebei province,[232] I.M. Pei, claims that one of the ways to make a building culturally iden- tifiable is through application of "whatever is good" in traditional architecture. The Hotel mainly serves foreign tourists before the degrading business calls for additional income from local people, few years after of the Hotel's completion. It became a luxury restaurant and social place for local people, but originally, the hotel complex was designed to reflect the identity and life styles of tourists, with hybridized features of Chinese and Western architecture. As a result, motifs derived from vernacular building patterns are observable. Those most extensively applied in the Hotel are the diamond-shape openings and continuously fabricated squares ingrained on the walls providing a mural effect that dominates the facades and give this Hotel a sharp dis- tinction from the other modern hotels. Other than these motifs, signs are icons du- plicated from traditional garden settings and design principles such as axial orientation of important spaces and allocation of small courtyards. These principles, as well as the new motifs, serve as links between the past and the present, and as a projection of a future direction for architectural design. Thus, the synthesis of both physical and non-physical traditions and modern needs shown in the design can be regarded as a creative "Invention" in the sign-reproduction approach (Table 17). Also full of political and economic meanings, the Hotel can be considered to be a distinct pattern reflecting Chinese identity.

Building 8, Figure 36, the Dunghu Housing Estate at Guanzhou, a commune in Guandong province,[233] is similar to Building 2, the High-rise apartment at Beijing. Both samples are state invested communes for allocation of workers and their fami- lies in urban centers. Both also distinguish classes within the working class. Under

---

[232] The photos were either taken or duplicated from postcards by the author.

[233] **Jian-Zhu-Xue-Bao,** (No. 2, 1983), cover page.
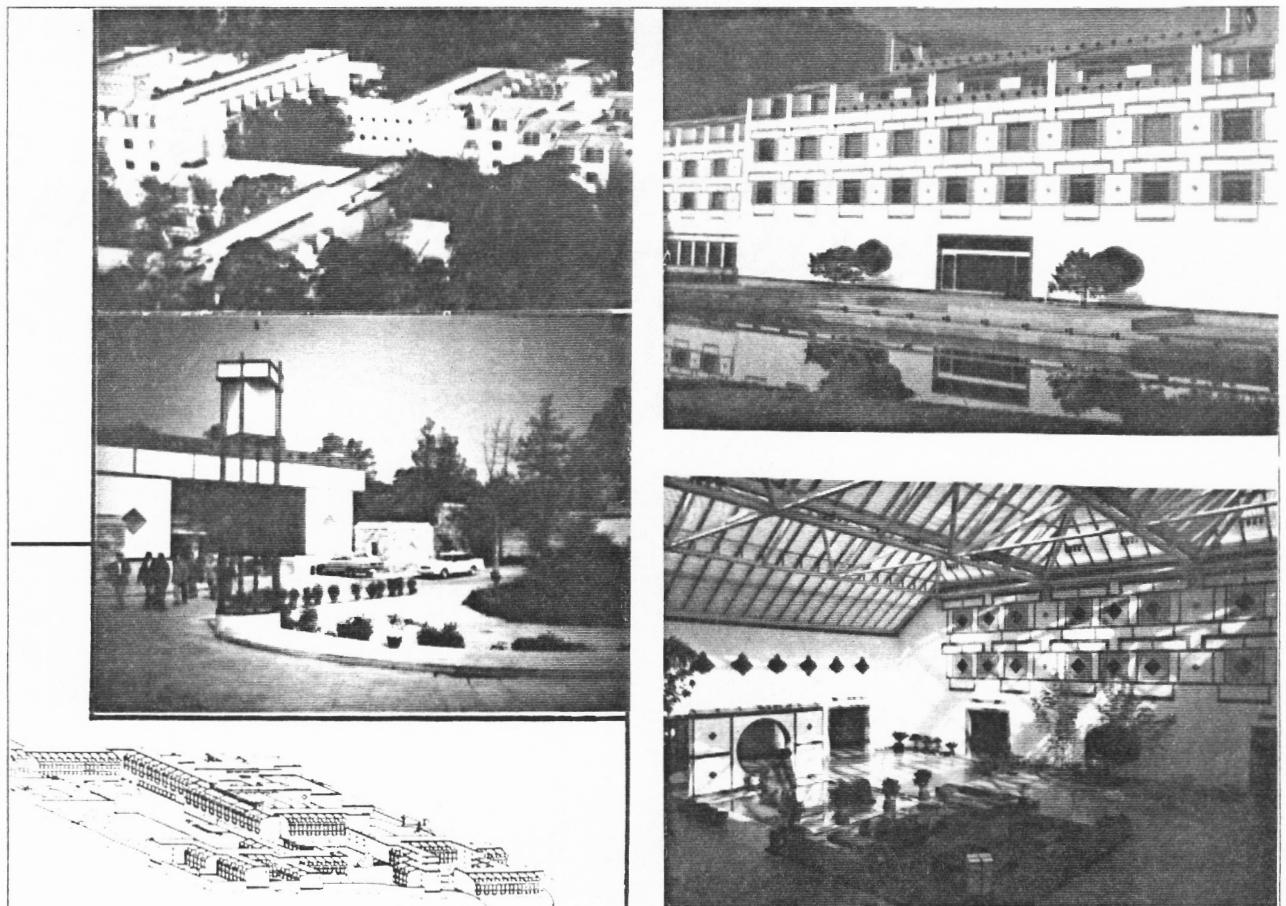
Figure 35.   The Fragrant Hill Hotel
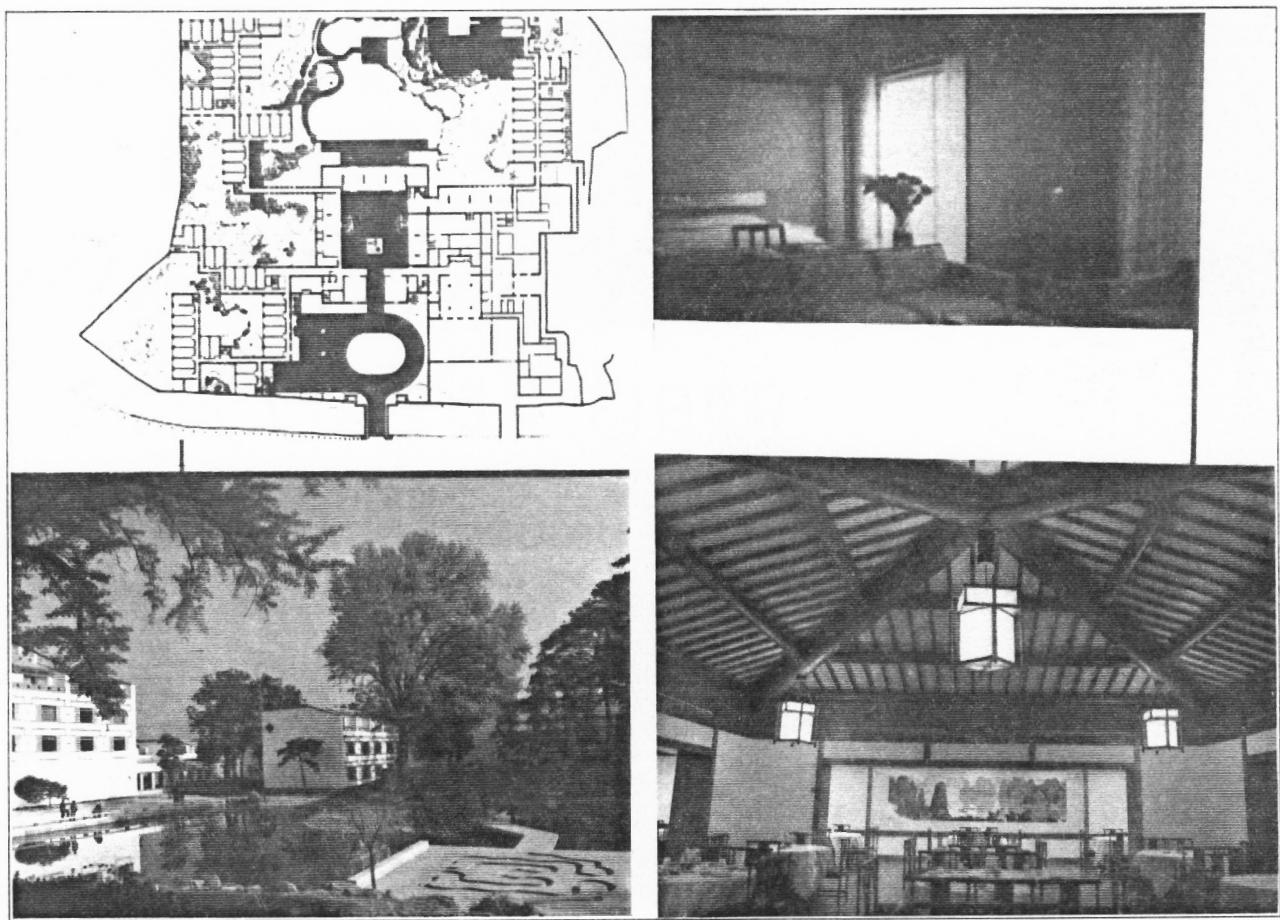
Table 17.   Semiotic analysis of the Fragrant Hill Hotel

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	4	33113	233332	113332		
Average of scales	4	(11/5≃2.2) 2	(16/6≃2.7) 3	(13/6≃2.2) 2		
Forms and facades	Invention	Sinsign	Symbol	Dicent	41	17
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	3	13113	233332	113332		
Average of scales	3	(9/5≃1.8) 2	(16/6≃2.7) 3	(13/6≃2.2.) 2		
Exterior signs	Ostention	Sinsign	Symbol	Dicent	42	18
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	4	33123	233332	113332		
Average of scales	4	(12/5≃2.4) 2	(16/6≃2.7) 3	(13/6≃2.2) 2		
Interior signs	Invention	Sinsign	Symbol	Dicent	44	17
Final level		(41＋42＋44)/3≃42.3			42	
Final level when the semantic aspect is most important				(17＋18＋17)/3≃17.3		17
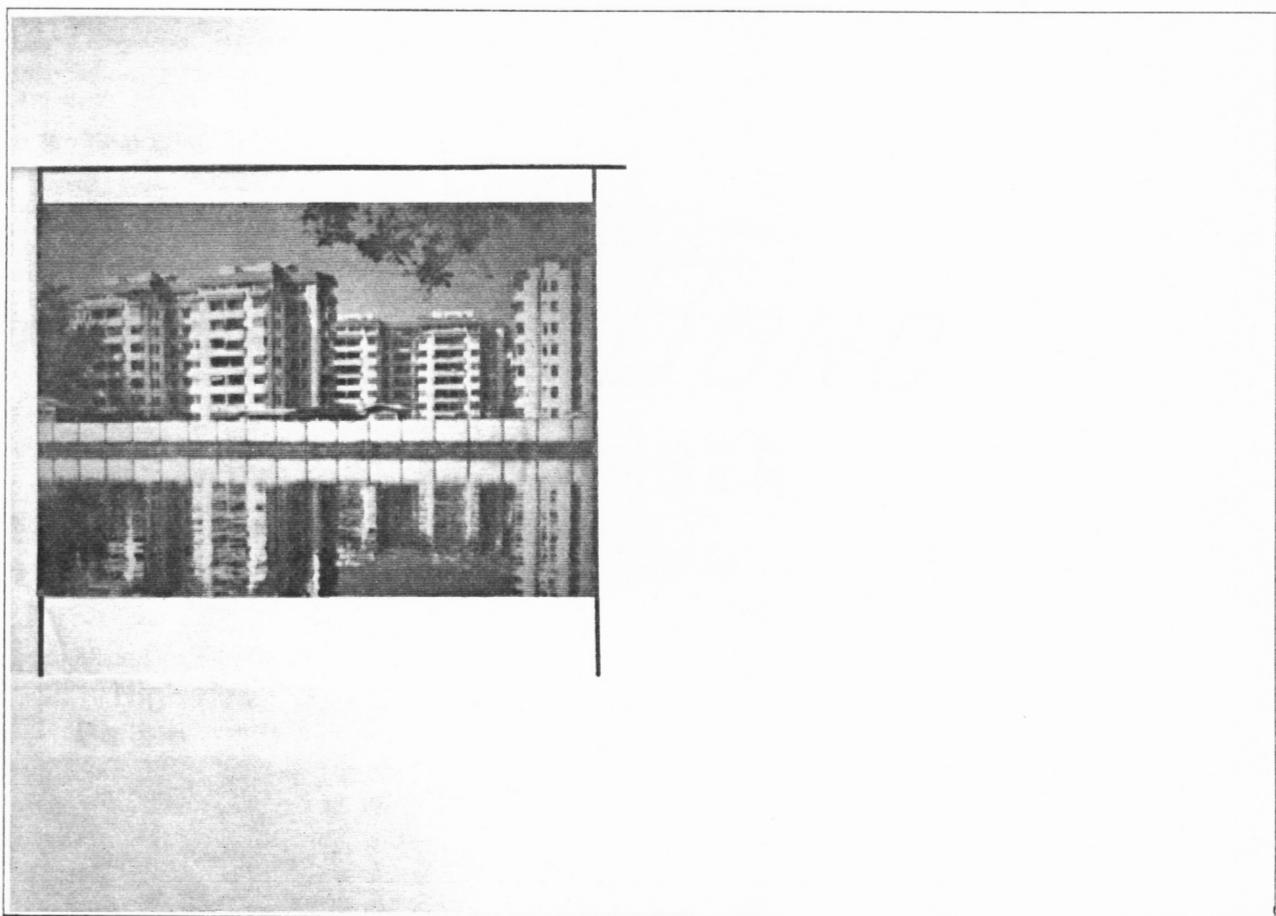
Figure 36.   The Dunghu Housing Estate

Table 18.   Semiotic analysis of the Dunghu Housing Estate

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	32212	311211	333333		
Average of scales	1	(10/5≃2) 2	(9/6≃1.5) 1	(18/6≃3) 3		
Forms and facades	Recognition	Sinsign	Icon	Argument	32	80
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	21221	111111	333313		
Average of scales	1	(8/5≃1.6) 2	(6/6≃1.0) 1	(16/6≃2.7) 3		
Exterior signs	Recognition	Sinsign	Icon	Argument	32	80
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	22222	312111	333313		
Average of scales	1	(10/5≃2.0) 2	(9/6≃1.5) 1	(16/6≃2.7) 3		
Interior signs	Recognition	Sinsign	Icon	Argument	32	80
Final level		(32 + 32 + 32)/3≃32.0			32	
Final level when the semantic aspect is most important				(80 + 80 + 80)/3≃80		80

the housing assignment system and household registration law, the dwelling units vary in size and room numbers. Experienced and senior workers, for instance, are assigned rooms with the higher classes. Although these two communes vary in appearance and design, they reflect similar types of meaning, that is, they all exhibit more political than social and economic aspects (Table 18).

Building 9, Figure 37, the Old National Library at Beijing, Hebei province,[234] is a public building based on traditional palatial patterns. Through reinforced concrete and various modern materials, the building presents icons (large sloping roof, building proper, platform, construction details and color schemes) of the past. Traditionally, such palatial forms stand for political power and importance of a building and the identity of its users. As the signs of this design do not reflect these meanings, they show little sign-relationships to the core elements of contemporary culture (Table 19). Although buildings of this scale and design approach were considered innovative during the 1930's, they were discredited by the Communists as feudalist and non-economical. However, under the premise of identifying valuable tradition, the same design approach continued. But the new versions of old signs, whether of palatial or vernacular in pattern, deviate more and more from the tradition in form and meaning.

Building 10, Figure 38, the Wuyi Mountain Hotel at the Wuyi Mountain, Fujian province,[235] is particularly designed for tourists from South East Asia. The Hotel shows a new interpretation of local dwelling patterns. The most noticeable signs include octagonal windows, lamps, furniture and clustering of buildings. These signs, which are collectively applied in exterior and interior spaces, harmonize with the natural environment and other design vocabularies. Among all aspects of meanings,

---

[234] Photo taken by the author at Beijing in 1988.

[235] Yang, Zishen, et al. "Design of the Wuyi Mountain Hotel," Jian-Zhu-Xue-Bao, (No. 1, 1985), pp. 5-8.
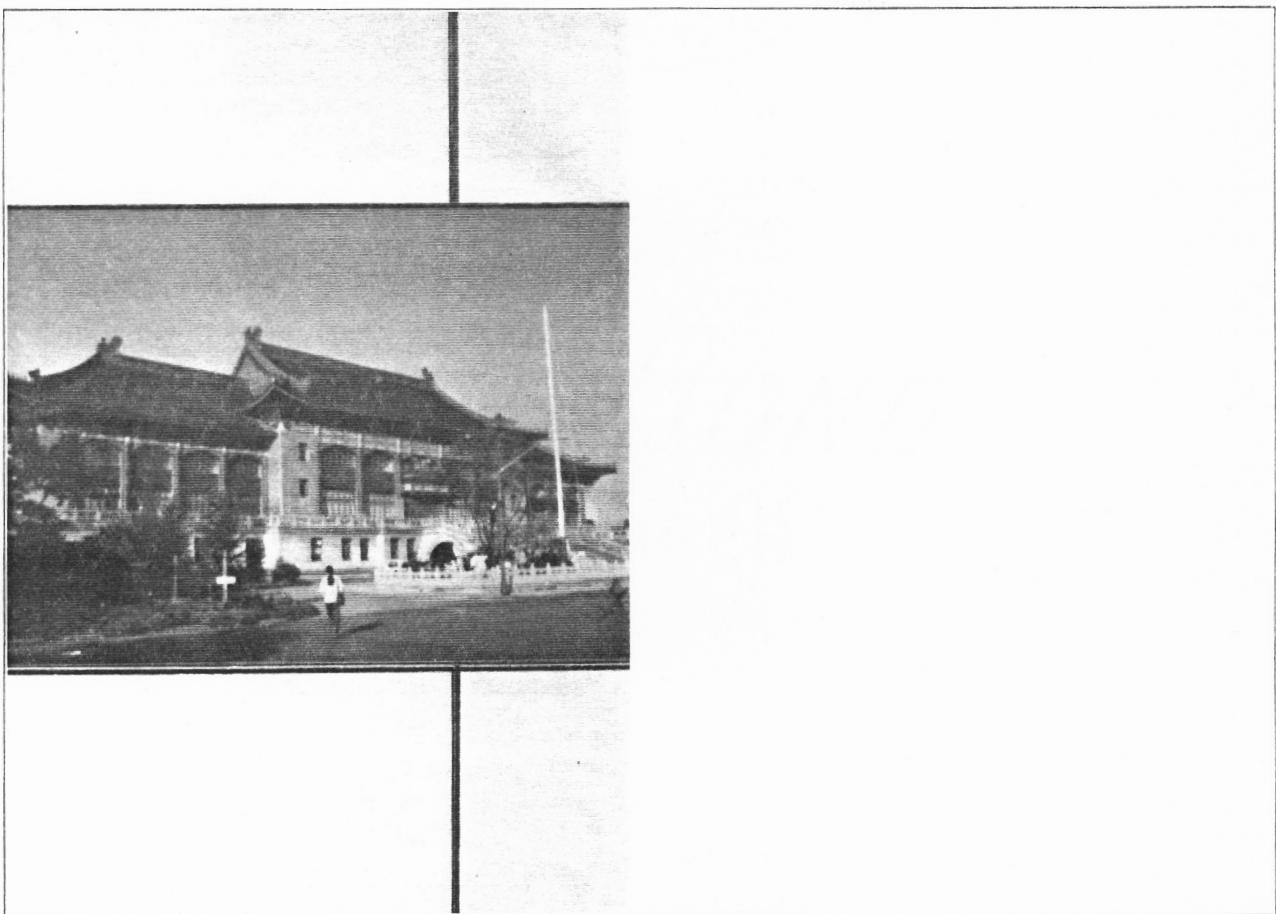
Figure 37.   The Old National Library

Table 19.   Semiotic analysis of the Old National Library

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	13313	233131	122233		
Average of scales	2	(11/5≃2.2) 2	(13/6≃2.2) 2	(13/6≃2.2) 2		
Forms and facades	Replica	Sinsign	Index	Dicent	55	55
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	12212	132121	122223		
Average of scales	2	(8/5≃1.6) 2	(10/6≃1.7) 2	(12/6≃2) 2		
Exterior signs	Replica	Sinsign	Index	Dicent	55	55
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	12212	222121	122233		
Average of scales	2	(8/5≃1.6) 2	(10/6≃1.7) 2	(13/6≃2.2) 2		
Interior signs	Replica	Sinsign	Index	Dicent	55	55
Final level			(55 + 55 + 55)/3≃55.0		55	
Final level when the semantic aspect is most important				(55 + 55 + 55)/3≃55.0		55
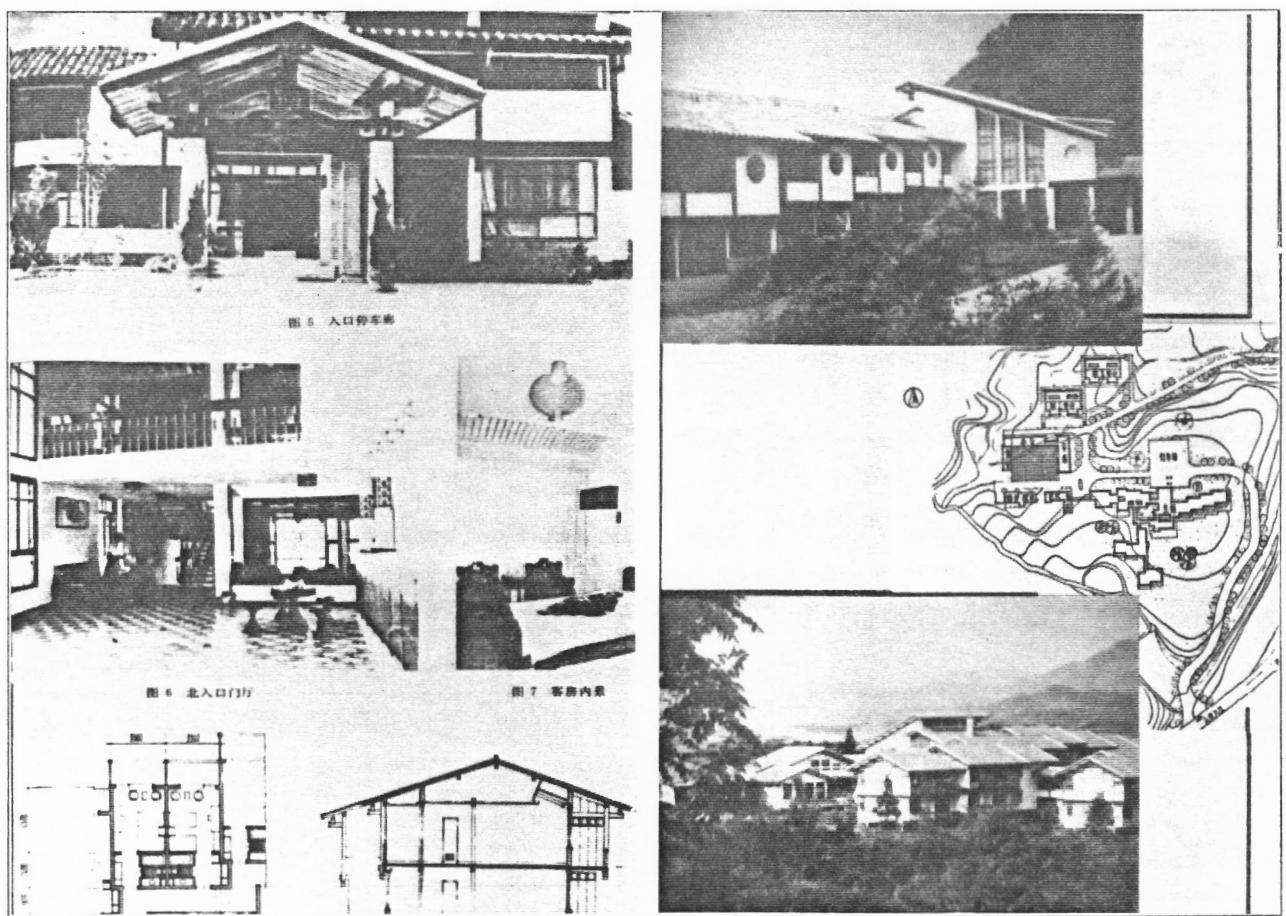
Figure 38. The Wuyi Mountain Hotel
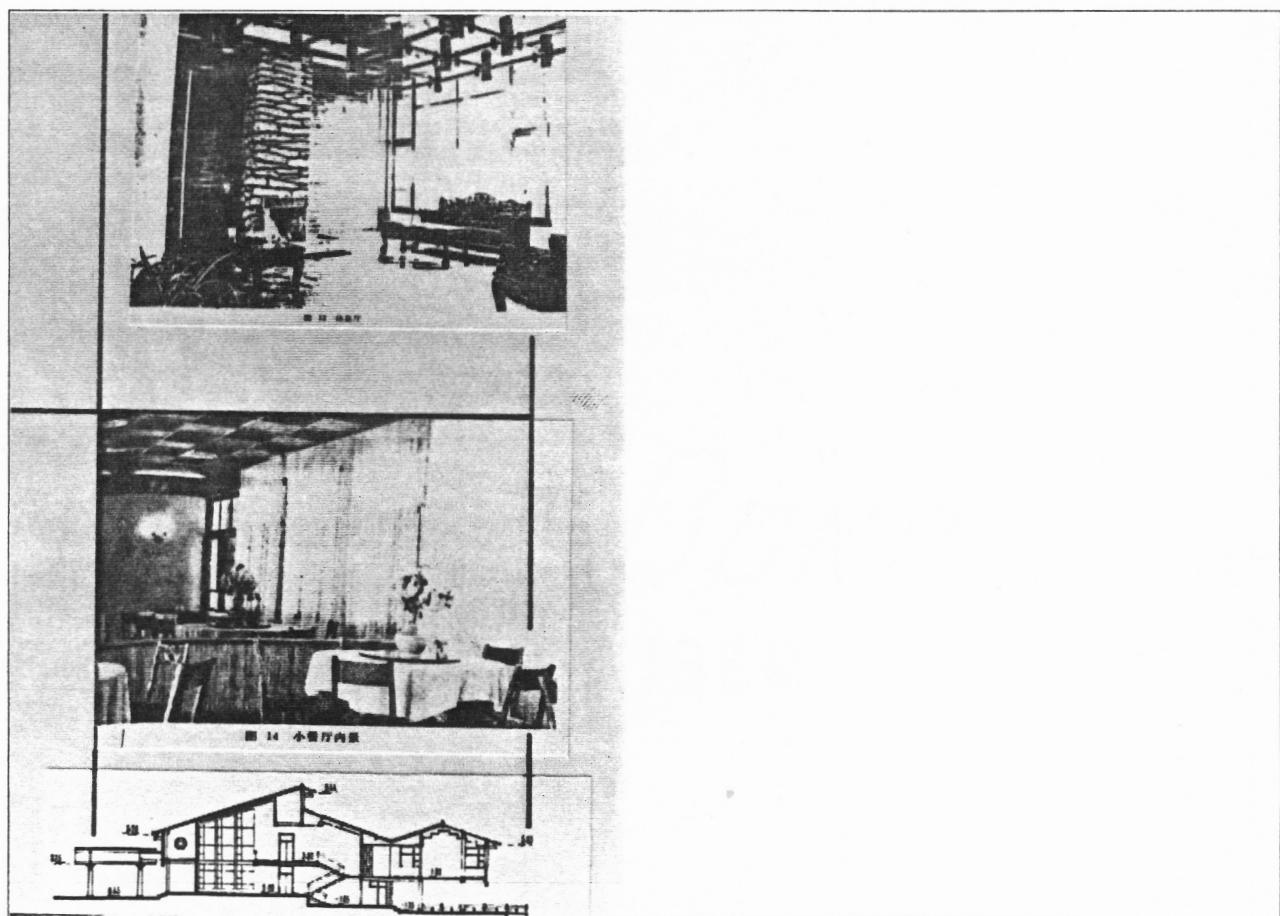
Table 20. Semiotic analysis of the Wuyi Mountain Hotel

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	3	33113	233332	113332		
Average of scales	3	(11/5≃2.2) 2	(16/6≃2.7) 3	(13/6≃2.2.) 2		
Forms and facades	Ostention	Sinsign	Symbol	Dicent	42	18
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	3	22113	223332	113331		
Average of scales	3	(9/5≃1.8) 2	(15/6≃2.5) 2	(12/6≃2.0) 2		
Exterior signs	Ostention	Sinsign	Index	Dicent	54	54
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	3	33123	233332	113331		
Average of scales	3	(12/5≃2.4) 2	(16/6≃2.7) 3	(12/6≃2.0) 2		
Interior signs	Ostention	Qualisign	Symbol	Dicent	42	18
Final level			(42＋54＋42)/3≃46.0		46	
Final level when the semantic aspect is most important				(18＋54＋18)/3≃30.0		30

these signs have higher sign-relationships with social meanings and sign-production approach than with other aspects (Table 20).

Building 11, Figure 39, the Xucheng Hotel at Suzhou, Jiangsu province,[236] is not culturally identifiable unless it is perceived in the context of local culture. In fact, few signs which are deliberately synthesized into the building account for the difference. Since the building is located at the original southern gateway of old Suzhou City, the designer took crenellations major design motifs to recall the gate image. These motifs can be seen on the peripheral edges of roof tops. Other signs are related to local culture, including water pools, small bridges and street-front stores. Some stores are placed in interior lounges to remind the tourists of local cultural background. While distinct in formal and interior signs, the hotel has devoted little exterior spaces to relate to local culture. Compared to that of the Fragrant Hill Hotel (Figure 35) and the Wuyi Mountain Hotel (Figure 38), exterior spaces of this hotel are limited to maintaining basic circulation only. However, the interior designs are the most noticeable signs relating significantly to social meanings (Table 21).

Building 12, Figure 40, the Hero's Commemoration Hall at Nanjing, Jiangsu province,[237] is one of the constituent structures of a large park designed to commemorate heroes of the Communist Revolution. Symbolizing the Revolution, the hall demonstrates an attempt to redefine traditional design principles through modern construction materials. In this way, the meaning of Revolution is also reflected in architectural design. The designers altered such conventionally defined "regularities" as color schemes (e.g., white-washed surface replacing traditional golden tiled roof), openings, construction details, spatial layout and proportion between roof and

---

[236] Photos taken by the author at Suzhou in 1988.

[237]
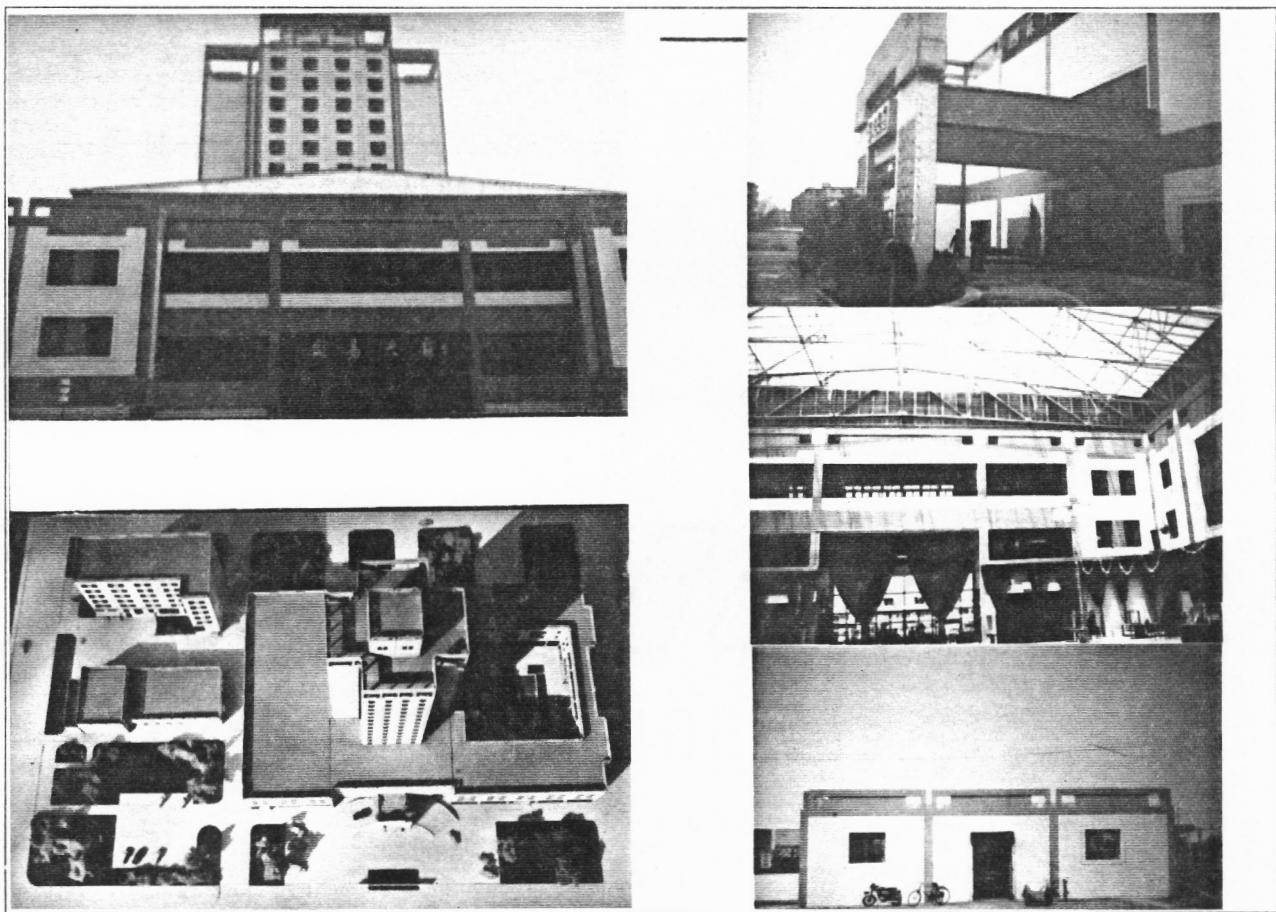
Figure 39. The Xucheng Hotel

Table 21. Semiotic analysis of the Xucheng Hotel

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	3	33213	223323	113332		
Average of scales	3	(12/5≃2.4) 2	(15/6≃2.5) 2	(13/6≃2.2) 2		
Forms and facades	Ostention	Sinsign	Index	Dicent	54	54
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	32212	222222	213323		
Average of scales	1	(10/5≃2.0) 2	(12/6≃2.0) 2	(14/6≃2.3) 2		
Exterior signs	Recognition	Sinsign	Index	Dicent	56	56
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	3	33213	233333	113332		
Average of scales	3	(12/5≃2.4) 2	(17/6≃2.8) 3	(13/6≃2.2) 2		
Interior signs	Ostention	Sinsign	Symbol	Dicent	42	18
Final level		(54＋54＋42)/3≃50.7			51	
Final level when the semantic aspect is most important				(54＋54＋18)/3≃42.7		43
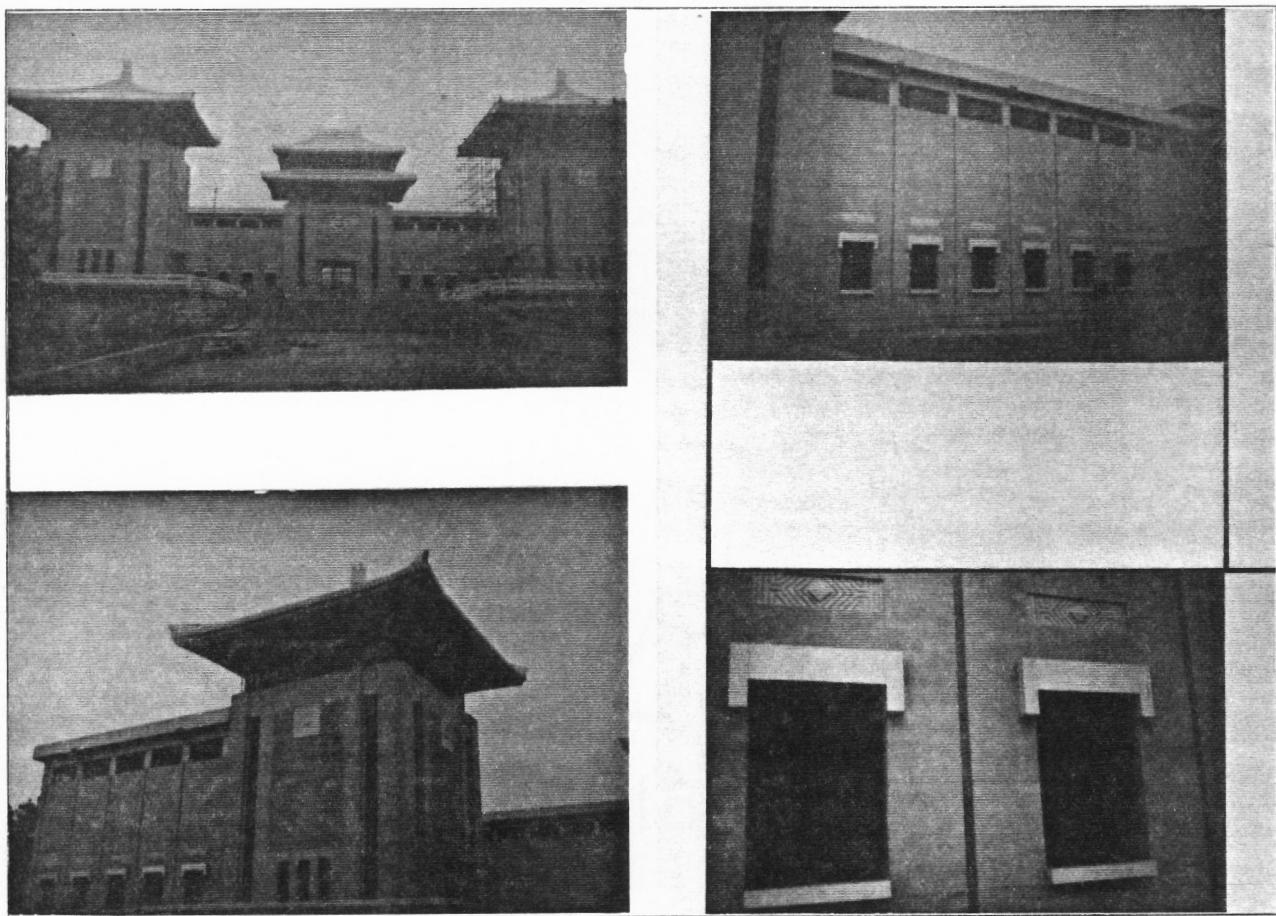
Figure 40.   The Hero's Commemoration Hall

Table 22.   Semiotic analysis of the Hero's Commemoration Hall

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	3	33323	133333	333131		
Average of scales	3	(14/5≃2.8) 3	(16/6≃2.7) 3	(14/6≃2.3) 2		
Forms and facades	Ostention	Legisign	Symbol	Dicent	38	14
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	33313	133333	333131		
Average of scales	2	(13/5≃2.6) 3	(16/6≃2.7) 3	(14/6≃2.3) 2		
Exterior signs	Replica	Legisign	Symbol	Dicent	39	15
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	32323	133333	333131		
Average of scales	2	(13/5≃2.6) 3	(16/6≃2.7) 3	(14/6≃2.3) 2		
Interior signs	Replica	Legisign	Symbol	Dicent	39	15
Final level		(38 + 39 + 39)/3≃38.7			39	
Final level when the semantic aspect is most important				(14 + 15 + 15)/3≃ 14.7		15

building proper. In short, it is a Chinese version of *Mannerism* found at the end of the 1980's. Or, one may say that the new is introduced through the old. At a glance, however, the building complex appears to present a traditional palatial image. Because the building is full of educational content and new motifs, it satisfies most composing elements of distinct identity (Table 22).

Building 13, Figure 41, the Fuyuan Market at Ma-An Shan, Anhui province,[238] is a semi-indoor market place for daily commercial activities. It is designed for the lower class proletariat by providing food and basic daily needs at an economical cost. Unlike the Xidan Commercial Building (Figure 34), where all kinds of shops are enclosed under one roof, this market place separates covered street-front stores from half-covered vending stands. Articulated by a single circulation, these two types of market places show traditional motifs sporadically applied in their designs. The data of sign-relationships indicate that the market place reflects social meanings of the core elements (Table 23).

Building 14, Figure 42, the Yellow Dragon Hotel at Hangzhou, Zhejiang province,[239] is a modern hotel recently constructed to accommodate visitors, for instance, of the West Lake vicinity. The most noticeable sign of the hotel complex is the traditional roof image portrayed in every building. With this feature, the Hotel associates with the meanings of Chinese homes. Similar to the Fragrant Hill Hotel, exterior spaces in this Hotel are traditional in character. They are old icons duplicated for contemporary lifestyles. Other than these signs, interior spaces are primarily modern and Western in style. With major signs of traditional meanings, the hotel

---

[238] Xian, Bingren. "**Fuyuan Market, Ma-An Shan,**" <u>Jian-Zhu-Xue-Bao,</u> (No. 12, 1985), pp. 43-49; and some photos taken by the author at Ma-An Shan in 1988.

[239] Chen, Taining. "**Huanglong Hotel, Hangzhou,**" <u>Jian-Zhu-Xue-Bao,</u> (No. 12, 1985), pp. 39-41; and some photos taken by the author at Hangzhou in 1988.
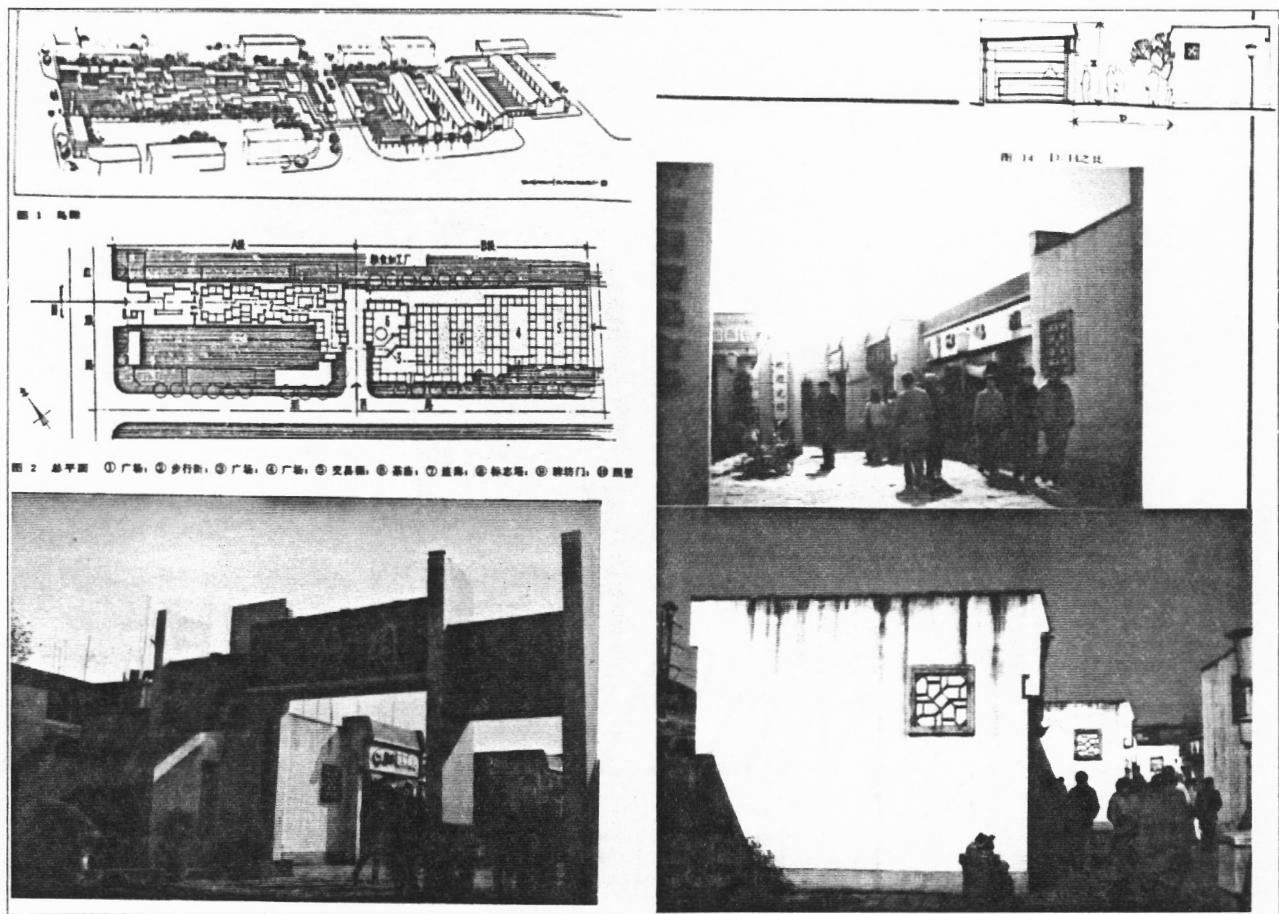
Figure 41.   The Fuyuan Market
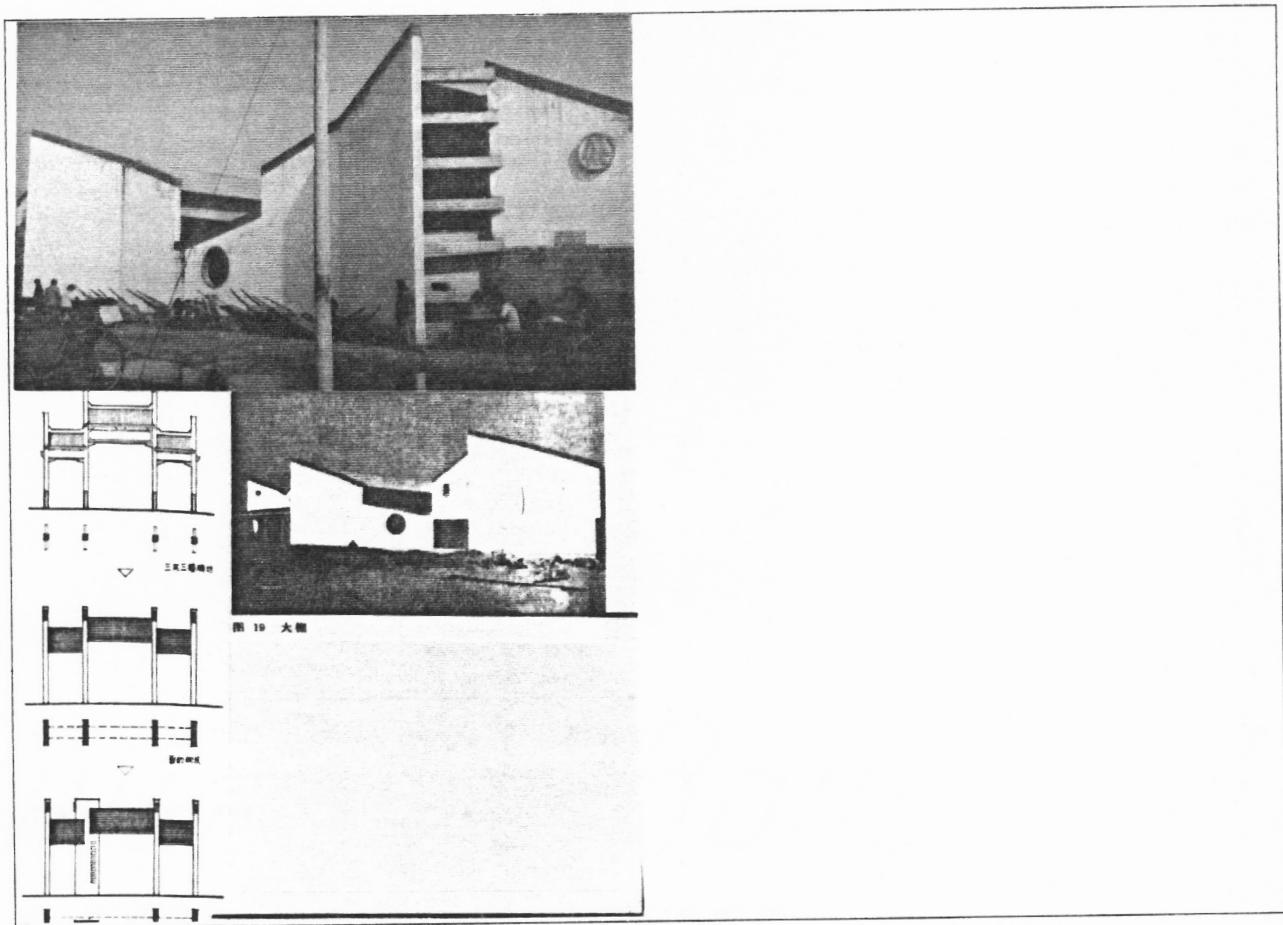
Table 23. Semiotic analysis of the Fuyuan Market

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	3	32222	133333	233132		
Average of scales	3	(11/5≃2.2) 2	(16/6≃2.7) 3	(14/6≃2.3) 2		
Forms and facades	Ostention	Sinsign	Symbol	Dicent	42	18
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	22222	133323	133223		
Average of scales	2	(10/5≃2.0) 2	(15/6≃2.5) 2	(14/6≃2.3) 2		
Exterior signs	Replica	Sinsign	Index	Dicent	55	55
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	31222	122221	232223		
Average of scales	1	(10/5≃2) 2	(10/6≃1.7) 2	(14/6≃2.3) 2		
Interior signs	Recognition	Sinsign	Index	Dicent	56	56
Final level	(42 + 55 + 56)/3≃51.0				51	
Final level when the semantic aspect is most important	(18 + 55 + 56)/3≃43.0					43
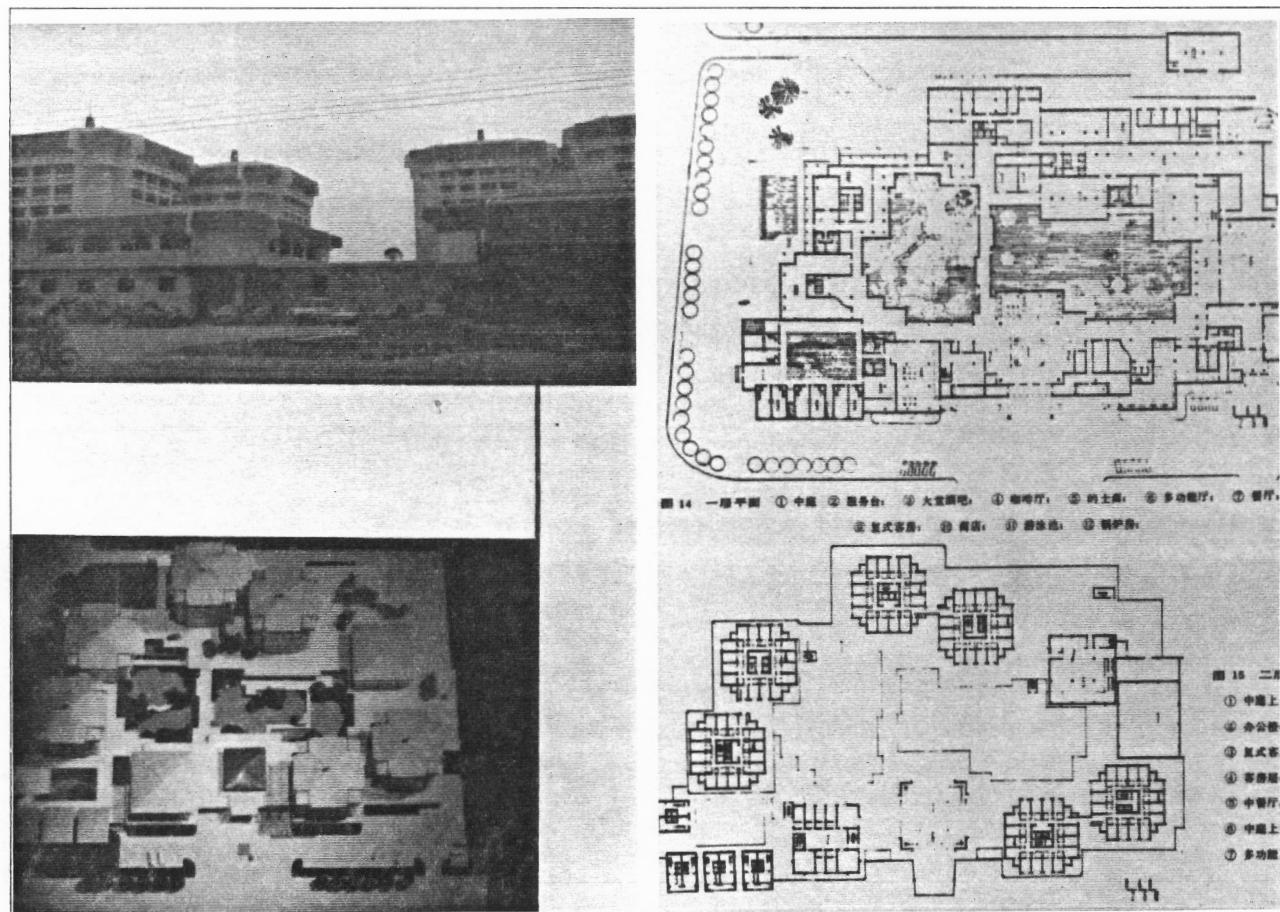
Figure 42. The Yellow Dragon Hotel

Table 24. Semiotic analysis of the Yellow Dragon Hotel

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	4	33213	223333	113313		
Average of scales	4	(12/5≃2.4) 2	(16/6≃2.7) 3	(12/6≃2.0) 2		
Forms and	Invention	Sinsign	Symbol	Dicent	41	17
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	23223	233333	113332		
Average of scales	2	(12/5≃2.4) 2	(17/6≃2.8) 3	(13/6≃2.2) 2		
Exterior signs	Replica	Sinsign	Symbol	Dicent	43	19
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	33213	233333	113333		
Average of scales	2	(12/5≃2.4) 2	(17/6≃2.8) 3	(14/6≃2.3) 2		
Interior signs	Replica	Sinsign	Symbol	Dicent	43	19
Final level			(41 + 43 + 43)/3≃42.3		42	
Final level when the semantic aspect is most important				(17 + 19 + 19)/3≃18.3		18

complex shows higher sign-relationships with social elements than that of other aspects of meanings (Table 24).

Building 15, Figure 43, the Kunshan Market at Kunshan, Jiangsu province,[240] like the Fuyuan Market (Figure 41), is a neighborhood shopping area in a small town south of Shanghai. It is inconspicuous among new constructions in the same area, but it appears to be a new sign to Chinese people. Unprecedented by traditional design patterns, the design is unconventional because the stores are arranged around a circular open courtyard. In addition, the entrance which is defined by exposed columns and beams and the stairs which spin around a red shaft boldly display manneristic effects remotely connected with the tradition. These creative signs dominate other building features (aluminum framed window, white-washed walls, columns and flat roof) which, in great contrast, are plain and lack cultural association. Both exterior and interior spaces also are unique signs due to the functional planning of commercial activities around the open circular court. For this reason, the design has high sign-relationships with the sign-production approach, but low scores on other aspects of meanings (Table 25).

Building 16, Figure 44, the Tourist Reception Center at Wuhan, Hubei province,[241] is a combination of gift shops and hotel for tourists who visit the old temple nearby. Providing such a service, the Center would not need to appear traditional except to harmoniously correspond with the architectural characteristics of the temple. But instead of doing so, the Center characterizes the skyline above it with a collection of roof patterns and vernacular forms. It is, thus, possible that the gift shop and hotel could be taken, for instance, as residences for a large, extended family. It is likely so because an ordinary onlooker is usually refrained from using the facility. Since the

---

[240] Photos taken by the authors.

[241] Photos taken by the author at Wuhan in 1988.
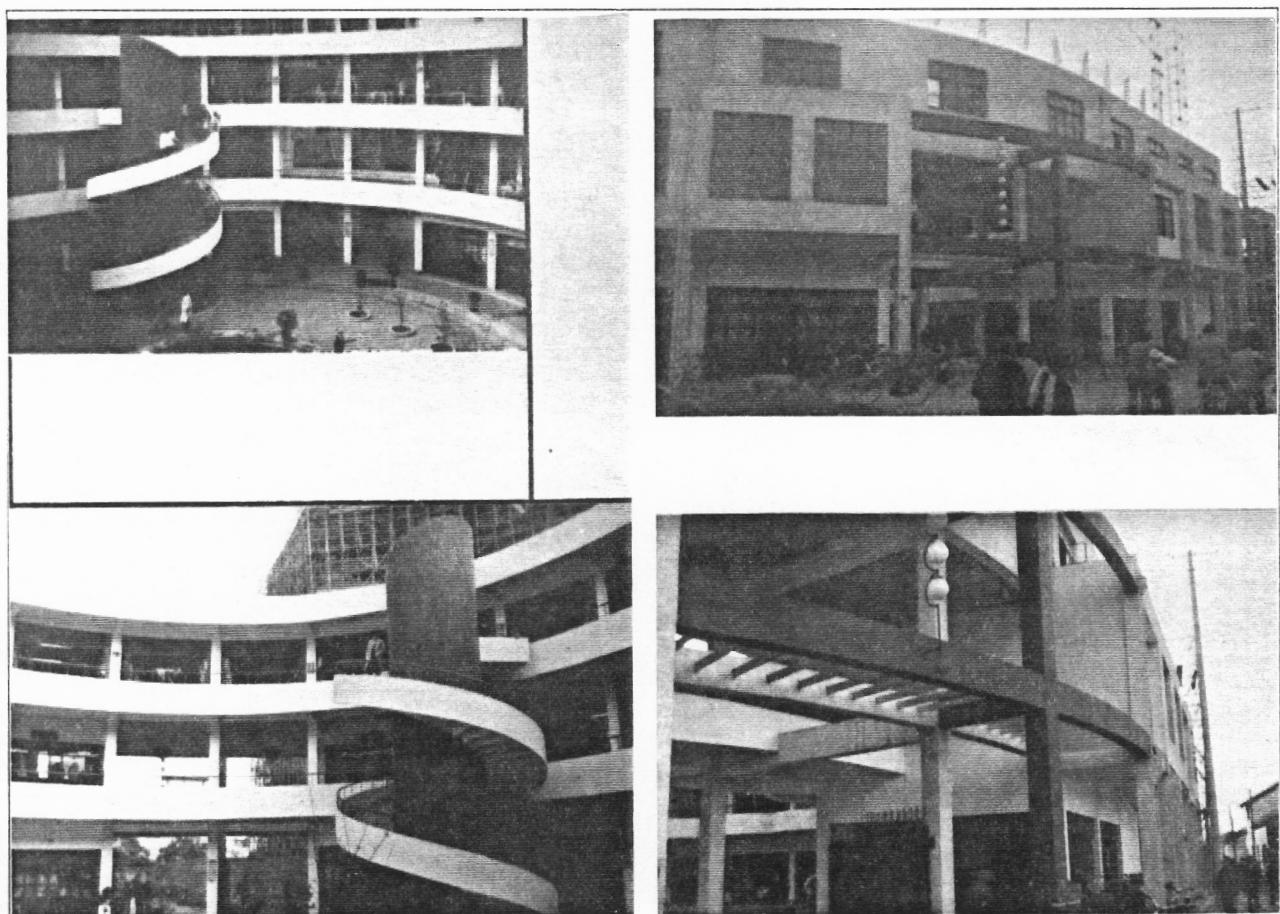
Figure 43. The Kunshan Market

Table 25. Semiotic analysis of the Kunshan Market

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	4	32223	223323	233231		
Average of scales	4	(12/5≃2.4) 2	(15/6≃2.5) 2	(14/6≃2.3) 2		
Forms and facades	Invention	Sinsign	Index	Dicent	53	53
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	3	32222	222313	233231		
Average of scales	3	(11/5≃2.2) 2)	(13/6≃2.2) 2	(14/6≃2.3) 2		
Exterior signs	Ostention	Sinsign	Index	Dicent	54	54
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	32222	222323	233231		
Average of scales	2	(11/5≃2.2) 2	(14/6≃2.3) 2	(14/6≃2.3) 2		
Interior signs	Replica	Sinsign	Index	Dicent	55	55
Final level	(53 + 54 + 55)/3≃54.0				54	
Final level when the semantic aspect is most important				(53 + 54 + 55)/3≃ 54.0		54
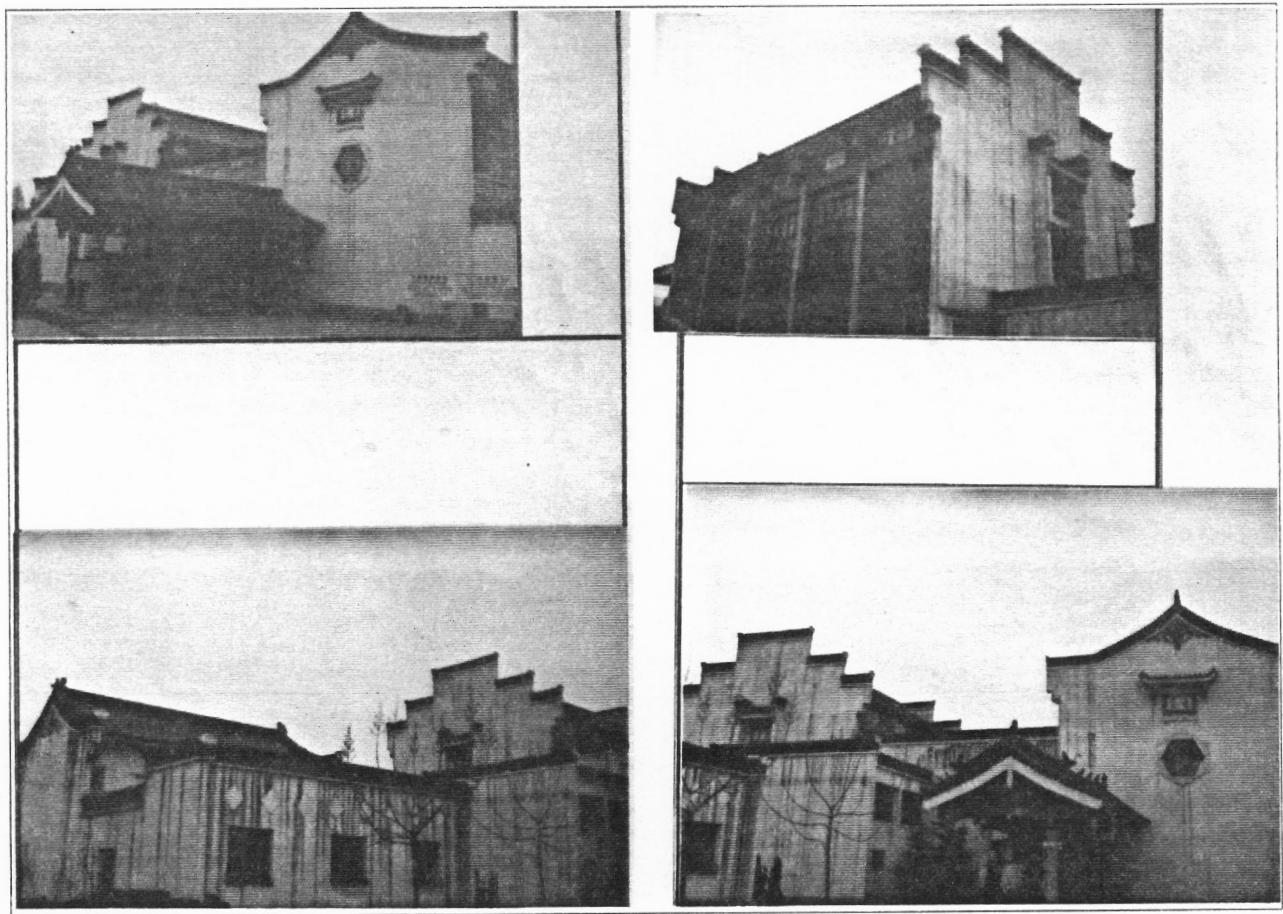
Figure 44. A Tourist Reception Center

Table 26. Semiotic analysis of a Tourist Reception Center

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	22112	133131	113333		
Average of scales	2	(8/5≃1.6) 2	(12/6≃2.0) 2	(14/6≃2.3) 2		
Forms and facades	Replica	Sinsign	Index	Dicent	55	55
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	22111	133131	113333		
Average of scales	2	(7/5≃1.4) 1	(12/6≃2.0) 2	(14/6≃2.3) 2		
Exterior signs	Replica	Sinsign	Index	Dicent	59	59
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	32112	232131	113333		
Average of scales	2	(9/5≃1.8) 2	(12/6≃2.0) 2	(14/6≃2.3) 2		
Interior signs	Replica	Sinsign	Index	Dicent	55	55
Final level		(55 + 59 + 55)/3≃56.3			56	
Final level when the semantic aspect is most important			(55 + 59 + 55)/3≃56.3			56

5.0 PRESENTATION OF DATA AND RESULTS OF SEMIOTIC ANALYSIS

buildings are full of signs that are duplicated without modification and are functionally redundant, the sign-production approach score is insignificant (Table 26). Other sign-relationships also indicate low scores.

Building 17, Figure 45, the Chinese Painting Academy at Nanjing, Jiangsu province,[242] is an advanced training school for artists, particularly landscape painters, from all over the country. The school is filled with still-life objects such as traditional buildings and landscape features for the artist-students who practice their skills on campus. Living and experiencing the aesthetics of traditional settlement may be one of the major purposes of the training as well as the reason to duplicate traditional settings. These duplicated signs, including built forms and spatial organizations, are icons directly created out of the natural hilly site. Here, the administration buildings reveal manneristic signs derived from vernacular dwelling patterns. In this area, bedrooms are adopted as office spaces and doors and windows are created unconventionally. These new signs work well for the administration regardless of misconceptions that may be caused by functions and original meanings of these old signs. Dominated by old signs, however, the school does not reflect significant sign-relationships with the core elements (Table 27).

Building 18, Figure 46, the National Library at Beijing, Hebei province,[243] is a building of national importance which plays an important role in hybridizing signs of the old and the new. Adopting traditional signs in modern designs is always controversial because a designer may be confused by the following assumptions: (1) the importance of a building is related to the presence of traditional signs, (2) without presenting traditional signs, a building would not appear cultural, (3) when too many

---

[242] **"The Chinese Painting Academy,"** Jian-Zhu-Xue-Bao, (No. 9, 1987), pp. 34-40.

[243] Beijing Architectural Design Institute. **"New Buildings of the National Library of China,"** (Jian-Zhu-Xue-Bao, No. 12, 1987), pp. 43-45.
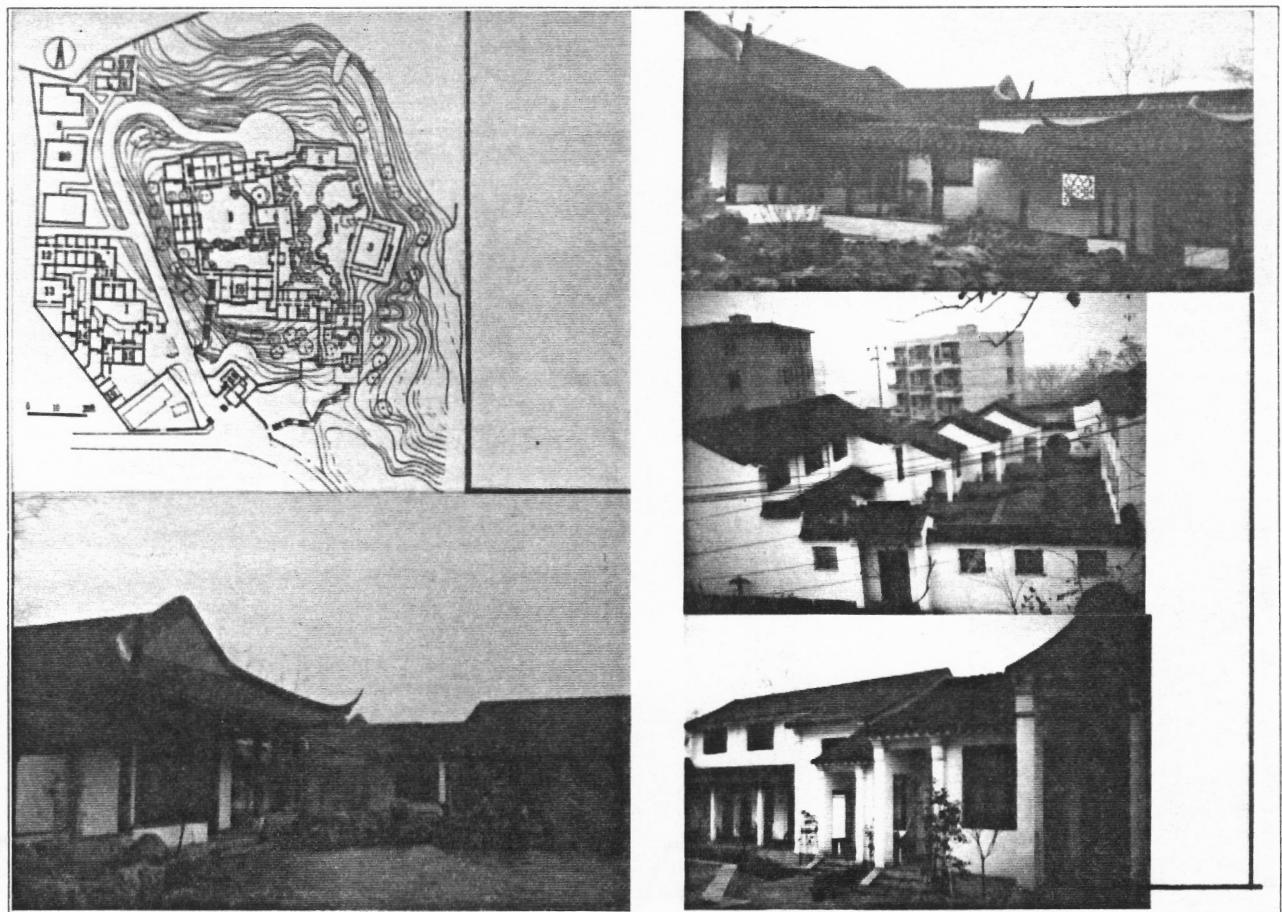
Figure 45. The Chinese Painting Academy
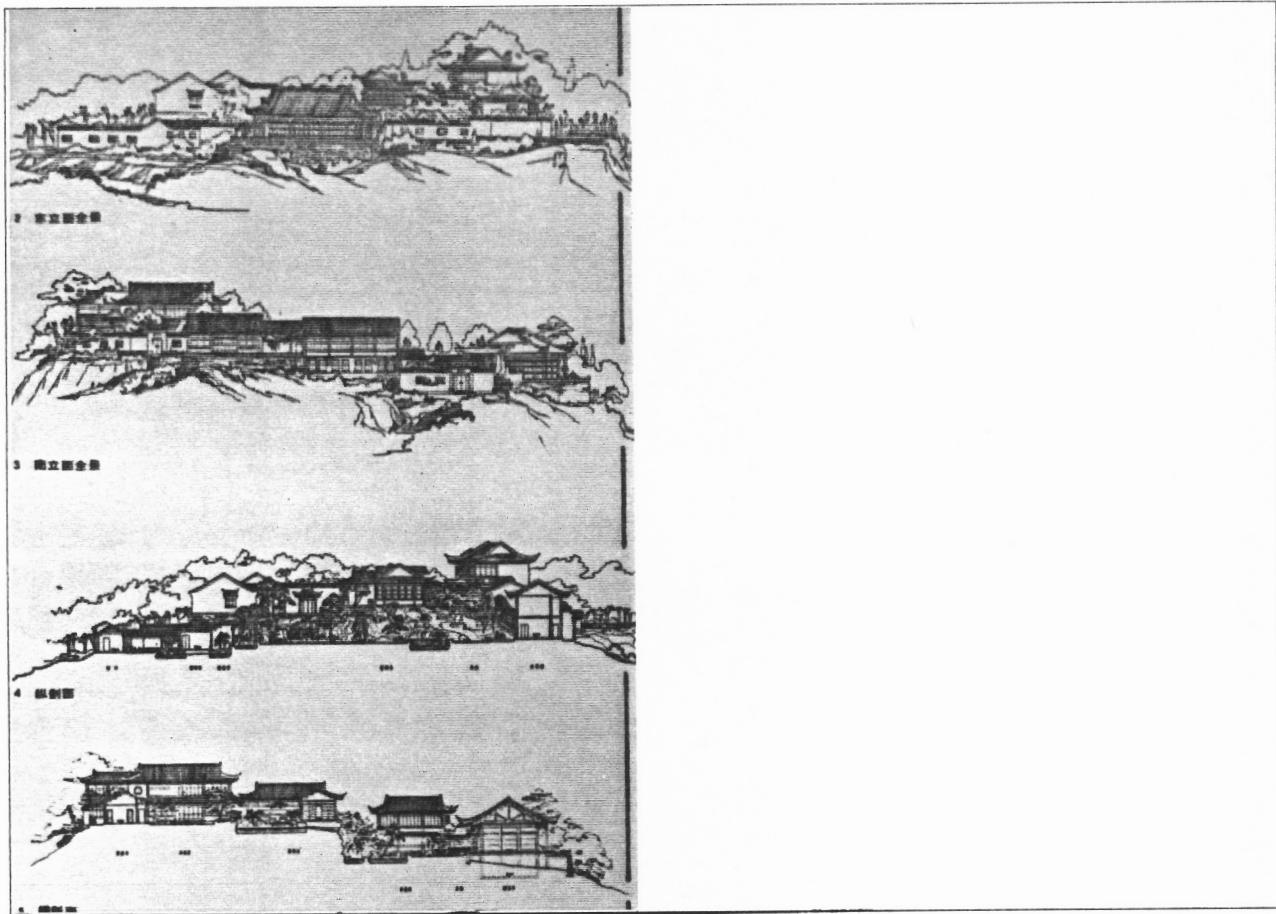
Table 27. Semiotic analysis of the Chinese Painting Academy

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	23313	133231	113333		
Average of scales	2	(12/5≃2.4) 2	(13/6≃2.2) 2	(14/6≃2.3) 2		
Forms and facades	Replica	Sinsign	Index	Dicent	55	55
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	23313	133231	113333		
Average of scales	2	(12/5≃2.4) 2	(13/6≃2.2) 2	(14/6≃2.3) 2		
Exterior signs	Replica	Sinsign	Index	Dicent	55	55
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	23113	133231	113333		
Average of scales	2	(10/5≃2.0) 2	(12/6≃2.0) 2	(14/6≃2.3) 2		
Interior signs	Replica	Sinsign	Index	Dicent	55	55
Final level			(55＋55＋55)/3≃55		55	
Final level when the semantic aspect is most important				(55＋55＋55)/3≃55		55
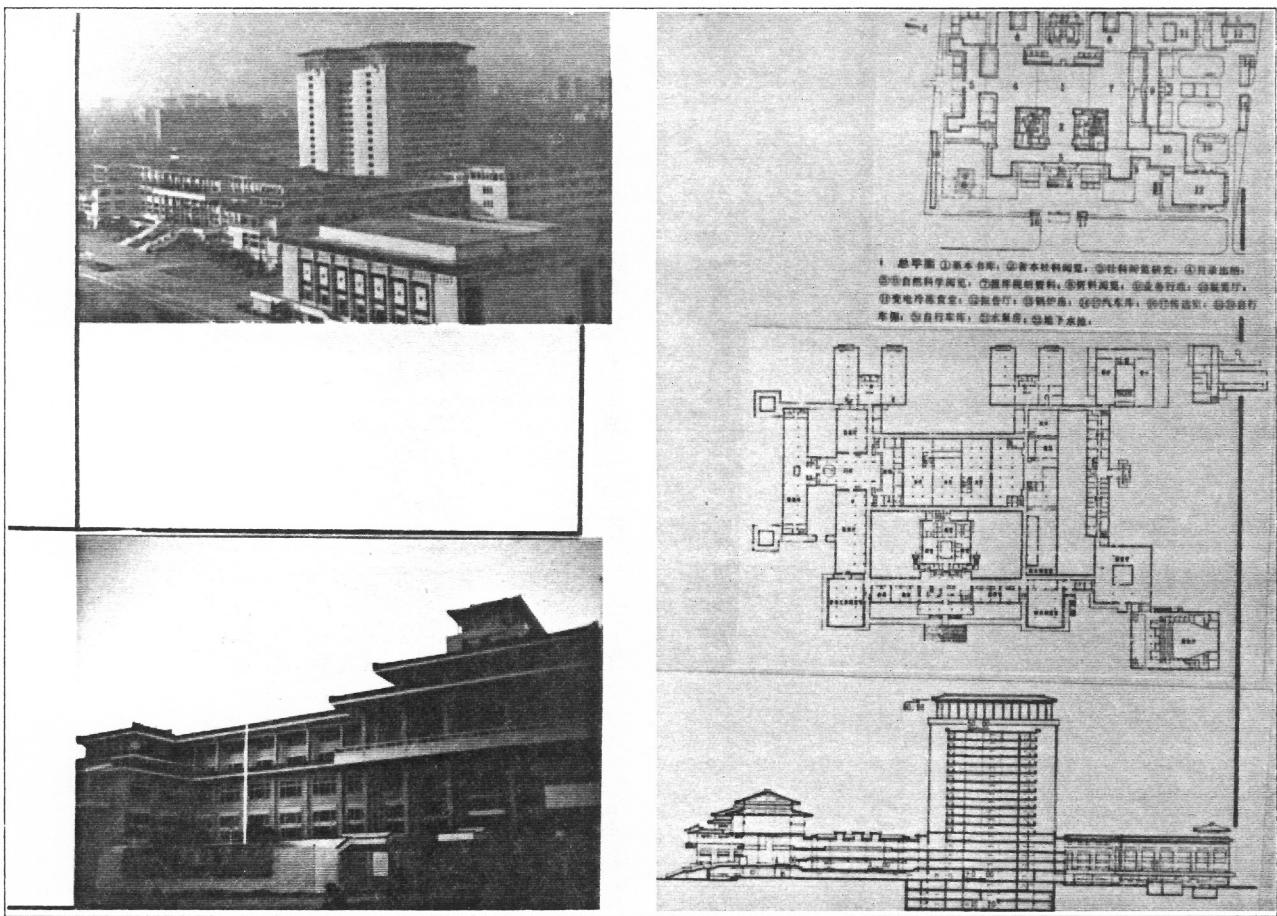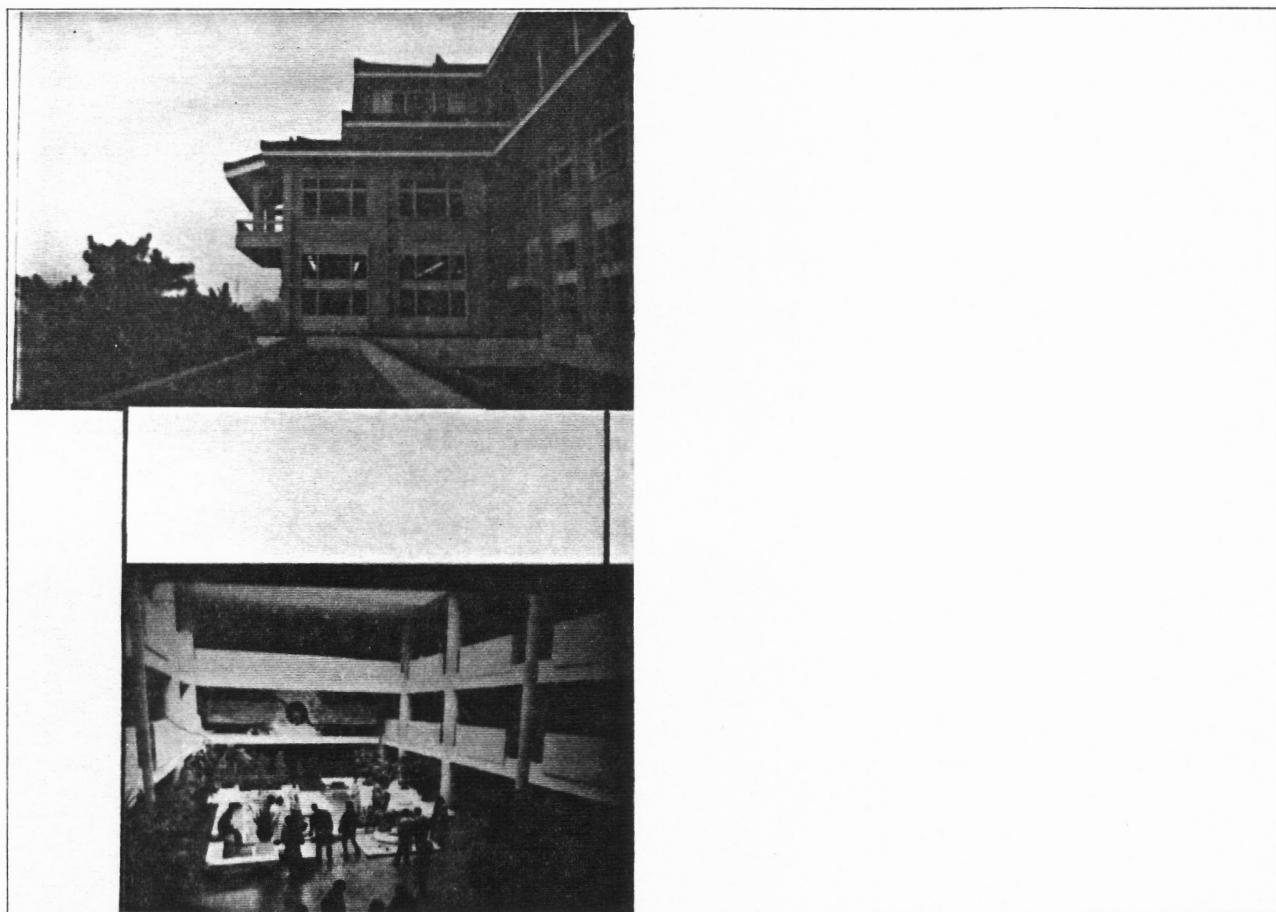
Figure 46. The National Library

Table 28. Semiotic analysis of the National Library

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	4	33313	333333	223232		
Average of scales	4	(13/5≃2.6) 3	(18/6≃3.0) 3	(14/6≃2.3) 2		
Forms and facades	Invention	Legisign	Symbol	Dicent	37	13
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	33212	323323	223232		
Average of scales	2	(11/5≃2.2) 2	(16/6≃2.7) 3	(14/6≃2.3) 2		
Exterior signs	Replica	Sinsign	Symbol	Dicent	43	19
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	33223	323323	123233		
Average of scales	1	(13/5≃2.6) 3	(16/6≃2.7) 3	(14/6≃2.3) 2		
Interior signs	Recognition	Legisign	Symbol	Dicent	40	16
Final level	(37 + 43 + 40)/3≃40.0				40	
Final level when the semantic aspect is most important	(13 + 19 + 16)/3≃16.0				16	

traditional signs are presented, the building would not appear modern. However, the New Library shows its designers' decision to come to a point of departure by simplifying every duplicated sign that composes elevations and facades. Thus, the bracket systems, which were structurally important to traditional architecture, are excluded in the elevation, and rafters and purlins are replaced by fake beams beneath the roofs. Other than such manipulations, signs in interior and exterior spaces are free of traditional image. With rather insignificant result in sign-production approach, the Library only shows significant sign-relationships to social and economic meanings in its formal and interior signs (Table 28).

Building 19, Figure 47, a Local Hotel at Nanjing, Jiangsu province,[244] compared to the Fragrant Hill Hotel (Figure 34), is an economical lodging designed for public use. The Hotel would not receive any attention from the passersby if it did not reveal functionally redundant roofs, short eaves and garden features of the past. Not so sophisticatedly designed as the hotels mentioned above, this Hotel sporadically includes traditional signs. There is no innovative or creative manipulation in such a rendering in forms and facades. Moreover, the interior spaces are modern design patterns of little cultural association. Having rather insignificant sign-relationships with social and political elements, signs of the Hotel can only be considered as communicating economic meanings (Table 29).

Building 20, Figure 48, the addition to the Confucian Temple at Nanjing, Jiangsu province,[245] makes the entire area headed by the Temple a multipurpose place. The area was originally religious in the Nationalist Period, now it is commercial and touristic. In fact, the religious atmosphere in the Temple has been overwhelmed by commercial activities in newly added shops and open vending courts. Design in all

[244] Photos taken by the author at Nanjing in 1988.

[245] Photos taken by the author at Nanjing, 1988.
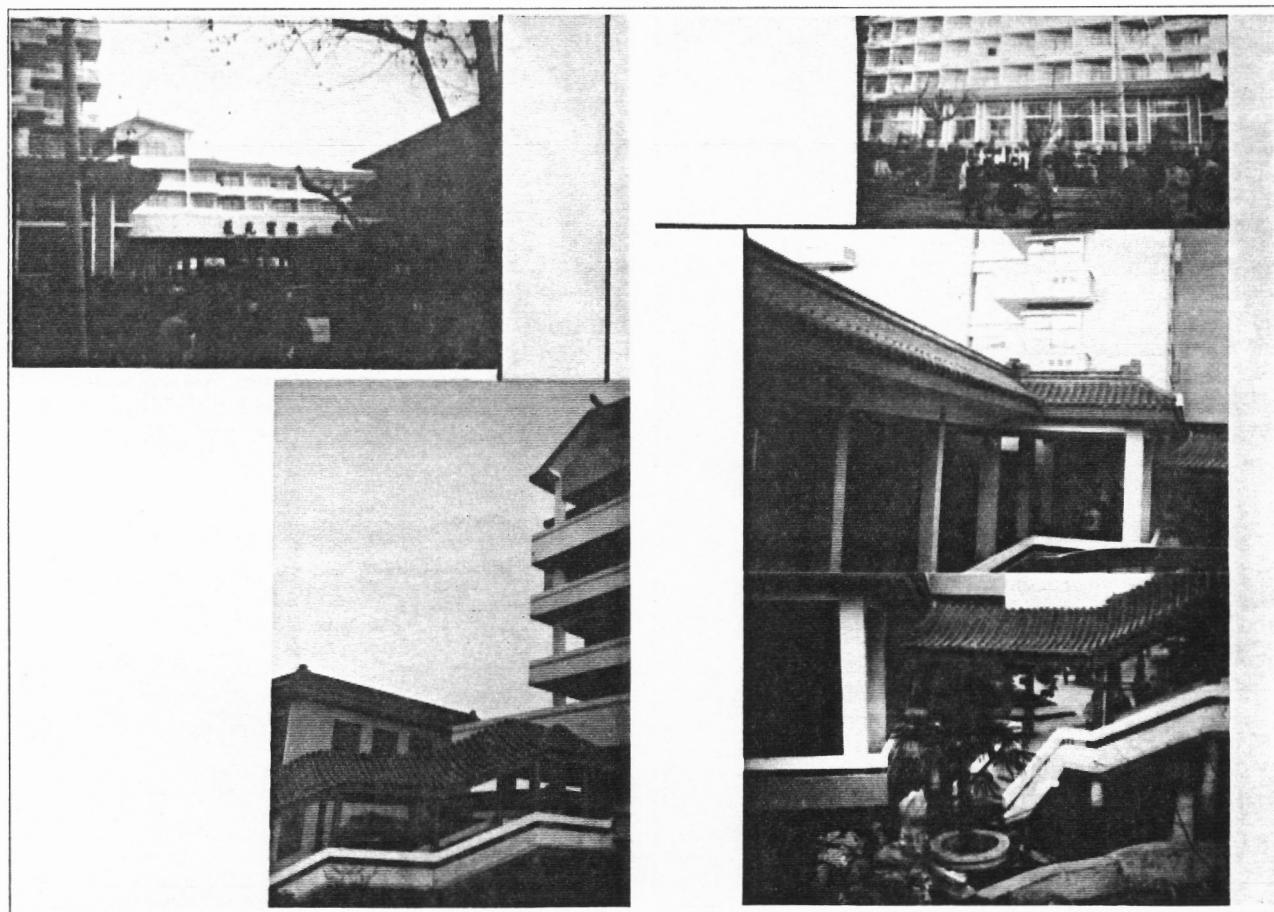
Figure 47. A local hotel

Table 29. Semiotic analysis of a local hotel

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	33223	223233	122112		
Average of scales	2	(13/5≃2.6) 3	(15/6≃2.5) 2	(9/6≃1.5) 1		
Forms and facades	Replica	Legisign	Index	Rheme	87	63
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	13223	223233	121122		
Average of scales	2	(11/5≃2.2) 2	(15/6≃2.5) 2	(9/6≃1.5) 1		
Exterior signs	Replica	Sinsign	Index	Rheme	91	67
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	32222	221213	121122		
Average of scales	1	(11/5≃2.2) 2	(11/6≃1.8) 2	(9/6≃1.5) 1		
Interior signs	Recognition	Sinsign	Index	Rheme	92	68
Final level		(87＋91＋92)/3≃90.0			90	
Final level when the semantic aspect is most important				(63＋67＋68)/3≃66.0		66

Figure 48.   The addition to the Confucius Temple

Table 30.   Semiotic analysis of the addition to the Confucius Temple

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	12332	132223	131122		
Average of scales	2	(11/5≃2.2) 2	(13/6≃2.2) 2	(10/6≃1.7) 2		
Forms and facades	Replica	Sinsign	Index	Dicent	55	55
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	12332	132223	131222		
Average of scales	2	(11/5≃2.2) 2	(13/6≃2.2) 2	(11/6≃1.8) 2		
Exterior signs	Replica	Sinsign	Index	Dicent	55	55
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	12332	132223	131222		
Average of scales	2	(11/5≃2.2) 2	(13/6≃2.2) 2	(11/6≃1.8) 2		
Interior signs	Replica	Sinsign	Index	Dicent	55	55
Final level			(55＋55＋55)/3≃55.0		55	
Final level when the semantic aspect is most important				(55＋55＋55)/3≃55.0		55

these new additions relies heavily on traditional icons. They are old signs with old meanings. In this way, the entire complex is harmoniously organized. The coexistence of religious and commercial activities makes the distinctness more commercial and social than political (Table 30). The signs of exterior spaces, in this sense, turn the sacred temple and its addition into a traditional market place.

Building 21, Figure 49, the Quyang Commune at Shanghai, Jiangsu province,[246] is considered a model commune in the country. The commune not only has better planned exterior spaces than the High-rise Apartments (Figure 30), but also includes leisure parks, grocery stores, markets, schools, well controlled entries and security personnel. Although it is an attempt to strive for a self-contained community, such a commune is particularly meaningful politically rather than socially and economically (Table 31). Through such a settlement pattern, political forces reshape public lifestyles and enforce a different set of values and ideologies from the tradition. No trace of the tradition seems to have survived other than that kept covertly by the people. All signs are combinations of building patterns imitated from Modern Architecture of little cultural reference and are primarily used for functional purposes. In semiotic nature, a single building, as well as the entire commune, can be considered to be a sign which house seventy thousand people.

Building 22, Figure 50, The Yellow Crane Tower at Wuhan, Hubei province,[247] is the reinforced concrete version of a traditional wood-frame tower. The Tower has been reconstructed several times due to fire or structural failure. Its design has been modified every time it is reconstructed. The new materials and construction techniques ensure a permanent image of traditional details, color schemes, overhanging eves, veranda and a modern elevator, but all signs are traditional icons of

---

[246] Photos taken by the author at Shanghai in 1988.

[247] Photo taken by the author at Wuhan in 1988.

Figure 49. The Quyang Neighborhood

Table 31. Semiotic analysis of the Quyang Neighborhood

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	32211	312212	333323		
Average of scales	1	(9/5≃1.8) 2	(11/6≃1.8) 2	(17/6≃2.8) 3		
Forms and facades	Recognition	Sinsign	Index	Argument	20	44
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	21111	221211	333323		
Average of scales	1	(6/5≃1.2) 1	(9/6≃1.5) 1	(17/6≃2.8) 3		
Exterior signs	Recognition	Qualisign	Icon	Argument	36	84
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	21211	312212	333323		
Average of scales	1	(7/5≃1.4) 1	(11/6≃1.8) 2	(17/6≃2.8) 3		
Interior signs	Recognition	Qualisign	Index	Argument	24	48
Final level		(20＋36＋24)/3≃26.6			27	
Final level when the semantic aspect is most important				(44＋84＋48)/3≃58.7		59
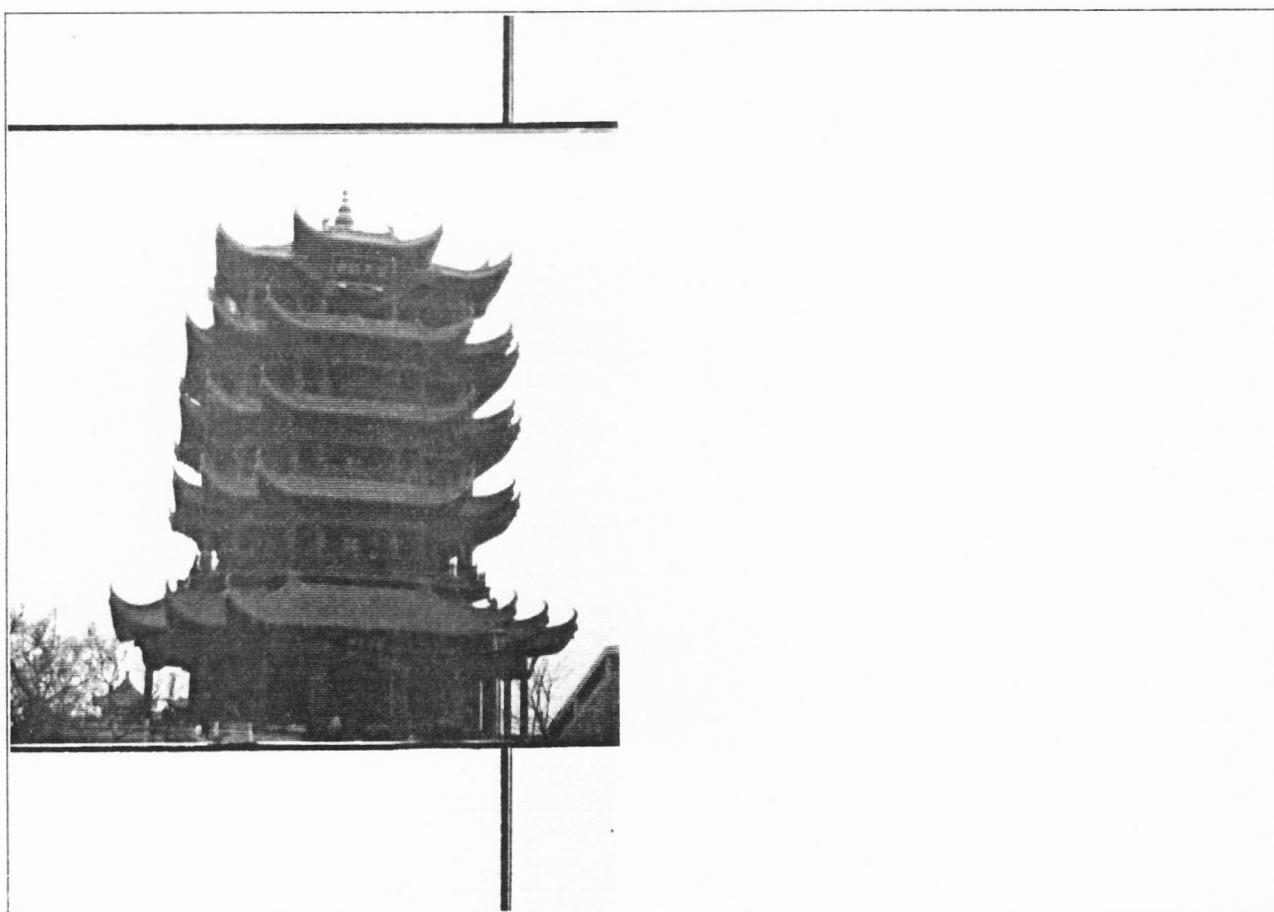
Figure 50. The Yellow Crane Tower

Table 32. Semiotic analysis of the Yellow Crane Tower

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	13313	133133	132111		
Average of scales	1	(11/5≃2.2) 2	(14/6≃2.3) 2	(9/6≃1.5) 1		
Forms and facades	Recognition	Sinsign	Index	Rheme	92	68
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	23313	123133	132113		
Average of scales	2	(12/5≃2.4) 2	(13/6≃2.2) 2	(11/6≃1.8) 2		
Exterior signs	Replica	Sinsign	Index	Dicent	55	55
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	13313	133133	132113		
Average of scales	2	(11/5≃2.2) 2	(14/6≃2.3) 2	(11/6≃1.8) 2		
Interior signs	Replica	Sinsign	Index	Dicent	55	55
Final level			(92＋55＋55)/3≃67.3		67	
Final level when the semantic aspect is most important			(68＋55＋55)/3≃59.3			59

commemorative and educational purposes. No particularly significant sign-relationships with the core elements is found (Table 32).

Building 23, Figure 51, the Sun Yatsen Memorial at Nanjing, Jiangsu province,[248] like the Old National Library (Figure 37), is a distinguished example of earlier (1930's) attempts to controvert the meanings of traditional architecture. The design, including forms, openings, facades, and exterior features of palatial pattern signifies a place of great importance, but making a palatial pattern a tomb structure should have been considered unconventional in the 1930's. The combination started a tendency to associate architectural importance with traditional signs. As one assesses the design's cultural association with the core elements, one finds these icons show rather insignificant sign-relationships (Table 33). Thus, the Memorial should not be considered to be the identity of contemporary culture.

Building 24, Figure 52, the Mao Zedong Memorial at Beijing, Hebei province,[249] combines some signs of Chinese origin and memorial halls of other cultures. It is probably due to Mao's antipathy to tradition that few signs of traditional architecture are found in the hall. The result of design has not shown significant sign-relationships with core elements other than political meanings (Table 34).

Building 25, Figure 53, a Corner of the Residential Area at Nanjing, Jiangsu province,[250] which is composed of low-rise and densely connected buildings, is a prototype of domestic housing in urban areas. Small alleyways meander through the neighborhoods connecting a gigantic sign of many "sememes" - single buildings. People who reside here are about the same lower class; they sharing similar life styles, values, and ideologies. These signs are gradually vanishing, and will give way

---

[248] Photos taken by the author at Nanjing in 1988.

[249] Wu, 1986, p. 88.

[250] Photo taken by the author at Nanjing in 1988.
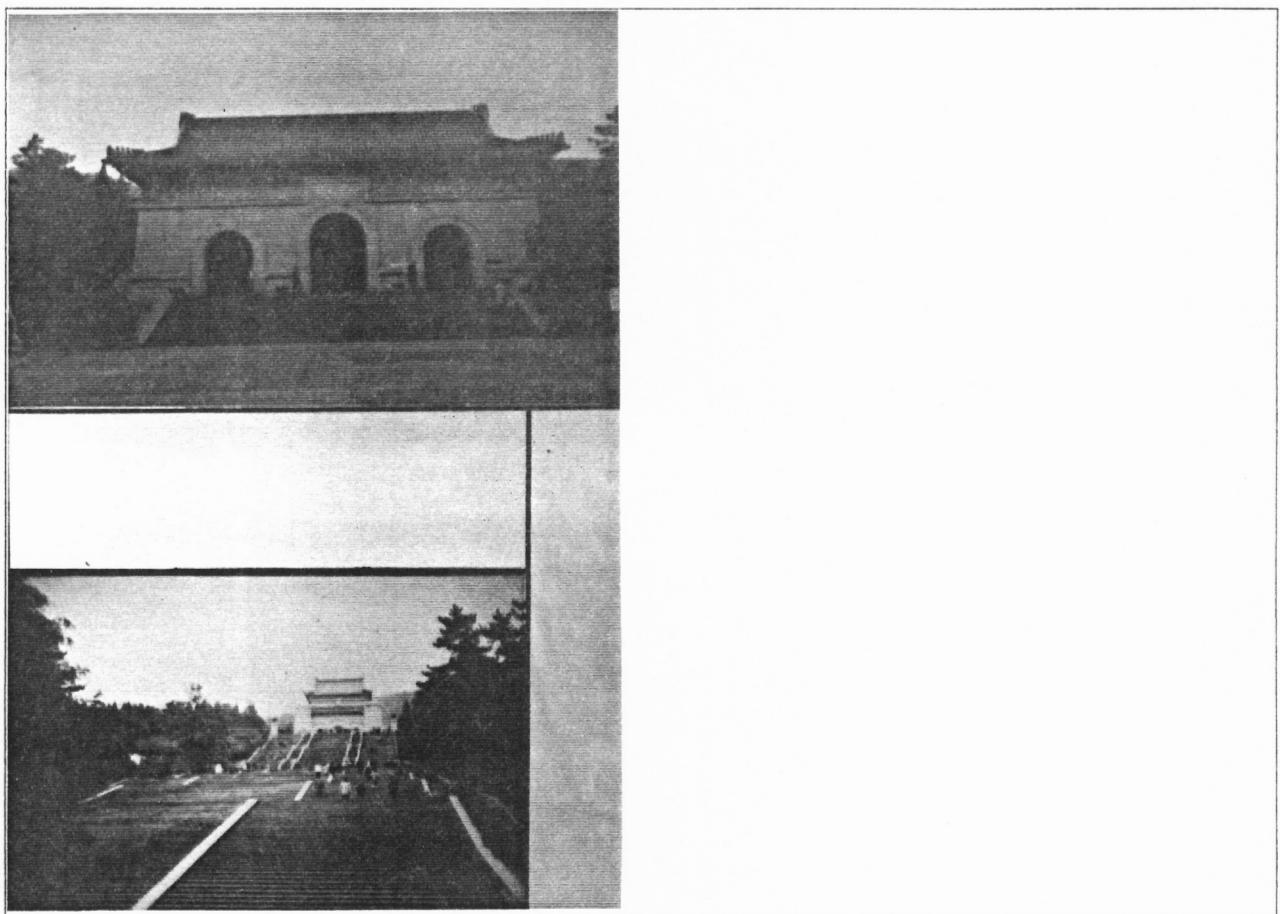
Figure 51.   The Sun Yatsen Memorial

Table 33.   Semiotic analysis of the Sun Yatsen Memorial Hall

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	13313	133133	133111		
Average of scales	2	(11/5≃2.2) 2	(14/6≃2.3) 2	(10/6≃1.6) 2		
Forms and facades	Replica	Sinsign	Index	Dicent	55	55
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	13313	133133	133111		
Average of scales	2	(11/5≃2.2) 2	(14/6≃2.3) 2	(10/6≃1.6) 2		
Exterior signs	Replica	Sinsign	Index	Dicent	55	55
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	13313	133133	133111		
Average of scales	2	(11/5≃2.2) 2	(14/6≃2.3) 2	(10/6≃1.6) 2		
Interior signs	Replica	Sinsign	Index	Dicent	55	55
Final level		(55 + 55 + 55)/3≃55			55	
Final level when the semantic aspect is most important				(55 + 55 + 55)/3≃55		55
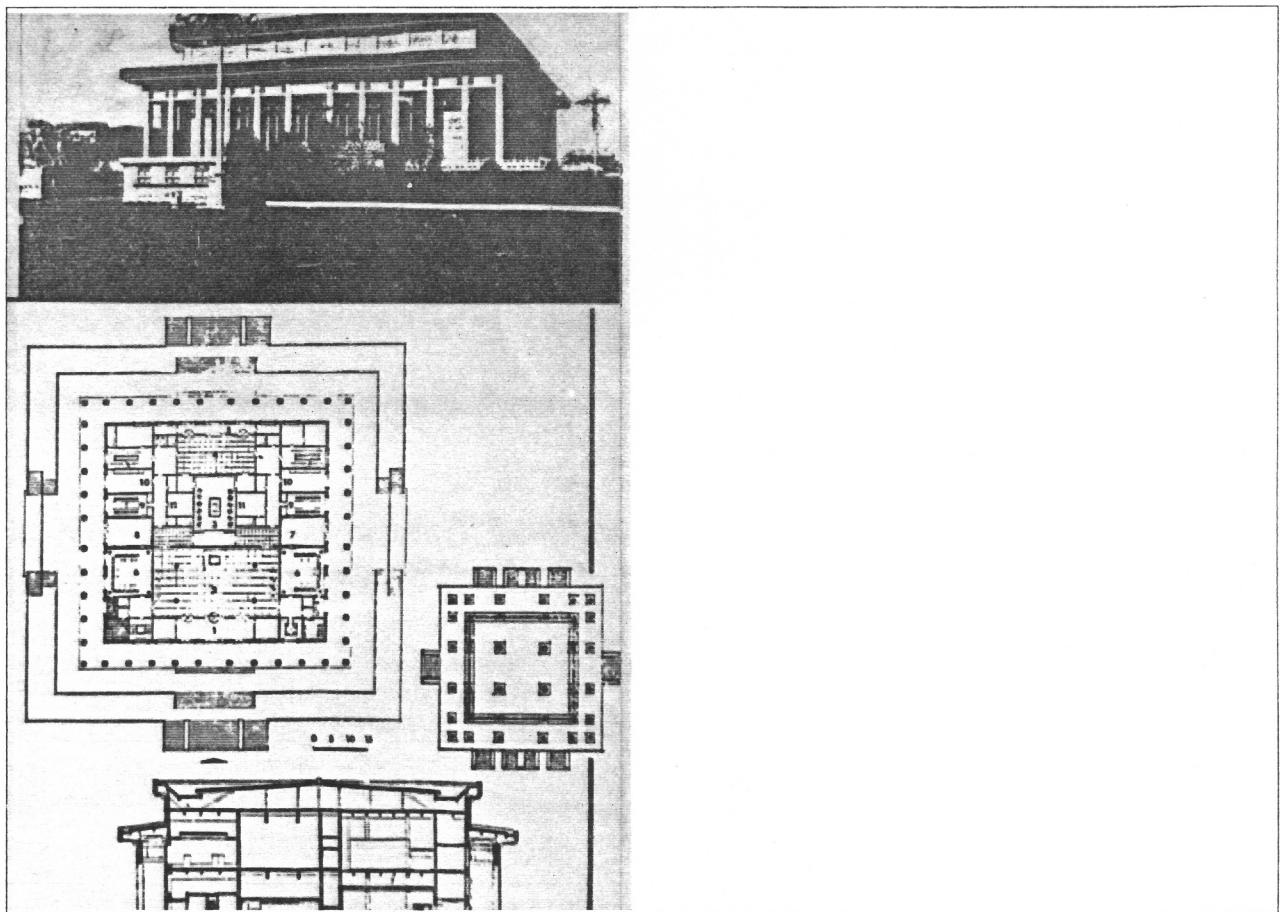
Figure 52.   The Mao Zedong's Memorial

Table 34.   Semiotic analysis of the Mao Zedong's Memorial Hall

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	32113	133132	333131		
Average of scales	2	(10/5≃2.0) 2	(13/6≃2.2) 2	(14/6≃2.3) 2		
Forms and facades	Replica	Sinsign	Index	Dicent	55	55
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	22113	133132	333131		
Average of scales	1	(9/5≃1.8) 2	(13/6≃2.2) 2	(14/6≃2.3) 2		
Exterior signs	Recognition	Sinsign	Index	Dicent	56	56
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	32113	133132	333131		
Average of scales	2	(10/5≃2.0) 2	(13/6≃2.2) 2	(14/6≃2.3) 2		
Interior signs	Replica	Sinsign	Index	Dicent	55	55
Final level		(55+56+55)/3≃55.3			55	
Final level when the semantic aspect is most important				(55+56+55)/3≃55.3		55
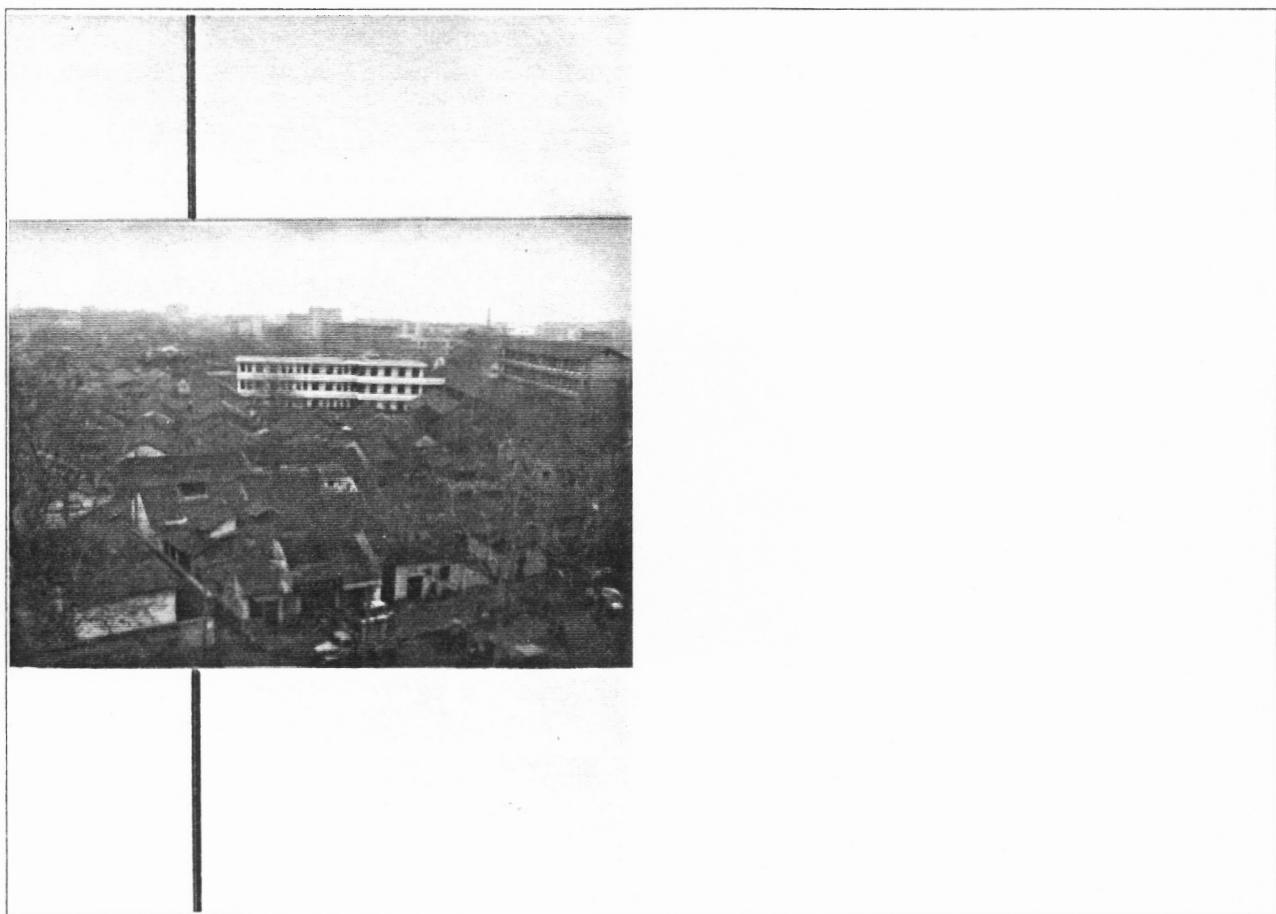
Figure 53.   A corner of residential area

Table 35.   Semiotic analysis of a corner of residential area

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	11131	122333	131211		
Average of scales	1	(7/5≃1.4) 1	(14/6≃2.3) 2	(9/6≃1.5) 1		
Forms and facades	Recognition	Qualisign	Index	Rheme	96	72
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	11121	122333	131211		
Average of scales	1	(6/5≃1.2) 1	(14/6≃2.3) 2	(9/6≃1.5) 1		
Exterior signs	Recognition	Qualisign	Index	Rheme	96	72
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	11121	122333	131211		
Average of scales	1	(6/5≃1.2) 1	(14/6≃2.3) 2	(9/6≃1.5) 1		
Interior signs	Recognition	Qualisign	Index	Rheme	96	72
Final level			(96 + 96 + 96)/3≃96		96	
Final level when the semantic aspect is most important				(72 + 72 + 72)/3≃72		72

to modern apartment blocks in the future if current development trends continue. Since these buildings represent the cultural product of past times, their sign-relationships are insignificant (Table 35).

Building 26, Figure 54, the Suspended Temple at Shang Xi, Hunan province,[251] is an existing traditional building which survived the Cultural Revolution and reopened to the public. Being a traditional center of worship, the building reflects few of the social or religious meanings of contemporary culture. Some visitors to the Temple may associate psychologically with the place in remembrance of past cultural identity. Some others may be simply tourists who come to view the splendor of classical construction. Revealing little meaning to contemporary culture, the signs are insignificant in the sign-relationships (Table 36).

Building 27, Figure 55, the Traditional Courtyard House at Beijing, Hebei province,[252] can be considered an example of traditional identities of Chinese people and their settlement patterns. It contains information about the nature of the people condensed from thousands of years. The most noticeable signs are the relationships between behavioral patterns and the physical aspects. For instance, the ancestral hall and master bedroom are considered to be important spaces and are placed along a North-South axis. In this way, spaces for social and private activities are clearly defined in the house. However, because such relationships are no longer valid, the house shows little meanings to contemporary culture (Table 37).

Building 28, Figure 56 the Front Gate of Motion Picture Studio at Beijing, Hebei province,[253] defines the entrance to the Studio in a unique way. It is a manneristic

[251] **Jian-Zhu-Xue-Bao,** (No. 2, 1987), cover page.

[252] Blaser, Werner. **Courtyard House in China: Tradition and Present,** (Stuggart: Birkhauser Berlag Basel, 1979), p. 17.

[253] Photo taken by the author at Beijing in 1988.
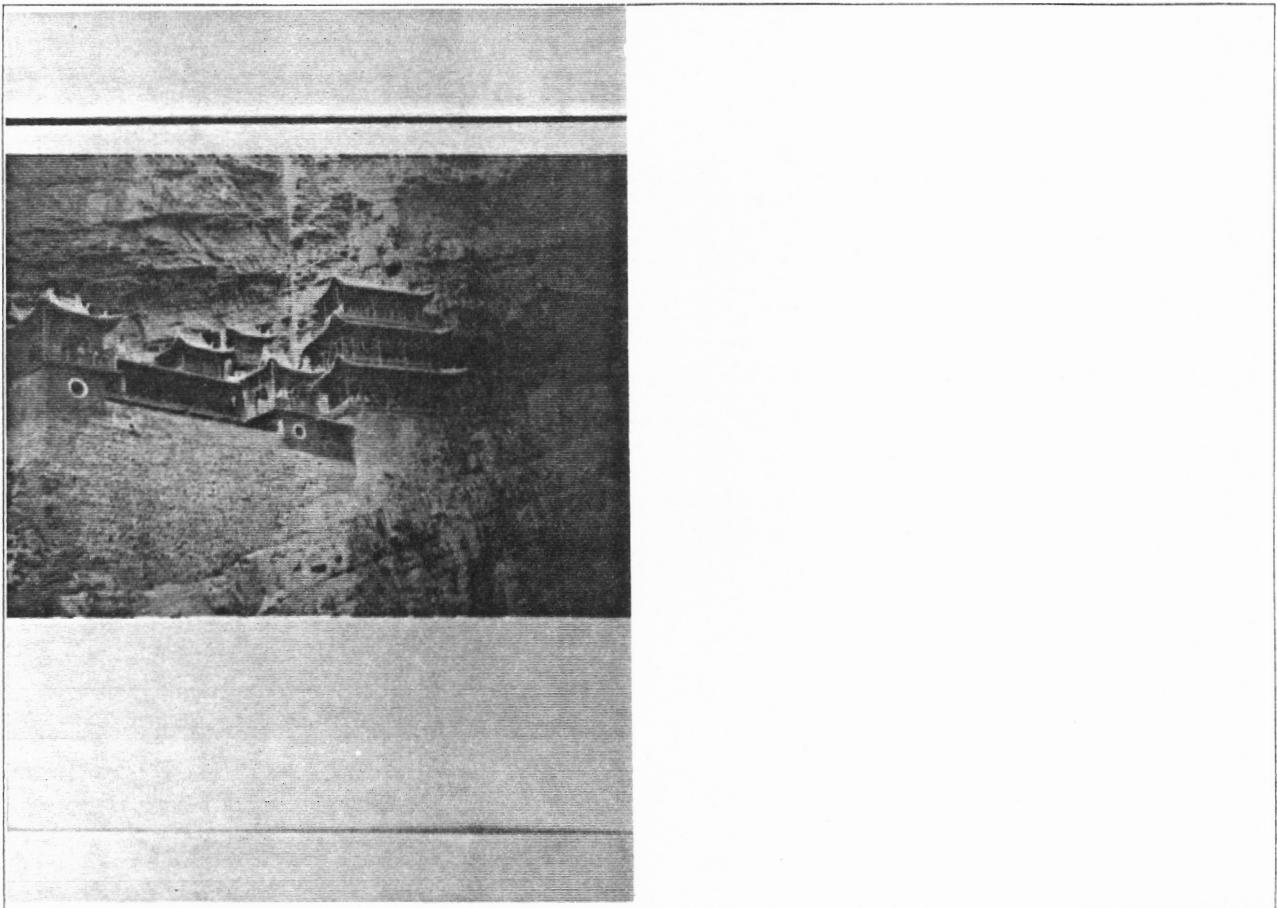
Figure 54.   The Suspended Temple

Table 36.   Semiotic analysis of the Suspended Temple

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	11213	122222	111211		
Average of scales	1	(8/5≃1.6) 2	(11/6≃1.8) 2	(7/6≃1.2) 1		
Forms and facades	Recognition	Sinsign	Index	Rheme	92	68
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	11113	122222	111211		
Average of scales	1	(7/5≃1.4) 1	(11/6≃1.8) 2	(7/6≃1.2) 1		
Exterior signs	Recognition	Qualisign	Index	Rheme	96	72
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	11123	122222	111211		
Average of scales	1	(8/5≃1.6) 2	(11/6≃1.8) 2	(7/6≃1.2) 1		
Interior signs	Recognition	Sinsign	Index	Rheme	92	68
Final level				(92 + 96 + 92)/3≃93.3	93	
Final level when the semantic aspect is most important				(68 + 72 + 68)/3≃69.3	69	
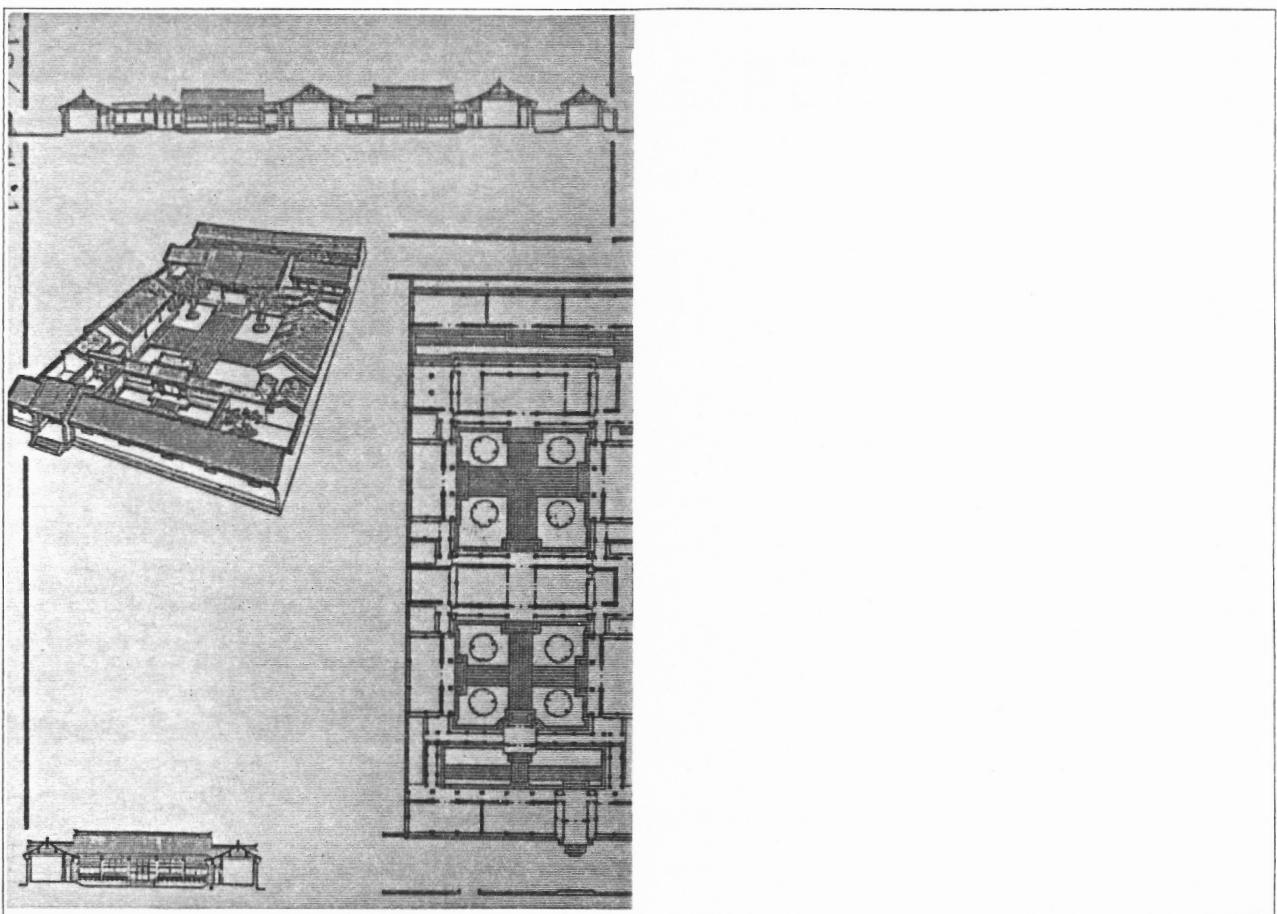
Figure 55.   A traditional courtyard house

Table 37.   Semiotic analysis of a traditional courtyard house

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	12232	133233	111221		
Average of scales	1	(10/5≃2.0) 2	(15/6≃2.5) 2	(8/6≃1.3) 1		
Forms and facades	Recognition	Sinsign	Index	Rheme	92	68
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	12232	133233	111211		
Average of scales	1	(10/5≃2.0) 2	(15/6≃2.5) 2	(7/6≃1.3) 1		
Exterior signs	Recognition	Sinsign	Index	Rheme	92	68
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	12232	133233	111211		
Average of scales	1	(10/5≃2.2) 2	(15/6≃2.5) 2	(7/6≃1.3) 1		
Interior signs	Recognition	Sinsign	Index	Rheme	92	68
Final level		(92 + 92 + 92)/3≃92			92	
Final level when the semantic aspect is most important				(68 + 68 + 68)/3≃68		68
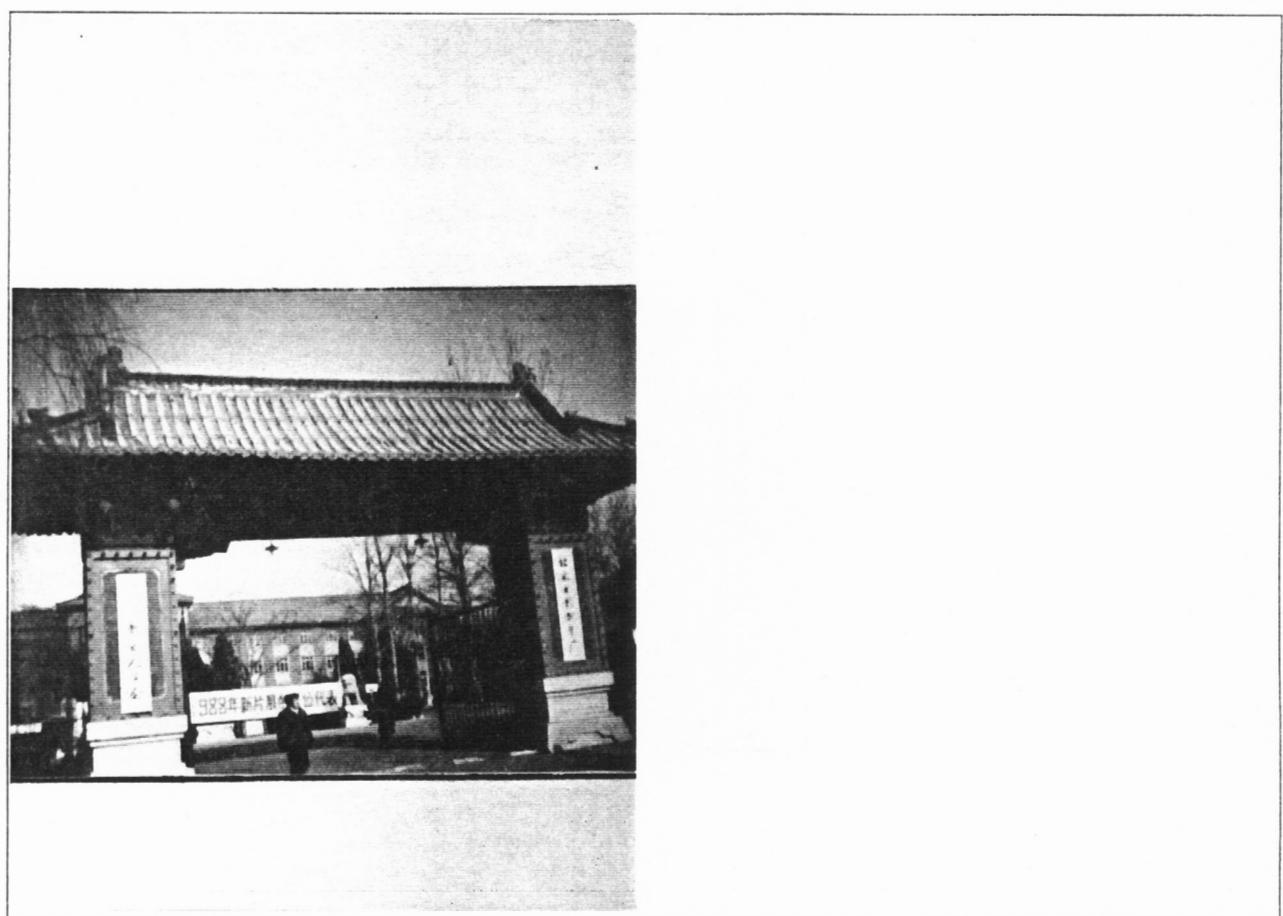
Figure 56. The Motion Picture Studio

Table 38. Semiotic analysis of the Motion Picture Studio

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	11113	133131	113231		
Average of scales	2	(7/5≃1.4) 1	(12/6≃2.0) 2	(11/6≃1.8) 2		
Forms and facades	Replica	Qualisign	Index	Dicent	59	59
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Exterior signs	neglected					
Interior signs	neglected					
Final level					59	
Final level when the semantic aspect is most important						59

combination of traditional signs. At a glimpse, the gate suggests a miniature image of a palatial building in its roof, building proper and base. One can discern the image by comparing this sign with figures 37 and 51. Yet the image is obscured by the missing building proper of the Gate. Nevertheless, the remaining cues may signify an important governmental place where movies of Chinese character are produced. Concerning its semiotic qualities, the gate-sign shows rather insignificant sign-relationships with the meanings of core elements (Table 38).

Building 29, Figure 57, the Liyuan Hotel at Huangshan, Anhui province,[254] resembles the Reception Center (Figure 17) which applies vernacular signs in abundance. Both cases associate with the image of the traditional residence while devoting themselves to commercial activities. Thus, significant sign-relationships are found in the hotel's economic rather than social and political meanings (Table 39).

Building number 30, Figure 58, the New Rural Housing of Mianxi Commune at Mianxi County, Anhui province,[255] appears to be a renewal of local vernacular housing rather than new constructions. As the composing units of the Commune, this housing can be considered to be a contemporary phase of traditional housing which has evolved with little alteration in settlement pattern. In this sense, the housing pattern reflects more social and political meanings than economic elements (Table 40).

Building 31, Figure 59, the Dwellings at Fu'an, Fujian province,[256] is one of the traditional houses in use today. Having been turned into proletarian architecture which compose a commune and a tool of population control, the house is associated with some of political and social elements (Table 41).

---

[254] "The Liyuan Hotel, Huangshan," Jian-Zhu-Xue-Bao, (No. 9, 1987), pp. 47-50.

[255] Jian-Zhu-Xue-Bao, (No. 19, 1983), cover page.

[256] Jian-Zhu-Xue-Bao, (No. 11, 1983), cover page.
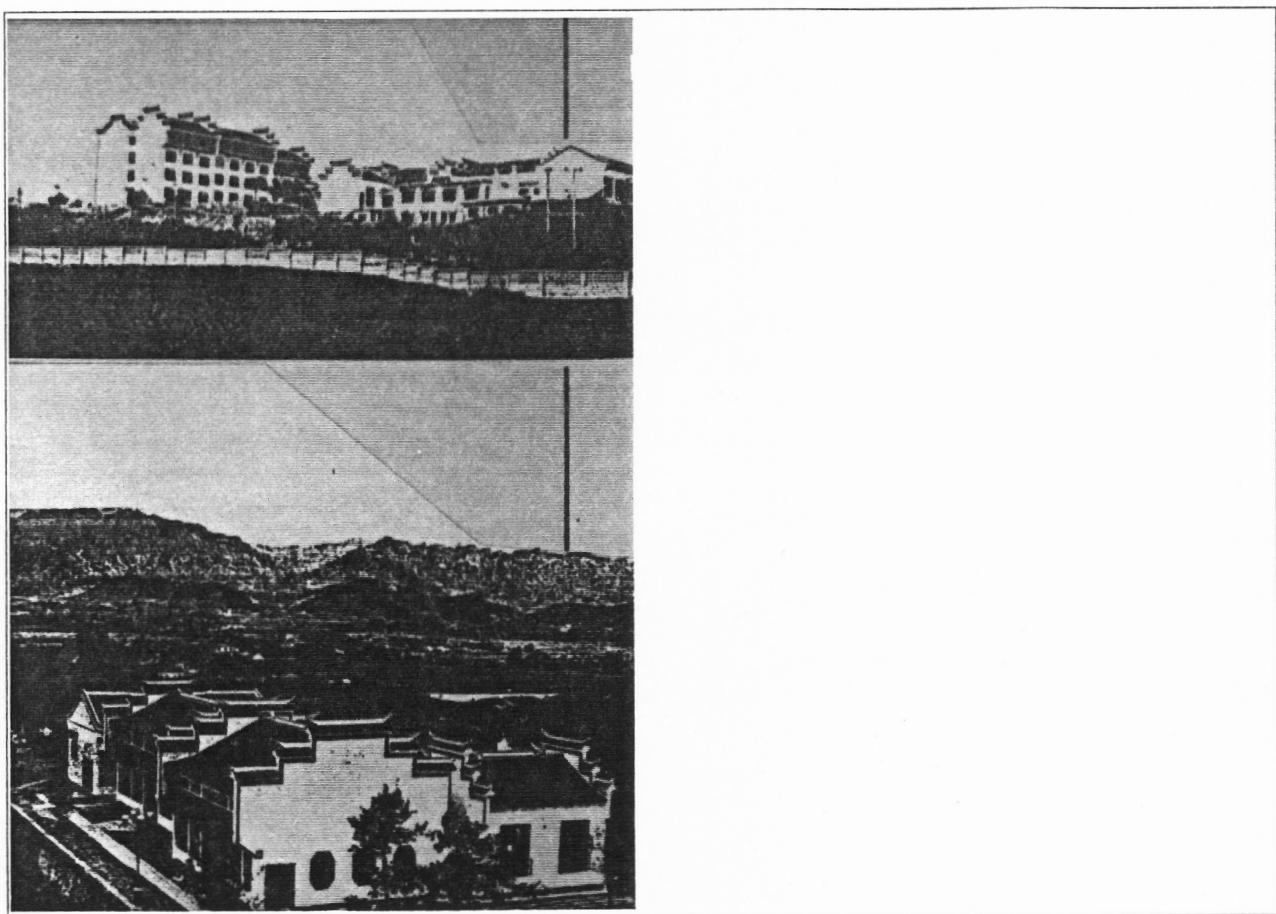
Figure 57. The Liyuan Hotel

Table 39. Semiotic analysis of the Liyuan Hotel

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	33223	133333	113333		
Average of scales	2	(13/5≃2.6) 3	(16/6≃2.7) 3	(14/6≃2.3) 2		
Forms and facades	Replica	Legisign	Symbol	Dicent	39	15
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	33223	132333	113333		
Average of scales	2	(13/5≃2.6) 3	(15/6≃2.5) 2	(14/6≃2.3) 2		
Exterior signs	Replica	Legisign	Index	Dicent	51	51
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	33223	123333	113333		
Average of scales	2	13/5≃2.6) 3	(15/6≃2.5) 2	14/6≃2.3) 2		
Interior signs	Replica	Legisign	Index	Dicent	51	51
Final level	(39＋51＋51)/3≃47.0				47	
Final level when the semantic aspect is most important				(15＋51＋51)/3≃39.0		39
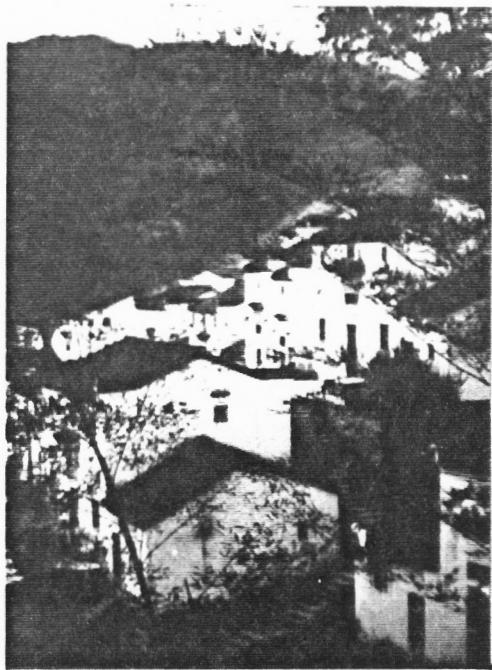
Figure 58.   New rural housing in Mianxi Commune

Table 40.   Semiotic analysis of new rural housing in Mianxi Commune

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	3	22322	132333	233312		
Average of scales	3	(11/5≃2.2) 2	(15/6≃2.5) 2	(14/6≃2.3) 2		
Forms and facades	Ostention	Sinsign	Index	Dicent	55	55
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	21121	122222	233312		
Average of scales	1	(7/5≃1.4) 1	(11/6≃1.8) 2	(14/6≃2.3) 2		
Exterior signs	Recognition	Qualisign	Index	Dicent	60	60
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	21221	112222	333213		
Average of scales	1	(8/5≃1.6) 2	(10/6≃1.7) 2	(15/6≃2.5) 2		
Interior signs	Recognition	Sinsign	Index	Dicent	56	56
Final level		(55+60+56)/3≃57.0			57	
Final level when the semantic aspect is most important				(55+60+56)/3≃57.0		57
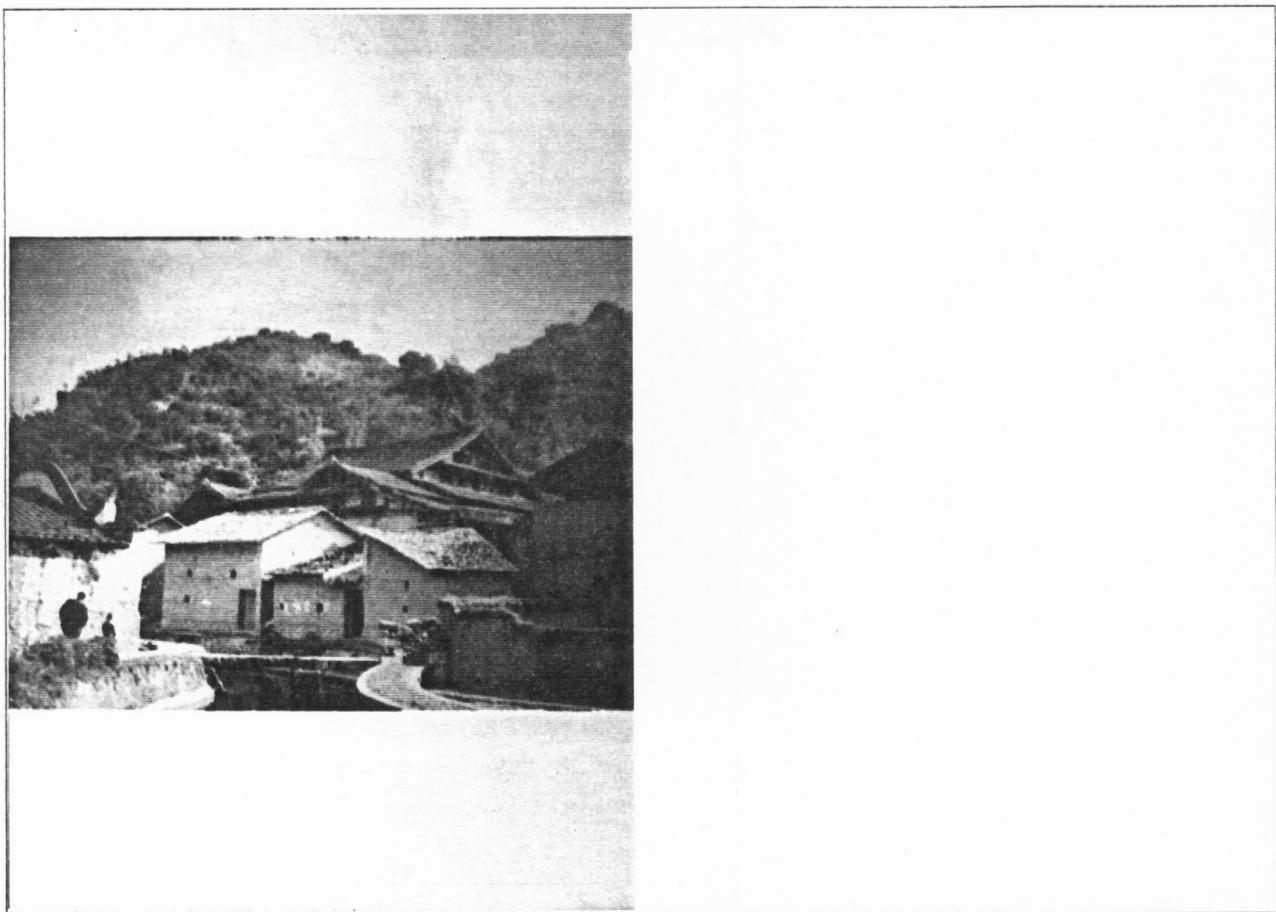
Figure 59.   Dwellings at Fu'an

Table 41.   Semiotic analysis of Dwellings at Fu'an

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	11121	122333	131311		
Average of scales	1	(6/5≃1.2) 1	(14/6≃2.3) 2	(10/6≃1.7) 2		
Forms and facades	Recognition	Qualisign	Index	Dicent	60	60
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	11111	112222	131311		
Average of scales	1	(5/5≃1.0) 1	(10/6≃1.7) 2	(10/6≃1.7) 2		
Exterior signs	Recognition	Qualisign	Index	Dicent	60	60
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	11121	122222	131311		
Average of scales	1	(6/5≃1.2) 1	(11/6≃1.8) 2	(10/6≃1.7) 2		
Interior signs	Recognition	Qualisign	Index	Dicent	60	60
Final level			(60 + 60 + 60)/3≃60		60	
Final level when the semantic aspect is most important				(60 + 60 + 60)/3≃60		60

Building 32, Figure 60, the Water Town at Suzhou, Jiangsu province,[257] charac-
terizes the vernacular pattern that prevailed in the regions of similar geography south
of the Yangtze River. These buildings are still in use today; they reflect both social
and political elements (Table 42).

Building 33, Figure 61, some of the Semi-colonial Buildings at Shanghai, Jiangsu
province[258] are foreign cultural products in which signs are incomprehensible from
local convention. Some sign-relationships of economic meanings are noticeable, but
they do not associate with the contemporary culture (Table 43).

Building 34, Figure 62, the Liulichang Cultural Street at Beijing, Hebei
province,[259] is a shopping mall preserved primarily to cater to public interest in tradi-
tional painting and calligraphy. By maintaining street-front commercial patterns of
the past, the mall reflects the identity of these shops and the users. The old signs
signify aesthetics and psychological attachments to traditional rather than contem-
porary culture. Thus, higher sign-relationships are found in social and economic el-
ements (Table 44).

Building 35, Figure 63 the Experimental Housing Complex at Wuxi, Jiangsu
province,[260] is different from most apartment blocks built in China today in its uncon-
ventional assembly system. The assembly system includes two separate subsys-
tems: the major structure and individual dwelling units to be attached to the structure.
As experimental as the Terraced Housing (Figure 31), this system also result in floor
plans of a wide variety. Together with slightly rendered roof tops and sections of tiles

---

[257] Photos taken by the author at Suzhou in 1988.

[258] Photos taken by the author at Shanghai in 1988.

[259] Qian, Li. **"The Reconstruction of Liulichang Street, Beijing,"** (Jian-Zhu-Xue-Bao, No. 6, 1986), p. 14.

[260] **Jian-Zhu-Xue-Bao,** (No. 1, 1987), cover page.
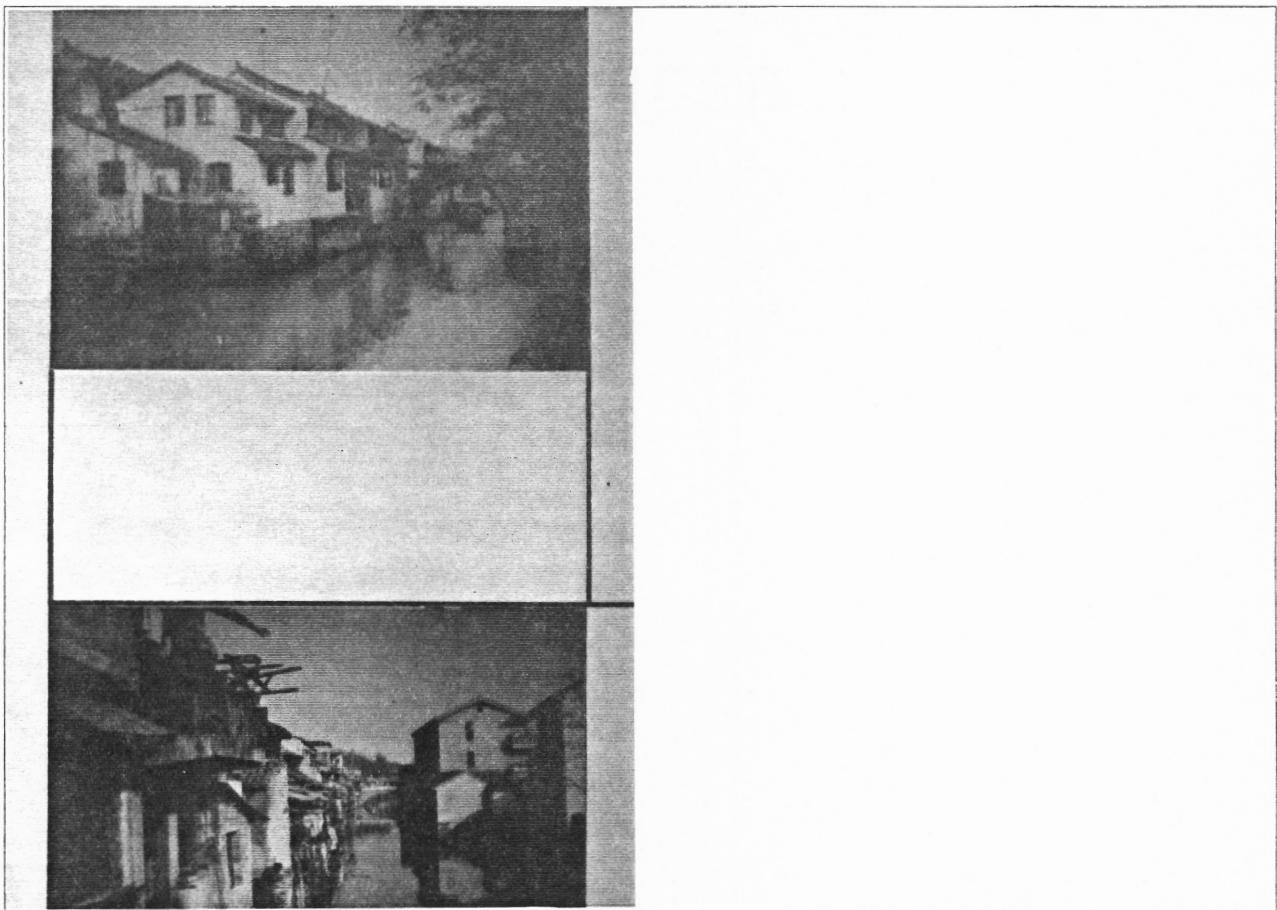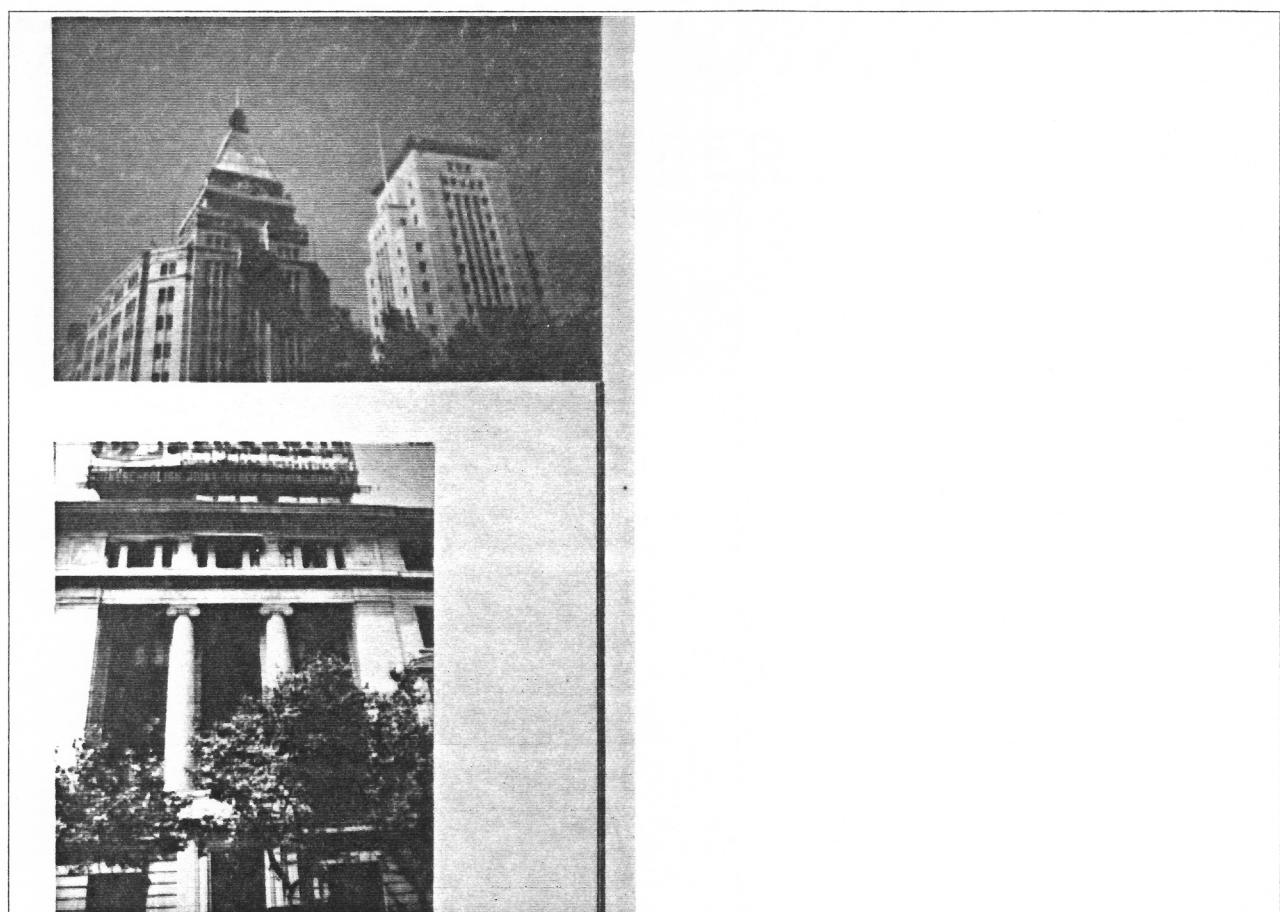
Figure 60. The watertown in Suzhou

Table 42. Semiotic analysis of the water town in Suzhou

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	11122	122333	131211		
Average of scales	1	(7/5≃1.4) 1	(14/6≃2.3) 2	(9/6≃1.5) 1		
Forms and facades	Recognition	Qualisign	Index	Rheme	96	72
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	11121	122223	131211		
Average of scales	1	(6/5≃1.2) 1	(12/6≃2.0) 2	(9/6≃1.5) 1		
Exterior signs	Recognition	Qualisign	Index	Rheme	96	72
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	11121	122222	131211		
Average of scales	1	(6/5≃1.2) 1	(11/6≃1.8) 2	(9/6≃1.5) 1		
Interior signs	Recognition	Qualisign	Index	Rheme	96	72
Final level		(96 + 96 + 96)/3≃96			96	
Final level when the semantic aspect is most important				(72 + 72 + 72)/3≃72		72

5.0 PRESENTATION OF DATA AND RESULTS OF SEMIOTIC ANALYSIS

Figure 61. Some of the Semi-colonial Architecture

Table 43. Semiotic analysis of Some of the Semi-colonial Architecture

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	13323	211212	111231		
Average of scales	1	(12/5≃2.4) 2	(9/6≃1.5) 1	(9/6≃1.5) 1		
Forms and facades	Recognition	Sinsign	Icon	Rheme	104	104
Exterior signs	neglected					
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	13223	221212	111231		
Average of scales	1	(11/5≃2.2) 2	(10/6≃1.7) 2	(9/6≃1.5) 1		
Interior signs	Recognition	Sinsign	Index	Rheme	104	104
Final level		(104 + 104)/2≃104			104	
Final level when the semantic aspect is most important		(104 + 104)/2≃104				104
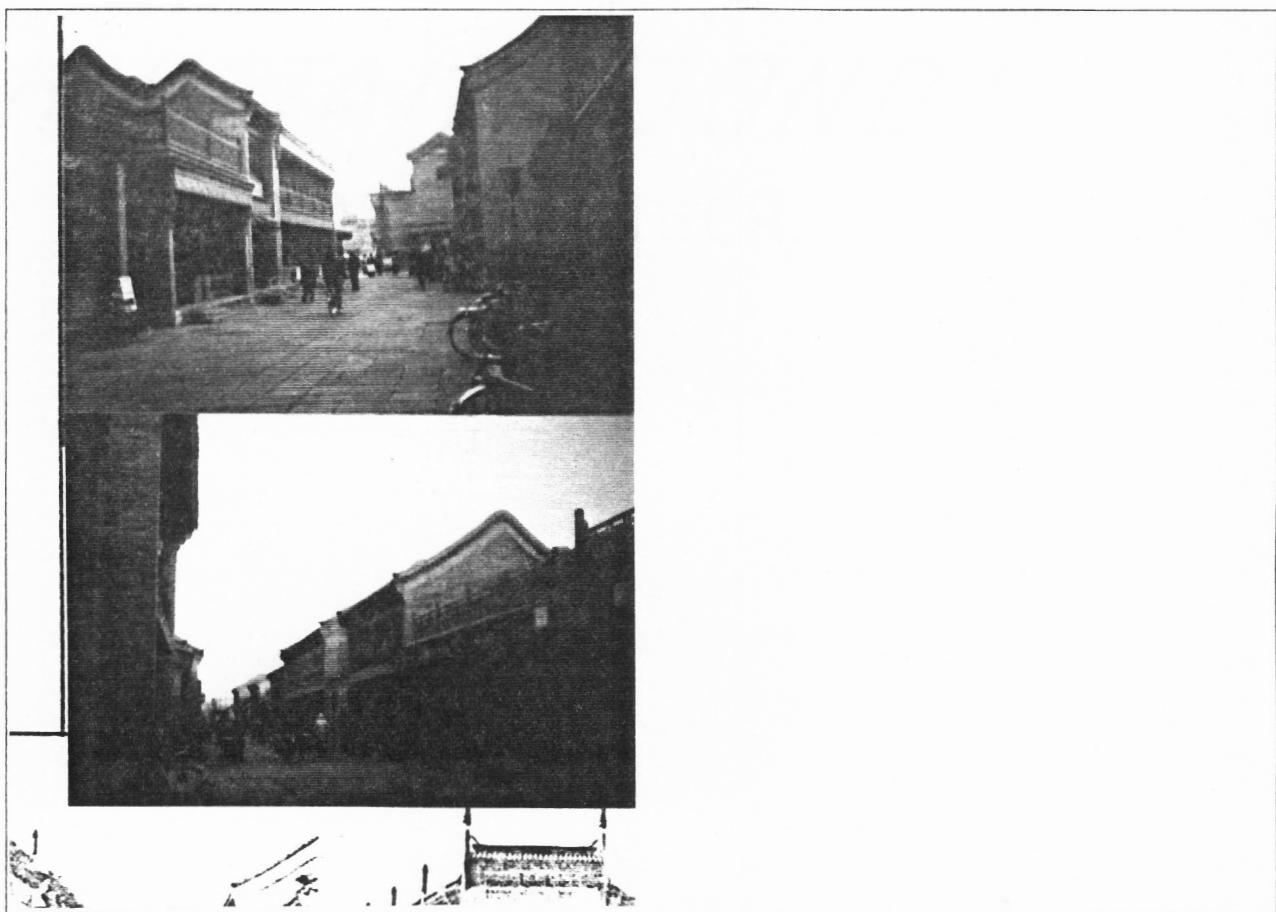
Figure 62.   The Liulichang Cultural Street

Table 44.   Semiotic analysis of the Liulichang Cultural Street

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	12223	132333	121123		
Average of scales	2	(10/5≃2.2) 2	(15/6≃2.5) 2	(10/6≃1.7) 2		
Forms and facades	Replica	Sinsign	Index	Dicent	55	55
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	12222	122222	121213		
Average of scales	2	(9/5≃1.8) 2	(11/6≃1.8) 2	(10/6≃1.7) 2		
Exterior signs	Replica	Sinsign	Index	Dicent	55	55
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	13323	133233	121223		
Average of scales	2	(12/5≃2.4) 2	(15/6≃2.5) 2	(11/6≃1.8) 2		
Interior signs	Replica	Sinsign	Index	Dicent	55	55
Final level		(55 + 55 + 55)/3≃55.0			55	
Final level when the semantic aspect is most important				(55 + 55 + 55)/3≃55.0		55
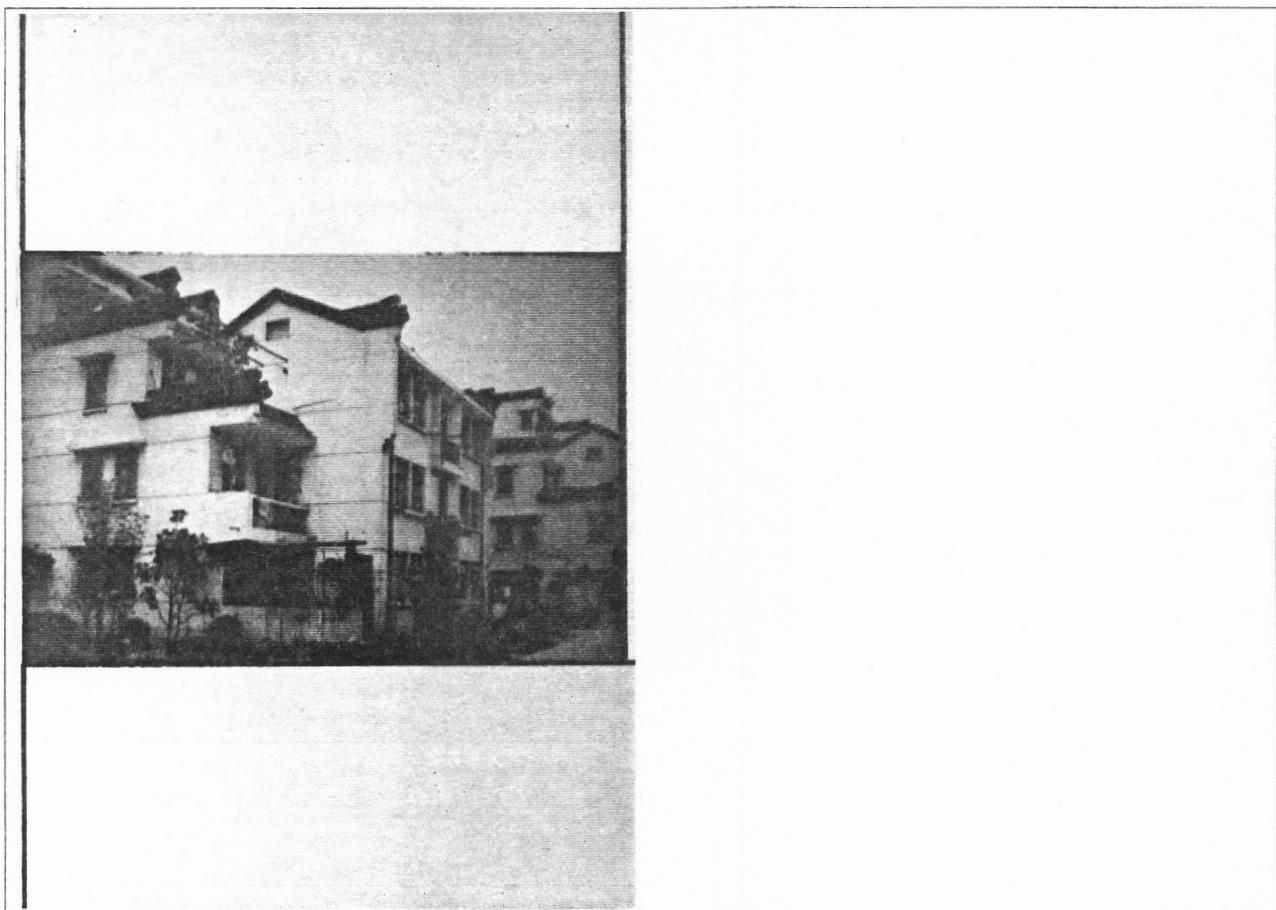
Figure 63. An experimental housing

Table 45. Semiotic analysis of An experimental housing

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	3	32322	322222	233332		
Average of scales	3	(12/5≃2.4) 2	(13/6≃2.2) 2	(16/6≃2.7) 3		
Forms and facades	Ostention	Sinsign	Index	Argument	18	42
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	22222	211112	333323		
Average of scales	2	(10/5≃2.0) 2	(8/6≃1.3) 1	(17/6≃2.8) 3		
Exterior signs	Replica	Sinsign	Icon	Argument	31	79
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	22222	312212	333323		
Average of scales	1	(8/5≃1.6) 2	(11/6≃1.8) 2	(17/6≃2.8) 3		
Interior signs	Recognition	Sinsign	Index	Argument	20	44
Final level		(18＋31＋20)/3≃23.0			23	
Final level when the semantic aspect is most important				(42＋79＋44)/3≃55.0		55

on the veranda and entrances, this Housing Complex exhibits the image of the traditional home. Yet the meanings it signifies are primarily political (Table 45).

Building 36, Figure 64 the Cheng Huang Shopping Mall at Hefei, Anhui province,[261] is a large shopping plaza. Its function is not new to Chinese people, since open market is a conventional form of commodity exchange. As Chinese people tend to enjoy group life, a mall full of familiar events and signs associated with the tradition, would satisfy the social needs of the people unconsciously. As shown in similar cases, i.e., the addition to the Confucius Temple (Figure 20) and the Chinese Painting Academy (Figure 45), application of traditional forms on this scale is conducive to maintenance of traditional rituals, cultural continuity and preservation of the identity of local people, but not to the identity of contemporary culture. In all, a mall like this is social, economic, and political in sign-relationships (Table 46).

Building 37, Figure 65, the Art Department Building in Northwest Institute at Xian, Shaanxi province,[262] is a combination of offices and classrooms which applies traditional features in their designs. Different from those of the Painting Academy (Figure 45), traditional signs appear on roof tops and handrails, and details of walls are modified to harmoniously coexist with modern design features. The combination of features may be taken as a new sign for school architecture. In its sign-relationships, more economic meanings are found than in other concerns of distinctness (Table 47).

Building 38, Figure 66, the International Hotel at Beijing, Hebei province,[263] is a modern, luxury lodging. It is the only hotel sample selected for the study which does not incorporate traditional signs in the design of exterior forms. Its major signs are

---

[261] Fan, Jifu. "**Chang Huang Pedestrian Shopping Mall**," (Jian-Zhu-Xue-Bao, No. 6, 1986), pp. 14-17.

[262] Yang, Shijiau. "**Art Department Building, Northwest Institute for Nationalities**," (Jian-Zhu-Xue-Bao, No. 8, 1985), pp. 68-70.

[263] **Jian-Zhu-Xue-Bao,** (No. 3, 1985), cover page.
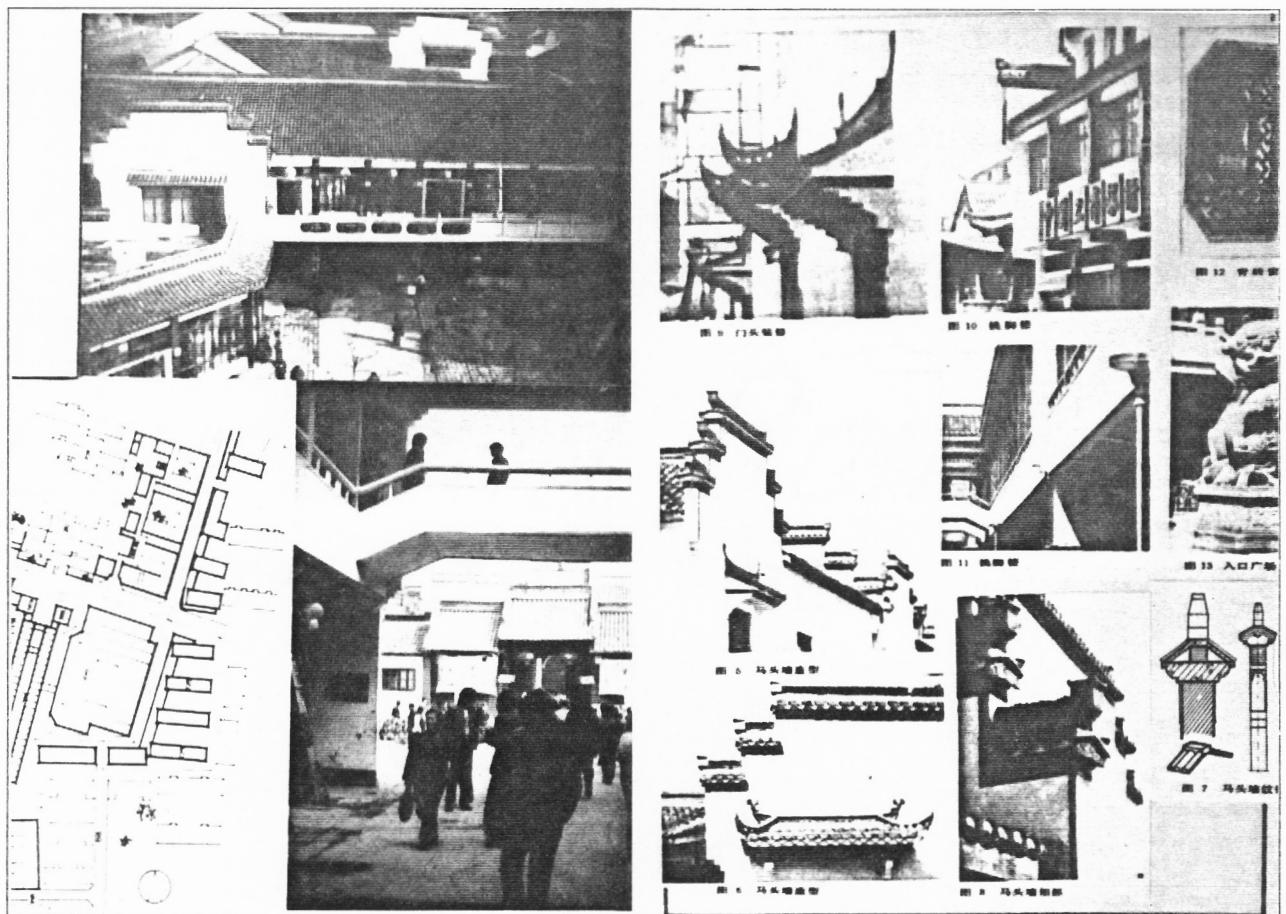
Figure 64. The Cheng Huang Shopping Mall
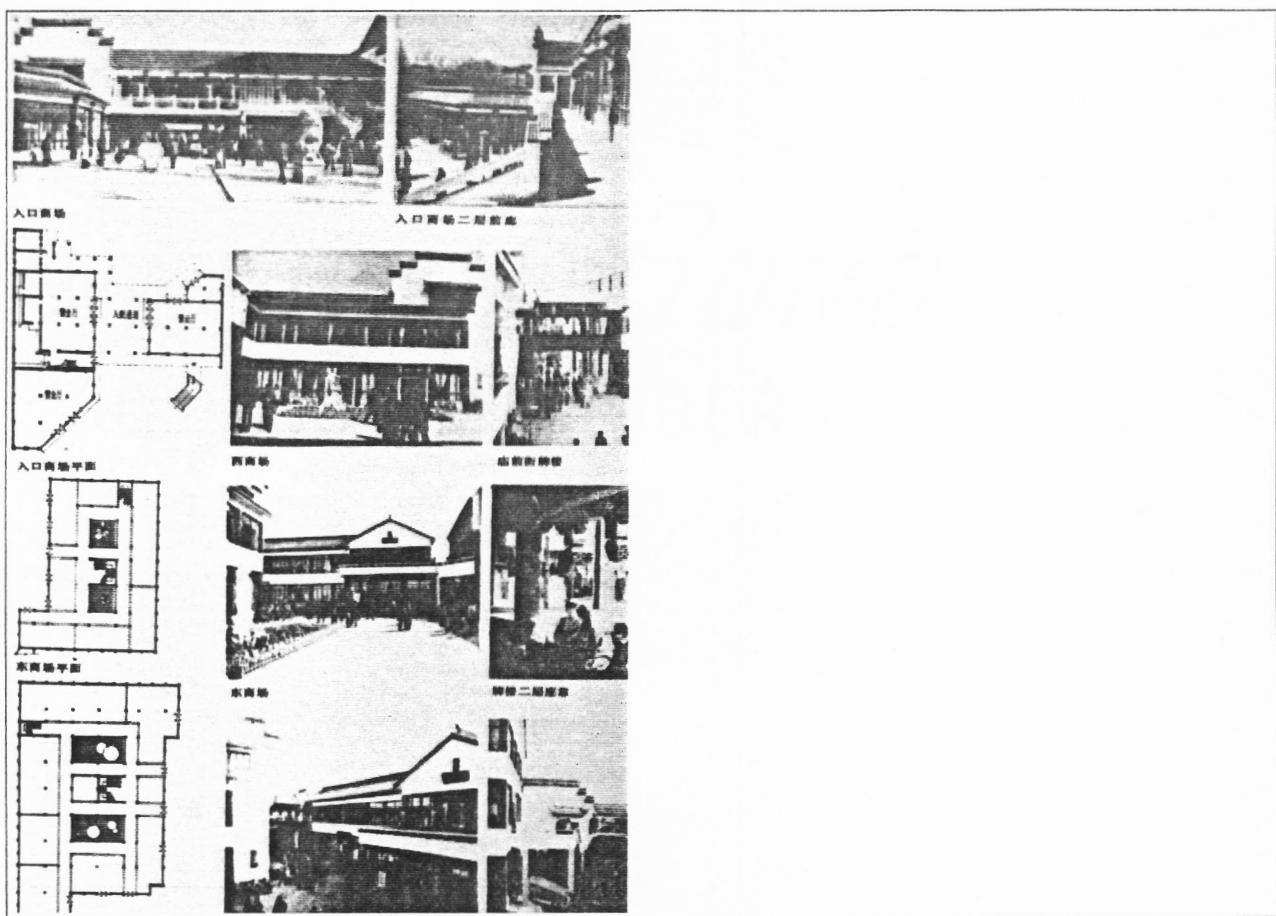
Table 46. Semiotic analysis of the Cheng Huang Shopping Mall

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	23223	133333	123123		
Average of scales	2	(12/5≃2.2) 2	(16/6≃2.7) 3	(12/6≃2.0) 2		
Forms and facades	Replica	Sinsign	Symbol	Dicent	43	19
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	22222	133323	133123		
Average of scales	2	(10/5≃2.0) 2	(15/6≃2.5) 2	(13/6≃2.2) 2		
Exterior signs	Replica	Sinsign	Index	Dicent	55	55
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	22322	131333	133123		
Average of scales	2	(11/5≃2.2) 2	(13/6≃2.2) 2	(14/6≃2.3) 2		
Interior signs	Replica	Sinsign	Index	Dicent	55	55
Final level	(43＋55＋55)/3≃51.0				51	
Final level when the semantic aspect is most important			(19＋55＋55)/3≃43.0			43
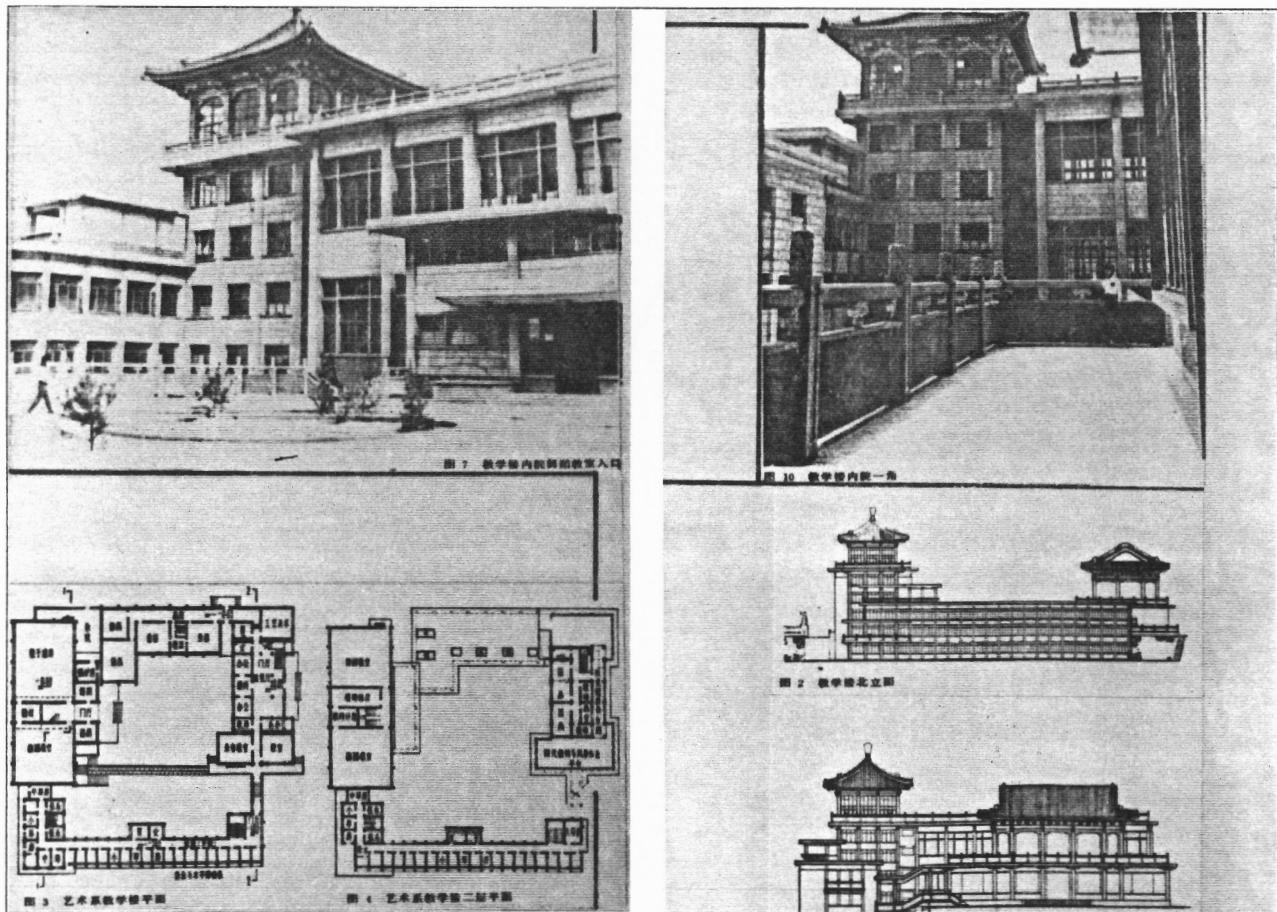
Figure 65.   The Art Department Building in Northwest Institute
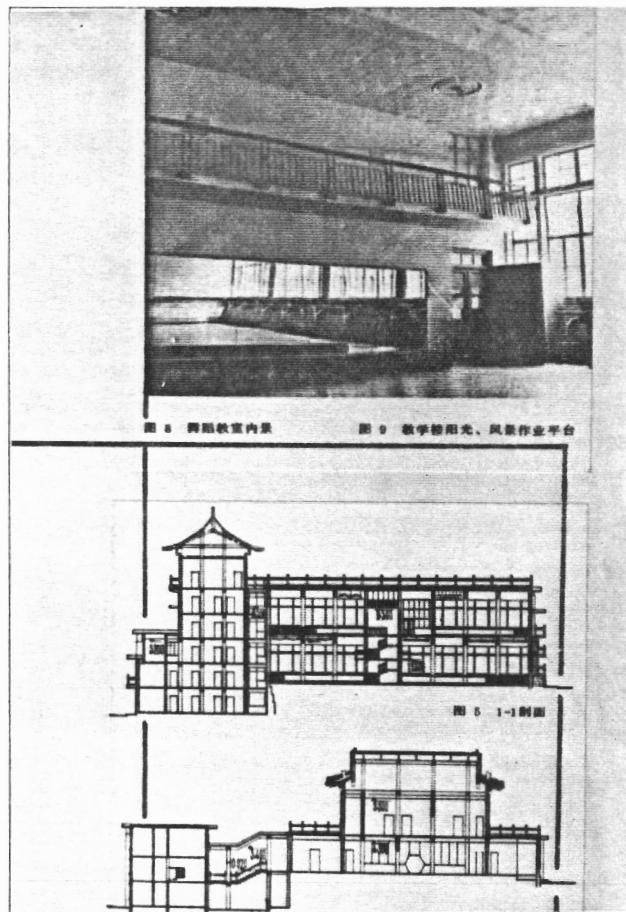
Table 47. Semiotic analysis of the Art Department Building

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	3	33313	233332	213332		
Average of scales	3	(13/5≃2.6) 3	(16/6≃2.7) 3	(14/6≃2.3) 2		
Forms and facades	Ostention	Legisign	Symbol	Dicent	38	14
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	33313	233232	112322		
Average of scales	2	(13/5≃2.6) 3	(15/6≃2.5) 2	(11/6≃1.8) 2		
Exterior signs	Replica	Legisign	Index	Dicent	51	51
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	33213	222222	112332		
Average of scales	2	(12/5≃2.4) 2	(12/6≃2.0) 2	(12/6≃2.0) 2		
Interior signs	Replica	Sinsign	Index	Dicent	55	48
Final level			(38＋51＋55)/3≃48.0		48	
Final level when the semantic aspect is most important				(14＋51＋48)/3≃37.7		38

Figure 66. The International Hotel

Table 48. Semiotic analysis of the International Hotel

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	33113	222111	113333		
Average of scales	1	(11/5≃2.2) 2	(9/6≃1.5) 1	(14/6≃2.3) 2		
Forms and facades	Recognition	Sinsign	Icon	Dicent	68	92
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	23113	122121	112333		
Average of scales	1	(10/5≃2.0) 2	(9/6≃1.5) 1	(13/6≃2.2) 2		
Exterior signs	Recognition	Sinsign	Icon	Dicent	68	92
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	33113	222321	113333		
Average of scales	1	(11/5≃2.2) 2	(12/6≃2.0) 2	(14/6≃2.3) 2		
Interior signs	Recognition	Sinsign	Index	Dicent	56	56
Final level				(68 + 68 + 56)/3≃64.0	64	
Final level when the semantic aspect is most important				(92 + 92 + 56)/3≃80.0		80
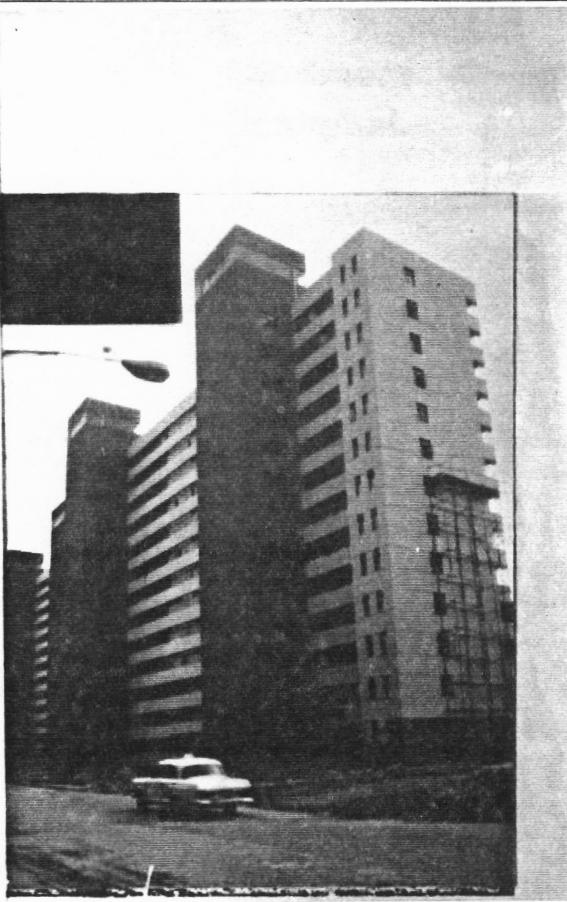
Figure 67. A High-rise apartment complex

Table 49. Semiotic analysis of a High-rise apartment complex

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	31212	311212	333323		
Average of scales	1	(9/5≃1.8) 2	(10/6≃1.7) 2	(17/6≃2.8) 3		
Forms and facades	Recognition	Sinsign	Index	Argument	20	44
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	21211	111212	333313		
Average of scales	1	(7/5≃1.4) 1	(8/6≃1.3) 1	(16/6≃2.7) 3		
Exterior signs	Recognition	Qualisign	Icon	Argument	36	84
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	22211	311112	333313		
Average of scales	1	(8/5≃1.6) 2	(9/6≃1.5) 1	(16/6≃2.7) 3		
Interior signs	Recognition	Sinsign	Icon	Argument	32	80
Final level			(20 + 36 + 32)/3≃29.3		29	
Final level when the semantic aspect is most important				(84 + 84 + 80)/3≃82.6	83	

combinations of building patterns imitated from Modern Architecture. They are not cultural but functional. They are not conducive to social or economic concerns of cultural distinctness (Table 48). In fact, the hotel is related to the identity of the few, the prestigious users only.

Building 39, Figure 67, the High-rise Apartments at Shanghai, Jiangsu province,[264] is yet another variation of the densely constructed commune such as the High-rise Apartments at Beijing (Figure 30) and the Dunghu Housing Estate (Figure 36). They all associate primarily with the meanings of political elements (Table 49).

Building 40, Figure 68, a Traditional Garden at Suzhou, Jiangsu province,[265] stands for one of the prototypes widely applied in contemporary architecture's exterior and interior designs. Some of the hotels previously mentioned rightfully justify the garden's popularity and significant role in modern architectural design. In this case, sign-production approach as well as political meanings are insignificant (Table 50).
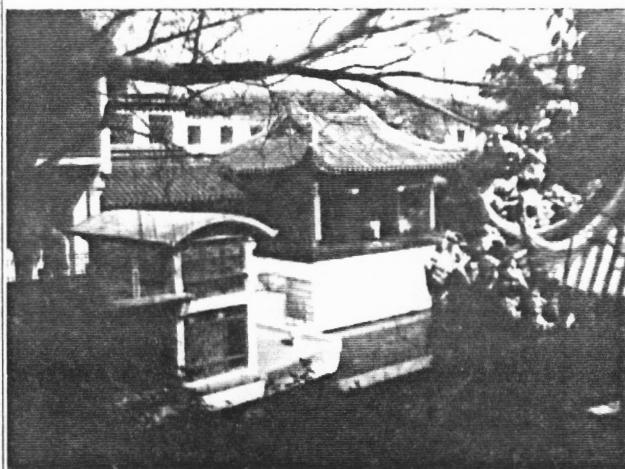
Building 41, Figure 69, the Student Dormitory in Qing Hua University at Beijing, Hebei province,[266] is one of the patterns of student housing on university campuses. The dorm exhibits some traditional features which are simplified or modified both inside and outside. Generally, hybridized forms, which have an unclear new/old ratio of design features, have vague identity because of the undistinguishable definition between cultural products. In this case, the old signs appear much stronger in outline than new signs. Thus, the sign-relationships are greater with social aspects than economic and political elements (Table 51).

---

[264] Photo taken by the author at Shanghai in 1988.

[265] Photo taken by the author at Suzhou in 1988.

[266] Photo taken by the author at Beijing in 1988.

Figure 68.   A traditional garden setting

Table 50.   Semiotic analysis of A traditional garden setting

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	13313	132133	131111		
Average of scales	1	(11/5≃2.2) 2	(13/6≃2.2) 2	(8/6≃1.3) 1		
Forms and facades	Recognition	Sinsign	Index	Rheme	92	68
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	13313	122133	131111		
Average of scales	1	(11/5≃2.2) 2	(12/6≃2.0) 2	(8/6≃1.3) 1		
Exterior signs	Recognition	Sinsign	Index	Rheme	92	68
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	13313	132133	131111		
Average of scales	1	(11/5≃2.2) 2	(13/6≃2.2) 2	(8/6≃1.3) 1		
Interior signs	Recognition	Sinsign	Index	Rheme	92	68
Final level		(92 + 92 + 92)/3≃92.0			92	
Final level when the semantic aspect is most important			(68 + 68 + 68)/3≃68.0			68
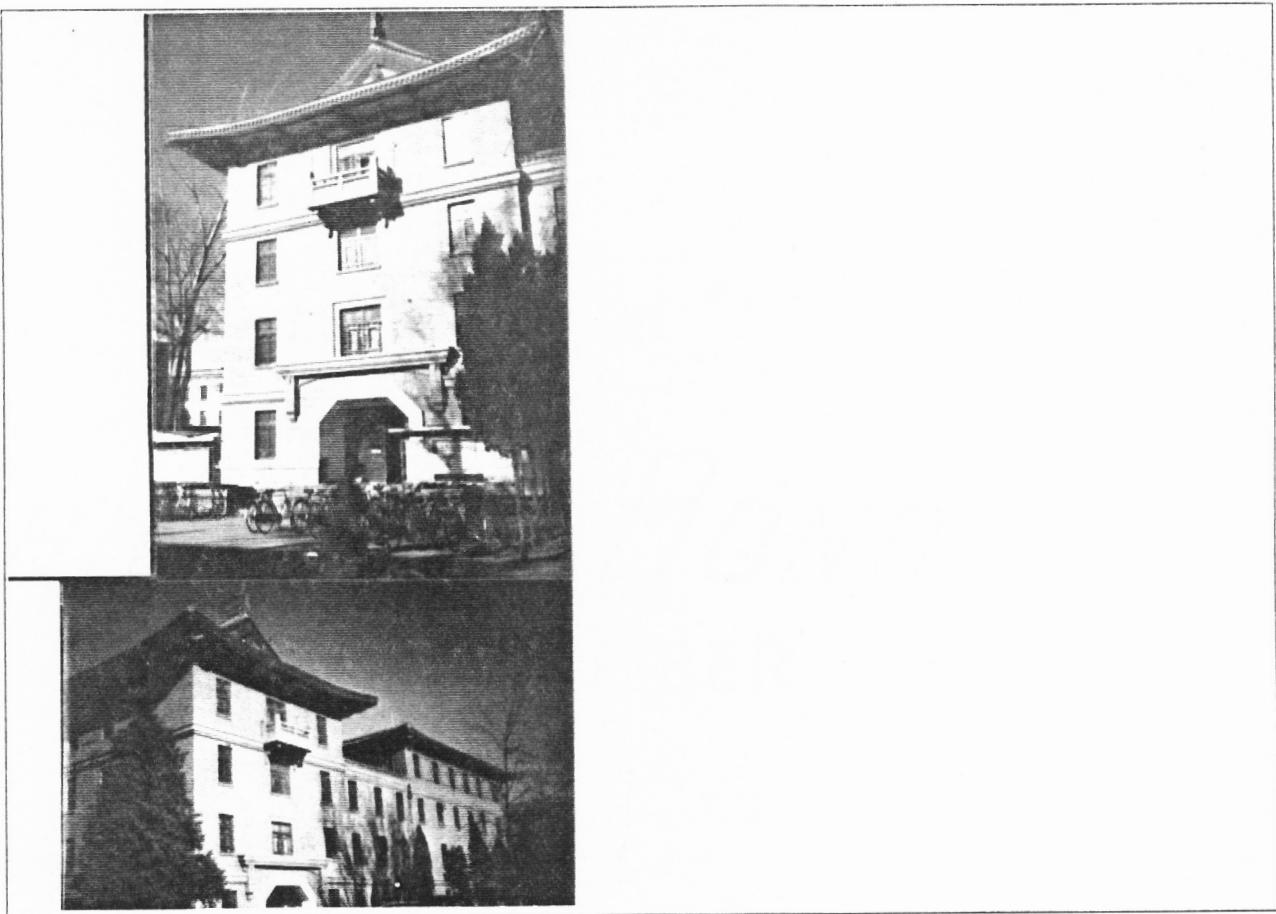
Figure 69. A student dormitory

Table 51. Semiotic analysis of a student dormitory

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	12312	233232	123233		
Average of scales	2	(9/5≃1.8) 2	(15/6≃2.5) 2	(14/6≃2.3) 2		
Forms and facades	Replica	Sinsign	Index	Dicent	55	55
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	12312	222312	122222		
Average of scales	1	(9/5≃1.8) 2	(12/6≃2.0) 2	(11/6≃1.8) 2		
Exterior signs	Recognition	Sinsign	Index	Dicent	56	56
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	11211	221312	122222		
Average of scales	2	(6/5≃1.2) 1	(11/6≃1.8) 2	(11/6≃1.8) 2		
Interior signs	Replica	Qualisign	Index	Dicent	59	59
Final level		(55 + 56 + 59)/3≃56.7			57	
Final level when the semantic aspect is most important				(55 + 56 + 59)/3≃56.7		57
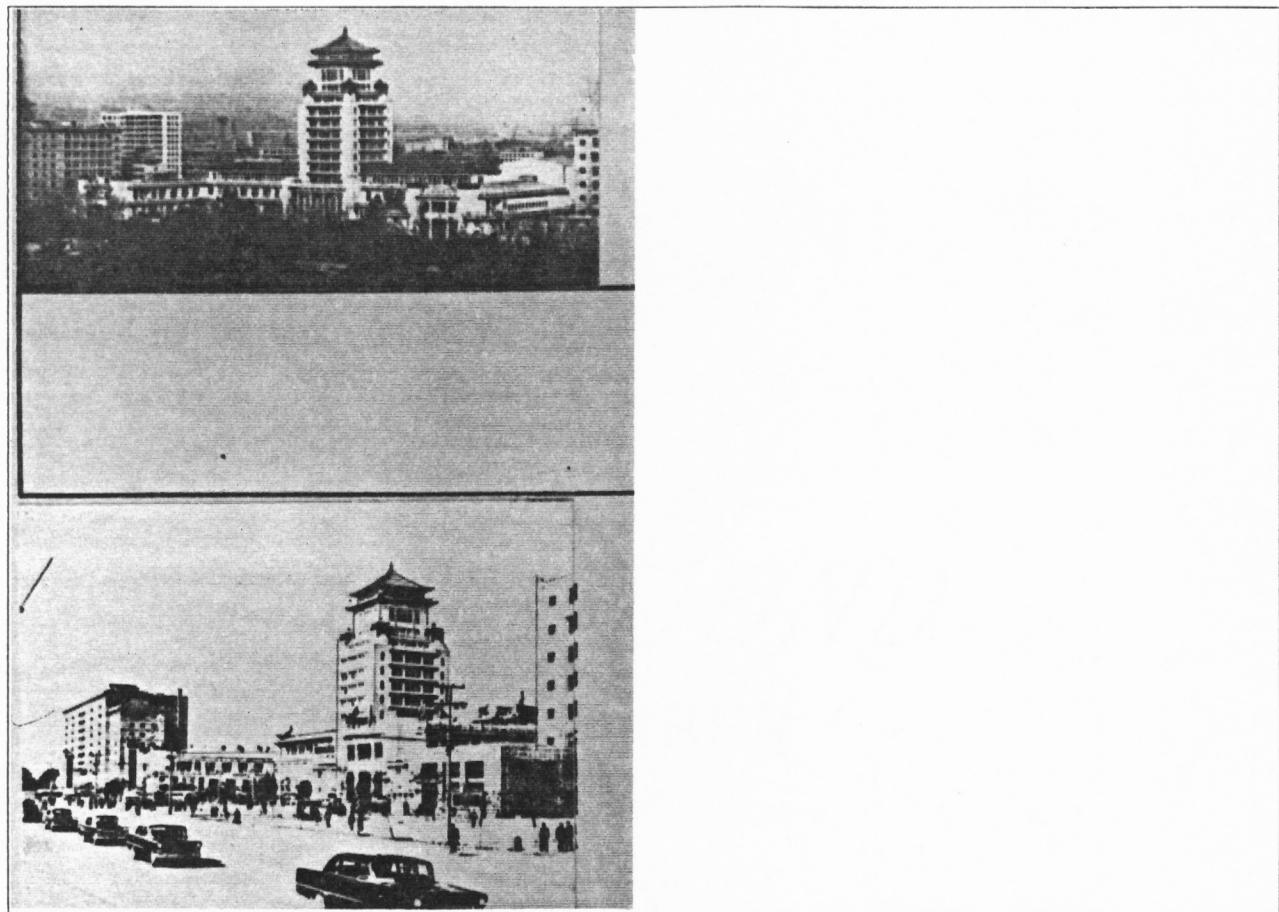
Figure 70. The Cultural Palace of Nationalities

Table 52. Semiotic analysis of the Cultural Palace of Nationalities

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	32313	232323	323133		
Average of scales	2	(12/5≃2.4) 2	(15/6≃2.5) 2	(15/6≃2.5) 2		
Forms and facades	Replica	Sinsign	Index	Dicent	55	55
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	33312	222223	222223		
Average of scales	1	(12/5≃2.4) 2	(13/6≃2.2) 2	(13/6≃2.2) 2		
Exterior signs	Recognition	Sinsign	Index	Dicent	56	56
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	32313	332323	323133		
Average of scales	2	(12/5≃2.4) 2	(16/6≃2.7) 3	(15/6≃2.5) 2		
Interior signs	Replica	Sinsign	Symbol	Dicent	43	19
Final level			(55 + 56 + 43)/3≃51.3		51	
Final level when the semantic aspect is most important			(55 + 56 + 19)/3≃43.3		43	

Building 42, Figure 70, the Cultural Palace at Beijing, Hebei province,[267] is one of the "Big Ten" buildings built for national celebration in late 1950's. It is a social and educational facility devoted to maintaining political ideologies and integrity through such activities as lectures and performance of arts. Like the Old National Library (Figure 37) and the Sun Yatsen Memorial (Figure 51), it is a work of the "Classical revival" of the early "Chinese Renaissance" movement. But instead of imitating Modern Architecture, the Palace interprets Russian Architecture in spatial articulation through signs of Chinese tradition. In other words, such a combination of forms and purposes are meaningful in many aspects except that of sign-production approach (Table 52).

Building 43, Figure 71, the Institute of Geology and the Friendship Guest House at Beijing, Hebei province,[268] are two different buildings of similar design. Like most imperial buildings of the past, these two are important governmental facilities built with sophisticated dimensions and details. While the former is a department of the government, the latter is a high-class hotel used by the government to treat important foreign visitors. For this sake, the signs have lower relationships with the core elements than the previous sample (Table 53).

Building 44, Figure 72, the Rural Housing at Shang Xi, Hunan province,[269] like the dwelling in Fu'an (Figure 59), serve as the sources of imitation of many sample buildings cited above. Although it contains traditional signs associated with past culture, it contains something meaningful from today as well (Table 54).

---

[267] Wu, 1986, p. 87.

[268] Wu, 1986, p. 86.

[269] **Jian-Zhu-Xue-Bao,** (No. 7, 1985), cover page.
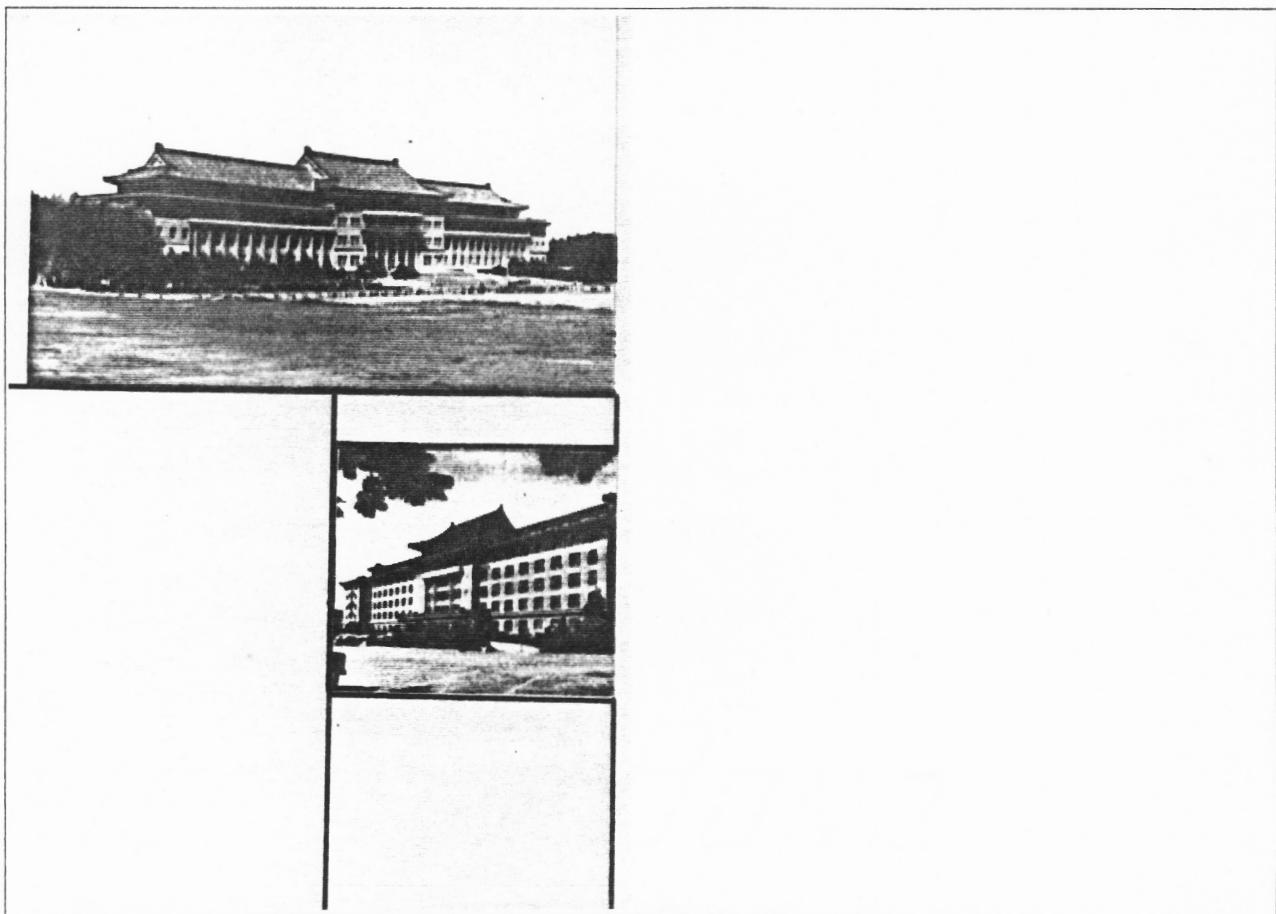
Figure 71. The Institute of Geology and The Friendship House

Table 53. Semiotic analysis of the Institute of Geology and The Friendship House

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	12213	132322	113333		
Average of scales	2	(9/5≃1.8) 2	(13/6≃2.2) 2	(14/6≃2.3) 2		
Forms and facades	Replica	Sinsign	Index	Dicent	55	55
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	12222	222221	3133323		
Average of scales	1	(9/5≃1.8) 2	(11/6≃1.8) 2	(16/6≃2.7) 3		
Exterior signs	Recognition	Sinsign	Index	Argument	20	44
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	2	12212	122333	213333		
Average of scales	2	(8/5≃1.6) 2	(14/6≃2.3) 2	(15/6≃2.5) 2		
Interior signs	Replica	Sinsign	Index	Index	55	55
Final level	(55＋20＋55)/3≃43.3				43	
Final level when the semantic aspect is most important (55＋44＋55)/3≃51.3						51
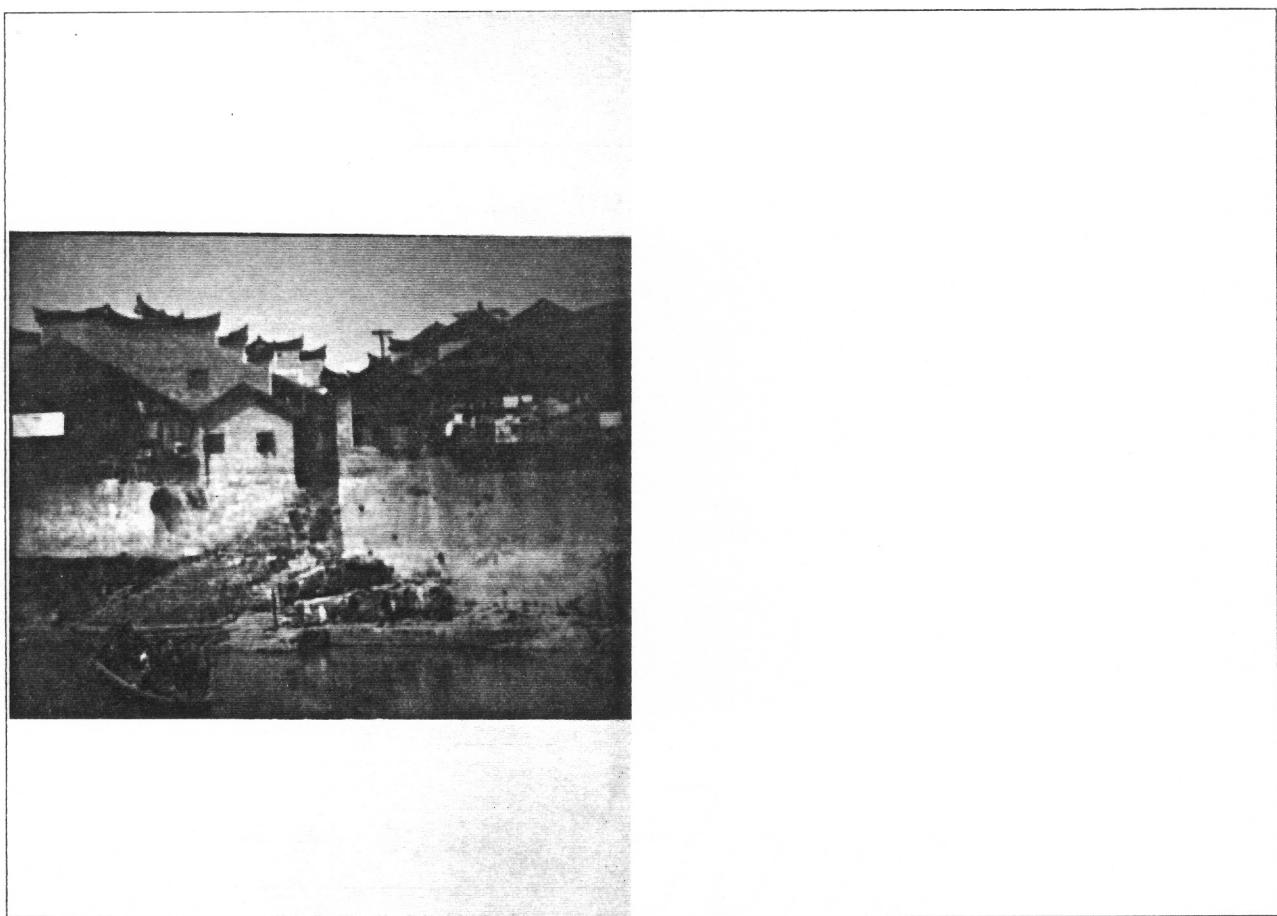
Figure 72. Shang Xi Rural Housing

Table 54. Semiotic analysis of Shang Xi Rural Housing

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	11121	122233	131311		
Average of scales	1	(6/5≃1.2) 1	(13/6≃2.2) 2	(10/6≃1.7) 2		
Forms and facades	Recognition	Qualisign	Index	Dicent	60	60
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	11111	112222	131311		
Average of scales	1	(5/5≃1) 1	(10/6≃1.7) 2	(10/6≃1.7) 2		
Exterior signs	Recognition	Qualisign	Index	Dicent	60	60
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	11111	122222	131311		
Average of scales	1	(5/5≃1.0) 1	(11/6≃1.8) 2	(10/6≃1.7) 2		
Interior signs	Recognition	Qualisign	Index	Dicent	60	60
Final level			(60+60+60)/3≃60.0		60	
Final level when the semantic aspect is most important			(60+60+60)/3≃60.0		60	
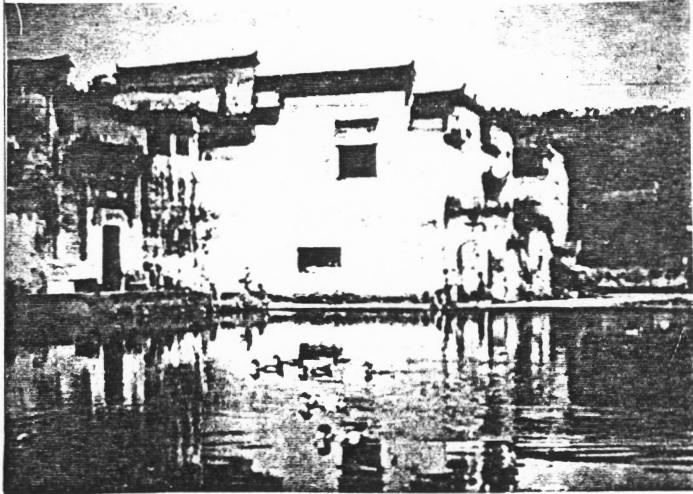
Figure 73. Anhui rural housing

Table 55. Semiotic analysis of Anhui rural housing

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	11121	122333	131311		
Average of scales	1	(6/5≃1.2) 1	(14/6≃2.3) 2	(10/6≃1.7) 2		
Forms and facades	Recognition	Qualisign	Index	Dicent	60	60
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	11111	112222	131311		
Average of scales	1	(5/5≃1.0) 1	(10/6≃1.7) 2	(10/6≃1.7) 2		
Exterior signs	Recognition	Qualisign	Index	Dicent	60	60
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	11121	122222	131311		
Average of scales	1	(6/5≃1.2) 1	(11/6≃1.8) 2	(10/6≃1.7) 2		
Interior signs	Recognition	Qualisign	Index	Dicent	60	60
Final level			(60＋60＋60)/3≃60.0		60	
Final level when the semantic aspect is most important			(60＋60＋60)/3≃60.0		60	

Figure 74.   Anhui rural housing II

Table 56.   Semiotic analysis of Anhui rural housing II

Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	3	22332	233333	233312		
Average of scales	3	(12/5≃2.4) 2	(17/6≃2.8) 3	(14/6≃2.3) 2		
Forms and facades	Ostention	Sinsign	Symbol	Dicent	42	18
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	32222	222222	233312		
Average of scales	1	(11/5≃2.2) 2	(12/6≃2.0) 2	(14/6≃2.3) 2		
Exterior signs	Recognition	Sinsign	Index	Dicent	56	56
Signs	Production	Syntax	Semantics	Pragmatics	Level 1	Level 2
Core reflected	1	32222	212222	333213		
Average of scales	1	(11/5≃2.2) 2	(11/6≃1.8) 2	(15/6≃2.5) 2		
Interior signs	Recognition	Sinsign	Index	Dicent	56	56
Final level		(42+56+56)/3≃51.3			51	
Final level when the semantic aspect is most important			(18+56+56)/3≃43.3			43

Building 45, Figure 73, the Rural Housing in Anhui province,[270] is a prototype of vernacular signs which play a similar role to the previous example in modern architectural design. Such a building pattern is vanishing in China and is gradually being replaced by new rural housing, as illustrated in Chapter 4. Its sign-relationships with the core elements indicates a low score in sign-production approach and economic meanings (Table 55).

Building 46, Figure 74, the New Rural Housing in Anhui province,[271] which is similar to the Rural Housing in Mianxi Commune (Figure 58), appears to be a contemporary phase within the local tradition which has not altered its settlement pattern significantly. The reuse of old forms indicates a preference for a settlement pattern that is harmonious with the natural and the human environments. Semiotic scores in Table 56 indicate that the Rural Housing is most significant in social meanings.

5.2 Discussion

Figures 75 to 78 summarize the above semiotic data. Numbers representing the sample buildings are plotted, following an order from Group One to Group Three as indicate in Table 57. The hierarchical order indicates a decrease in the number of past design features found on buildings. They suggest one ways to sort these buildings into distinguishable groups. The objectives of this discussion are to determine the patterns of correlation between these design patterns and the "levels of communication," and best design features which can be considered noticeable means of communication.

---

[270] **Jian-Zhu-Xue-Bao,** (No. 7, 1987), cover page.

[271] **Jian-Zhu-Xue-Bao,** No. 12, 1986, cover page.

Table 57.   Categories of sample building patterns

Group One: Buildings with conspicuous clues of past design features, i.e., design
            patterns of traditional, vernacular and classical revival

       #36, #17, #39, #16, #30, #45, #46, #42, #41, #27, #43, #28,
       #23, #9, #34, #20, #22, #40, #44, #31, #32, #26

Group Two: Buildings with few clues of past design features, i.e., design patterns
            of hybrid of the new and the old

       #4, #19, #35, #11, #15, #5, #13, #6, #14, #7, #10, #18, #12, #37

Group Three: Buildings with no visible clue of past design features

       #33, #39, #21, #2, #8, #1, #25, #38, #3, #24

Note: # and the numbers indicate the order of sample buildings

The patterns of correlation can be observed by examining the different curve-inclinations in Figures 75 and 76. The inclinations reveal that some buildings have similar levels of communication (e.g., buildings 20, 34, 9, and 23), where others have distinguishable difference and levels (e.g., buildings 25, 14, and 42). The contrast between the two hierarchies of importance of core elements mentioned at the beginning of this chapter can also be seen by comparing the reference lines of Figures 77 and 78, which are drawn for quick reference. A precise interpretation of these reference lines is not possible since the distribution of "levels of communication" fails to show a consistent increase or decrease in score.

However, it can be seen that final levels are generally higher in Figure 75 (average≃43) than in Figure 76 (average≃57) when political meanings are considered most important. Both curve-inclinations are roughly similar - except for few cases in Group Three of Figure 75. This means that whether considering political or social meanings as most important, the distribution of "levels of communication" of sample groups in these two Figures is similar. Both curves sag from sample Group One to Group Two, and rise from Group Two to Group Three. Particular variance occurred
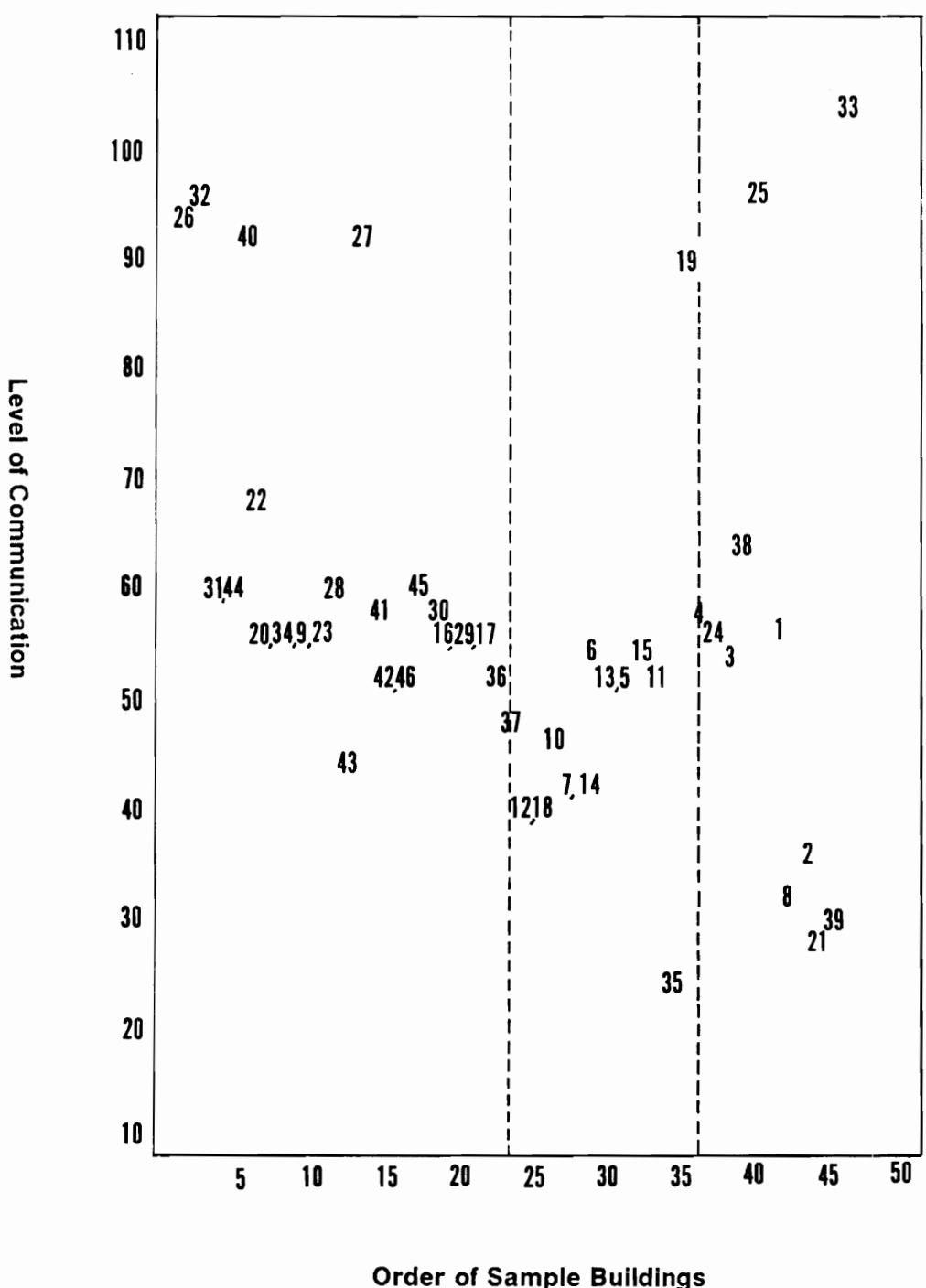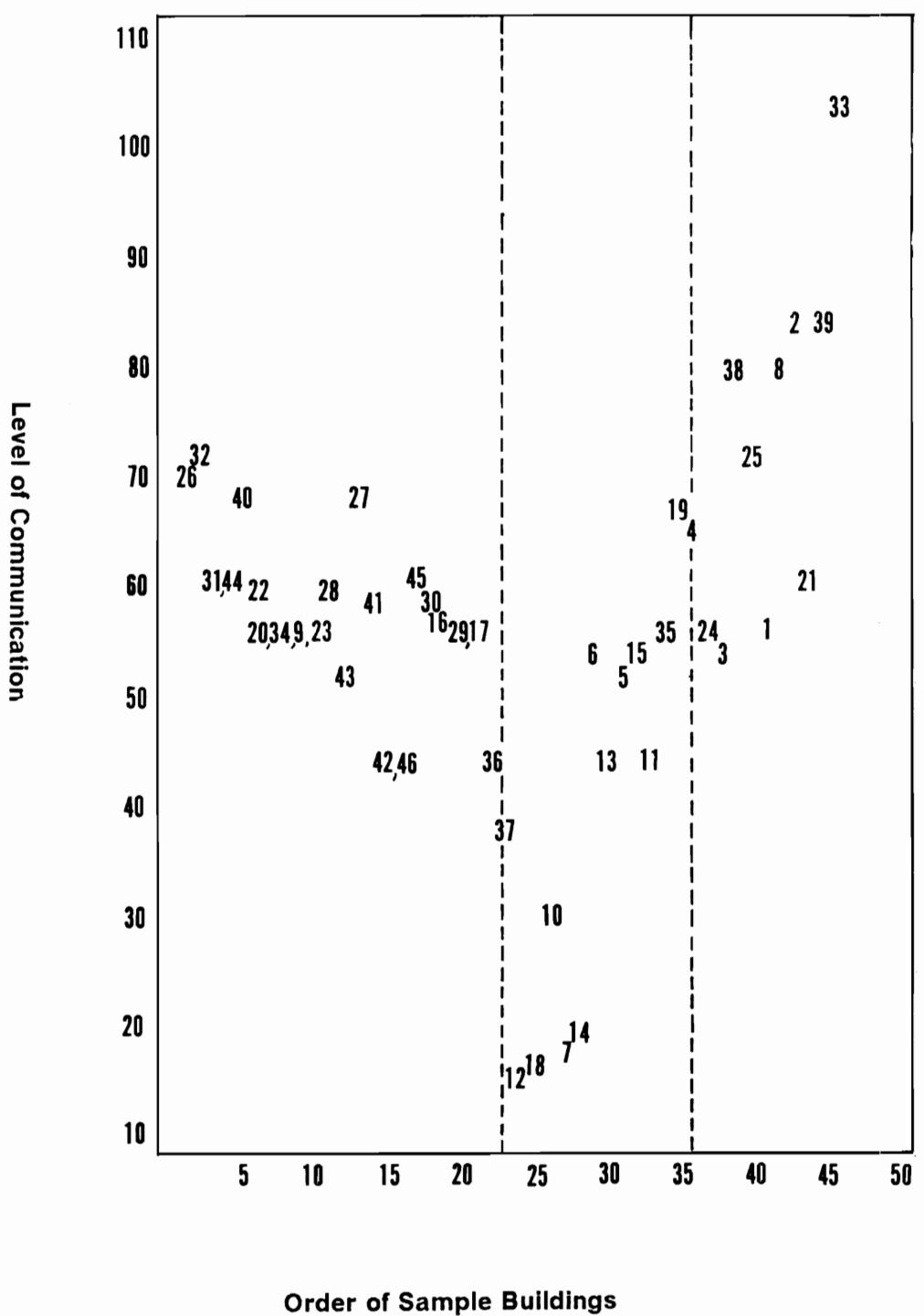
Figure 75.   Summary of semiotic analyses when the Pragmatic aspect is most important

Figure 76. Summary of semiotic analyses when the Semantic aspect is most important
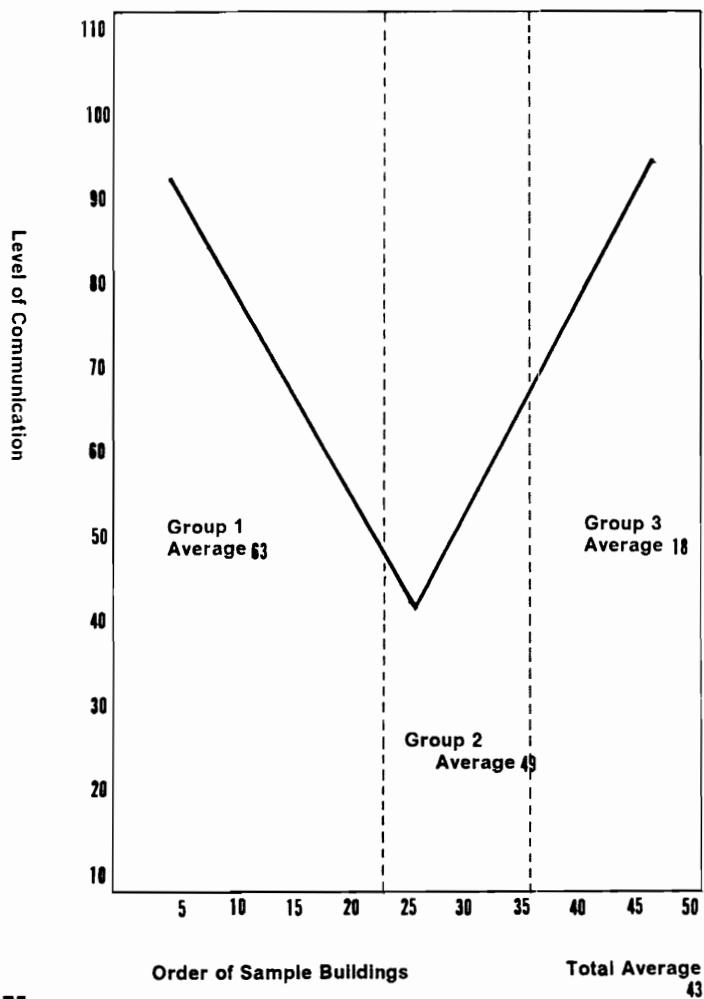
Figure 77. Reference lines of Figure 75

in sample Groups One and Three but not in Group Two. By comparing the average

levels of each sample Group, apartment buildings or modern communes of the

International Style have the best ratings when political meanings are most important,

and modern hybrid forms of the new and the old are best examples when social

meanings are most important. The best ten semiotic ratings are listed in Tables 58

and 59.

These two lists share four sample buildings, the Hero's Commemoration Hall,

the New National Library, the Fragrant Hill Hotel, and the Yellow Dragon Hotel. Not

only do all of them belong to sample Group Two, but they are large-scale public
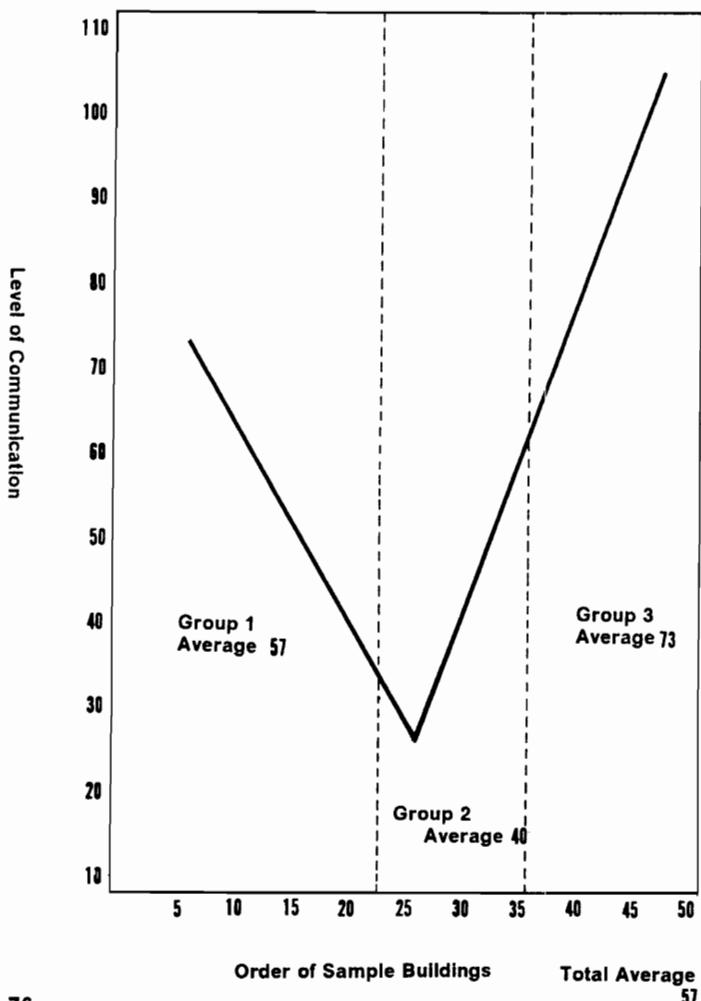
Figure 78.   Reference lines of Figure 76

buildings of national importance. The first two are proletarian. The others are not.

Other than these four, the entries reflect several design patterns that can be consid-

ered as examples of Chinese identity - whether political or social meanings are re-

garded the most important.   Buildings of Group One, traditional and vernacular

architecture, are the only group left out in these lists. On the basis of the semiotic

perspective, buildings of Group One do not seem to reflect any type of identity of

China's present culture.

The plotted results also indicate that the "levels of communication" are not

necessarily related to the manner in which traditional signs are applied to modern

Table 58. Top ten list of sample buildings when political meanings are most important

Rating	Sample buildings	Level
1.	The Experimental Housing (#35)	23
2.	The Quyang Commune (#21)	27
3.	A High-rise Apartment Complex at Shanghai (#39)	29
4.	The Dunghu Housing Estate (#8)	32
5.	The High-rise Apartments at Beijing (#2)	35
6.	The Hero's Commemoration Hall (#12)	39
6.	The National Library (#18)	40
8.	The Fragrant Hill Hotel (#7)	42
8.	The Yellow Dragon Hotel (#14)	42
10.	The Institute of Geology and Friendship House (#43)	43

design, or the ratio of old signs to new signs. The manneristic approaches of the Painting Academy (Figure 45) raise the question of the role of the original meanings of old signs in modern hybrid forms. Should old signs be loyal to the original meanings to avoid misconceptions about a hybrid of the new and the old? And, would old signs be misleading if they were not to conform to the contemporary context in function and form? Thus, in order to make the building meaningful, one should subordinate old signs to new signs, and original meanings of old signs should be excluded from the concern for distinct identity unless they fill the psychological needs of the people.

5.3 Noticeable Means of Communication

With such results, the noticeable means of communication can only be illustrated by pointing out the design features related to the meanings of core elements. It should be noted that matching each core element with chosen design features makes little sense because buildings communicate a combination of meanings. Building patterns rated lower than level 54 should not be considered culturally dis-

Table 59.   Top ten list of sample buildings when semantic meanings are most important

Rating	Sample buildings	Level
1.	The Hero's Commemoration Hall (#12)	15
2.	The National Library (#18)	16
3.	The Fragrant Hill Hotel (#7)	17
4.	The Yellow Dragon Hotel (#14)	18
5.	The Wuyi Mountain Hotel (#10)	30
6.	The Art Dept. Building in Northwest Univ. (#37)	38
7.	The Xucheng Hotel (#11)	43
7.	The Fuyuan Market (#13)	43
7.	The Cheng Huang Shopping Mall (#36)	43
7.	New Rural Housing in Anhui province (#46)	43
7.	The Cultural Palace (#42)	43

tinct because traditional architecture which is not meaningful started with these levels.

Obviously, assembly housing of the International Style and Modern Architecture are the most effective in communicating Communist ideologies among the selected sample buildings. They not only signify egalitarian distribution of proletarian living spaces, but also uphold political, social, and economic equality in a Chinese society in which feudalist class distinction has remained unchanged for thousands of years. The sleek appearances as shown in Figures 30, 49, 63, and 67 are implementations of the design slogan, "utility, function and aesthetics if possible " to an extreme. With the political purposes behind the commune projects, nationalization of floor plans, facades, landscaping, and exterior and interior design, no other building pattern is more qualified to communicate political meanings than these apartment buildings. It can, thus, be concluded that such design patterns ought not be considered culturally distinct as they show insignificant sign-relationships to other aspects of meanings.

After all, political meanings are not the single most important category in the concern for cultural identity. Social, economic and sign-production approaches mat-

ter too. This can be seen in design features, or architectural signs, which are rated the highest in "level of communication" of other core elements. More specifically, cultural distinctness calls for ideal design features that reflect the meanings contained in the coding scheme. Among the sample design patterns, public buildings of national importance which provide services such as leisure activities and amusement facilities to the people are likely to be close to such an ideal. The ideal does not seem to be easily achievable unless excessive redundancy in design is included in the design. This is why hybrid forms play better roles than traditional architecture in associating with cultural identity. Traditional design alone cannot exert meanings which are significantly related to life patterns and values of present day people. The hybrid forms, taken as a multi-meaning combination, are closer to Chinese identity of the contemporary culture.

Because a sign may receive high scores of "levels of communication" in various meanings, a crucial consideration in studying cultural distinctness is to determine which set of core elements are major and which are minor. The findings of this chapter indicate two possible conditions, one that considers political meanings the most important, the other that considers social/behavioral meanings most important. Each offers a significant perspective regarding the research problems. But which of the two should be considered more important to China's architecture cannot be finalized without testing the findings through the judgments of laypersons. This is the objective of next chapter.

6.0 PRESENTATION OF SURVEY DATA AND ANALYSIS OF RESULTS

Chapter Summary

This chapter contains the second portion of the case study in which sample buildings applied in the last chapter were judged by overseas Chinese students and their spouses. The purpose is to determine how laypersons perceive identity in architecture, how core elements relate to laypersons' perception of cultural identity and how the survey analyses compare with the semiotic analyses.

6.1 Format of Data Interpretation

In total, 25.5% of the population (173 scholars and students) sampled responded with usable questionnaires. These questionnaires are processed for inclusion in the study. In the survey, 70.4 percent of subjects were aged 26 to 35, 18.2 percent were 20 to 25 and 11.4 percent were 36 to 40 years old. Sixty-six percent of the subjects majored in the Natural Sciences. Others are composed of housewives or humanities majors. Ninety-one percent were pursuing graduate degrees at Virginia Tech. Others were exchange scholars from China or housewives.

Various answers were analyzed in terms of variables" attributed to the core elements identified in Chapter 4.0. Most of the findings were obtained by reading frequencies and mean values of these variables. Additional techniques were applied to interpret the data and the relationships between variables.
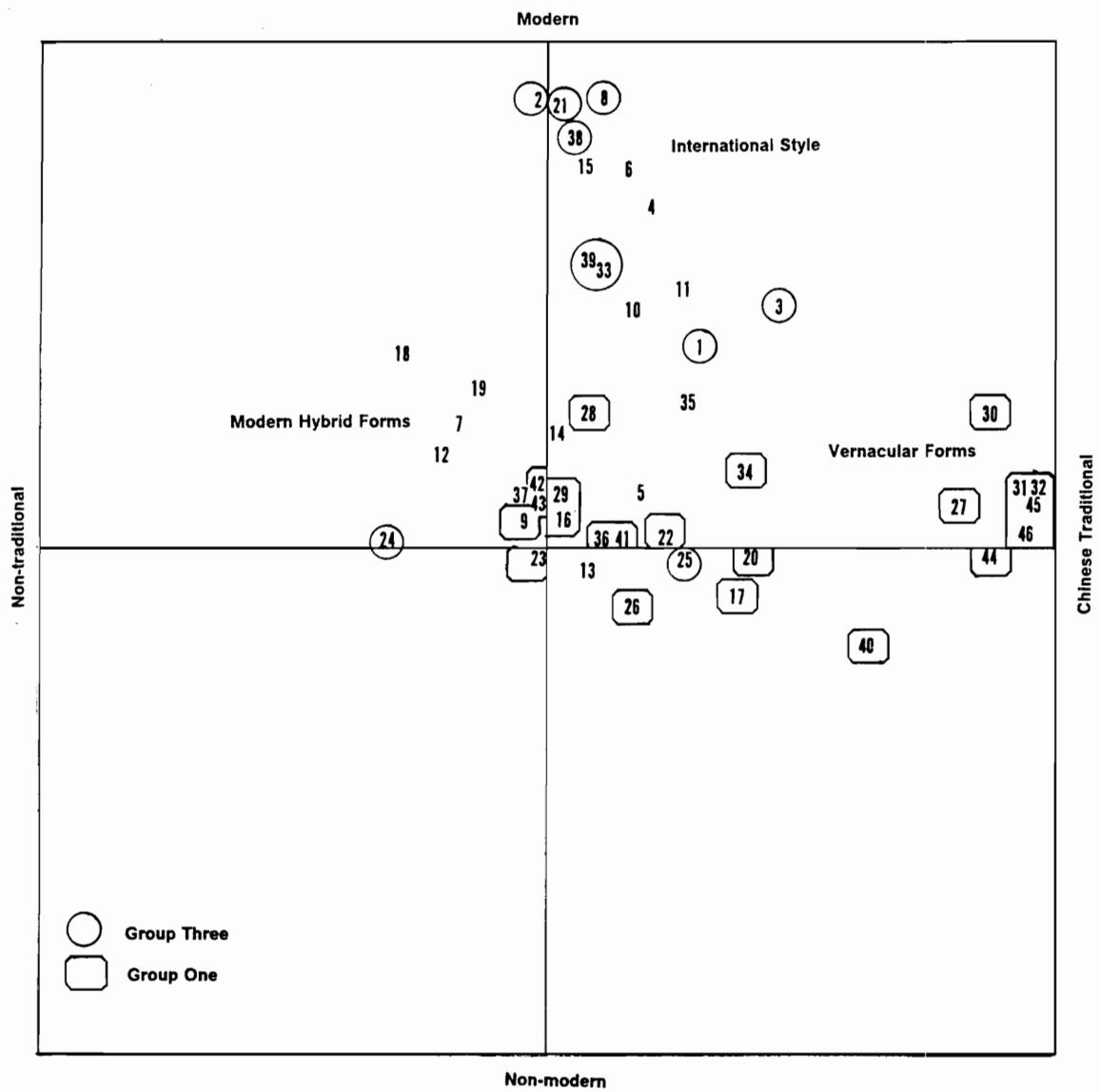
A relationship cannot be determined without relying on a combination of statistical techniques. For instance, associations between variables can be measured by comparing the "observed level of significance," "Chi-square" score and percentage variation of cross-tabulated tables generated by two or more variables. None of these techniques alone can study the strength of variable associations. It is valid, however, to compare the strengths of associations between variables and determine the hierarchy of association among the core elements.[272] Thus, a relationship between two variables is considered significant in this survey if two or more associations are found in the data. Otherwise, it can be said that there is insufficient evidence in the study to determine a relationship. Since a causal relationship is unlikely be resulted in such a relationship, a core element should not be considered as a cause of laypersons' perception. Instead, a relationship exists, for instance, as a layperson's desire for a house to be a symbol of his identity is related to his perception of Chinese identity.

6.2 Patterns of Perception of Cultural Identity

The result of data analyses are summarized in Figures 79 to 81 and Tables 60 to 63. In these illustrations, buildings are arranged in the same order as indicated in Table 57.

---

[272] Norusis, Marija J. **The SPSS Guide to Data Analysis for SPSSx,** (SPSS Inc., 1988), p. 273.

Figure 79. Patterns of laypersons' perception of cultural identity

The sorting game, which includes the first two assignments designed in the questionnaire, resulted in 44 different lists of buildings of similar identities. Each list is unique. Figure 79 shows the final ratings of every building averaged from these lists and their relations with two pairs of descriptors: traditional/non-traditional, modern/non-modern.

The Figure reveals that most buildings rated by survey subjects fall under the upper right hand quadrant. Specifically, the subjects considered the apartment complexes and hotels employed in the survey to be modern but not traditional. Grouped in the center right hand corner of the Figure, vernacular buildings are considered non-modern, traditional forms. The hybrid forms which exhibit both modern and Chinese characteristics are sporadically scattered around different quadrants. Some of these hybrid forms are considered to be modern Chinese. Still others are Chinese but not modern. In general, the Figure indicates how the subjects categorized the sample buildings, and documents the resultant patterns of the sorting game. Figure 80, however, contains a hierarchical order of the rating (by the dots) of the sample buildings. These dots imply an up-turned curve as shown in Figure 81, it means that an increment of rating is related to the increment of traditional building features from Group Three to Group One. The relation is positive since the ratings of building patterns differ in a predictable pattern. In other words, most survey subjects associated cultural identity with the traditional architecture of sample Group One.

By examining these three Figures, we learn that survey subjects generally perceive positive distinction between design patterns of Group Three and Group One. The highest ratings of sample buildings are found in Table 60; all entries belong to sample Group One. The Table shows that traditional buildings (e.g., the Suspended Temple, The Yellow Crane Tower) have the best ratings. Second to it are early
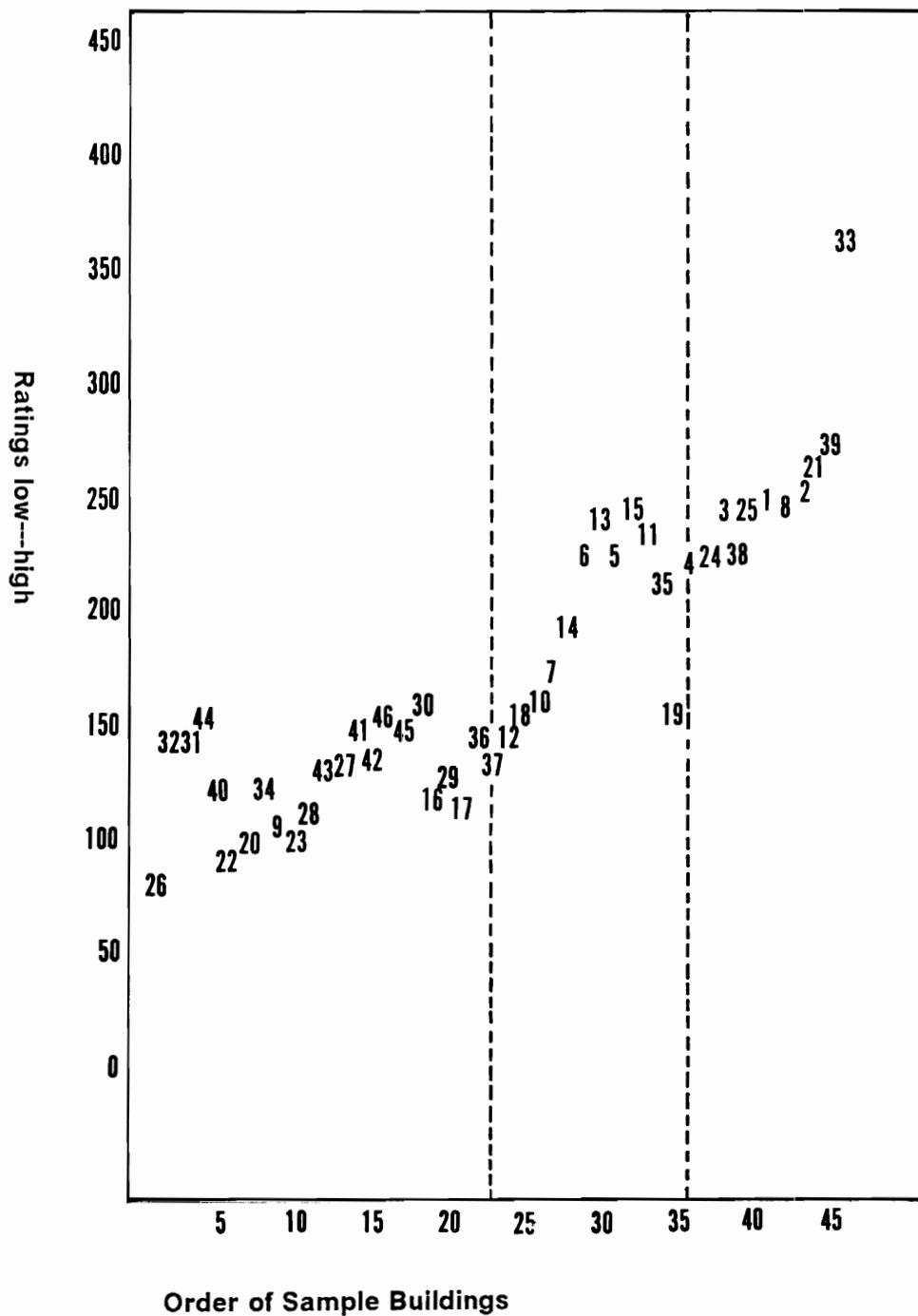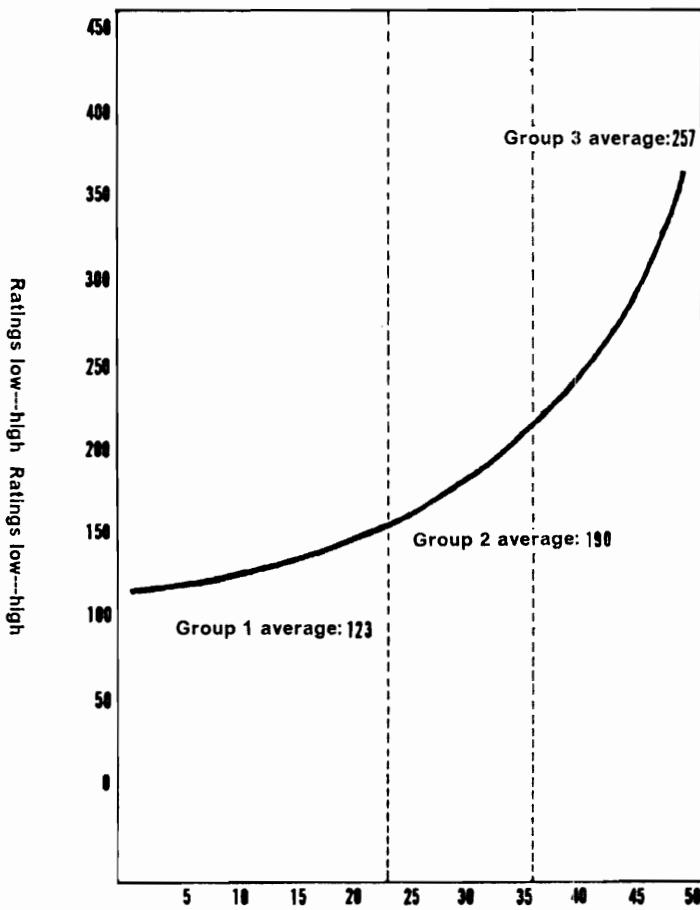
Figure 80. Plotted result of survey subjects' rating of sample buildings

Figure 81.   Reference lines of Figure 80   Order of Sample Buildings

(1930's) revivals of traditional architecture, e.g., the Sun, Yatsen Memorial. The third

highest ratings were given to modern (e.g., 1980's) revivals of traditional architecture,

e.g., The Painting Academy of Jiangsu Province (Figure 45).

The hybrid design patterns of Group Two seem to vary insignificantly between

survey subjects. This is evident when comparing all ratings. For instance, ratings

of the Local Hotel (#19, mean = 34) and the New National Library (#18, mean = 34) of

sample Group Two are close to those of the Shan Xi Rural Housing (#44, mean = 33)

and the Fu'an Dwellings (#31, mean = 31) of Group One. Likewise, the rating of the

Fuyuan Market (#13, mean = 56) of Group Two is close to that of the High-rise Apart-

ments at Beijing (#2, mean = 57) of Group Three. In other words, most survey sub-

Table 60. List of the most representative of cultural identity determined by survey subjects

Sample buildings	Ratings	Mean
1. The Suspended Temple (#26)	1	18
2. The Yellow Crane Building (#22)	2	21
3. The Old National Library (#9)	3	22
4. The Sun Yatsen Memorial Hall (#23)	3	22
5. The Confucius Temple (#20)	3	22
6. The Painting Academy of Jiangsu Province (#17)	6	24
7. The Front Gate of Motion Picture Studio (#28)	6	24
8. A Tourist Center (#16)	8	25
9. The Liulichang Shopping Mall (#34) ·	9	26
10. A Suzhou Garden (#40)	10	28
11. The Peach Garden Hotel (#29)	10	28
12. The Institute of Geology and Friendship (#43) Guest House	10	28

jects failed to distinguish between some modified duplications of traditional design of Group Two and the International Style designs of Group Three.

The survey data indicates a lack of consensus about how hybrid designs can be associated with cultural identity. But some sort of consensus is found in survey subjects' selection of the most creative and most favorable designs (Tables 61 and 62). Of these two entries, the majority are hybrid forms of Group Two. The contrast between Tables 60 and 61, or between Tables 60 and 62, suggests that environmental preference and the concern of design creativity is not related to survey subjects' perception of identity.

6.3 Relationships between Core Elements and Survey Subjects' Perception of Cultural Identity in Architecture

To determine these relations, the ratings of sample buildings are cross-tabulated with variables imbedded in the questions (indicated by # and number below) of the questionnaire. These variables were designed to relate to core elements in the following manner:

1. Political variables

Table 61. The Most Creative Designs

Sample buildings	Ratings	Frequencies
1. The Fragrant Hill Hotel (#7)	1	N = 16
2. The Xidan Commercial Building (#6)	2	N = 13
3. The Sannatorium for CPPCC (#1)	3	N = 12
4. The Yellow Dragon Hotel (#14)	4	N = 11
5. The Lhasa Hotel (#5)	4	N = 11
6. The Kunshan Market (#15)	6	N = 10
7. The Xucheng Hotel (#11)	7	N = 9
8. The Mao, Zedong Memorial Hall (#24)	7	N = 9
9. The Peach Garden Hotel (#29)	7	N = 9

a. Reflection of the notions of class struggle and class distinction in building and user ramification in
1) # 29-8: Governmental officials' opinions.
2) # 29-11: Political ideologies reflected in the building.
b. Reflection of the notion of proletarian architecture as a building providing services to the proletariat in
1) # 28: Not all architecture should display Chinese identity; some should maintain traditional styles, as in governmental buildings; others should have a modern appearance such as in hotels; still others should remain local and traditional, such as in rural housing.
c. Reflection of political influences on the people by official involvement in planning, design, housing distribution and household registration in
1) # 29-14: Present life styles and political influences.
d. Reflection of shaping the built environment without user involvement in
1) # 29-5: Clients' (the government) demands.
e. Reflection of the "socialism of Chinese characteristics" by duplicating foreign design patterns in
1) # 17: I do not appreciate any architectural design except that of my own house.
2) # 22: I think that Chinese architects should not only modernize but also appropriately incorporate cultural characteristics in certain architectural designs.
f. Reflection of the nationalization of building patterns to fulfill political education, integration, egalitarism to delete Confucian teachings and so forth in
1) # 15: The exterior appearance of buildings is not important to me.
2) # 21: I like buildings in China to be unique from those in other countries.

2. Social/behavioral variables
a. Reflection of new social structure, break of family and kinship bonds in
1) # 16: The exterior image of modern China's architecture should project our present culture and life styles.
2) # 18: I care about the future appearance of China's architecture.
3) # 20: I think that making cultural distinction in architecture will not be important in a highly progressive society in the future.
b. Reflection of the continued tradition of Confucian and Toaist teachings in

Table 62. The Most Favorable Buildings Selected by Laypersons

Sample buildings	Ratings	Frequencies
1. The Fragrant Hill Hotel (#7)	1	N = 16
2. The New National Library (#18)	1	N = 16
3. The Cultural Palace (#42)	3	N = 12
4. The Yellow Dragon Hotel (#14)	4	N = 11
5. The Art Department Building (#37)	4	N = 11
6. The Old National Library (#9)	6	N = 10
7. The Wuyi Mountain Hotel (#10)	6	N = 10
8. The Hero's Memorial Hall (#12)	6	N = 10
9. A Local Hotel (#19)	6	N = 10
10. The Mao Zedong's Memorial Hall (#24)	6	N = 10

      1) # 39: Regardless of Chinese current policies, do you appreciate traditional customs such as the Dragon- boat race, the Mid-Autumn festival, and the lunar new year celebration?

  c. Reflection of new social ethics and moral demands in

      1) # 13: I care very much about how the Chinese are able to maintain cultural characteristics in painting, literature, drama, and architecture.

      2) # 37-1: Did you ever set up specific place or corner for your religious beliefs or customs in your home? If not, did you practice periodic or seasonal religious activities?

  d. Reflection of users' group identities in

      1) # 10: My ideal house design should be a symbol of myself, my own personality.

      2) # 19: I think that cultural identity of modern China's architecture is adequate.

  e. Reflection of popular signs of associable meanings in

      1) # 12: I like design objects that are free of decorative elements.

      2) # 29-4: Traditional characteristics on a building.

      3) # 29-13: Chinese decorative details on architecture.

  f. Reflection of the collective habitual way of family life under the commune system in

      1) # 11: It is important to establish the various types of my identity within my work place and neighborhoods.

3. Economic variables

  a. Reflection of land reform in rural and urban areas, and the destruction of the traditional economic system in

      1) # 29-2: Economic value of a building.

      2) # 8: Architecture is meaningless to me.

  b. Reflection of the socialist economic system, i.e., centralized control of revenues, productions, resources, job allocation, and ration system in

      1) # 14: For a modernized and progressive China, the Chinese should endeavor to adopt Western models of development and set aside the current state-run economy.

  c. Reflection of the socialist living conditions in

      1) # 9: I am less interested in the appearance of a building than its comfort.

      2) # 29-1: Building functions.

d. Reflection of the "primary socialist stage," and the Open-Door policy in
   1) # 29-3: Primarily socialist stage.
   2) # 29-7: The Open-Door Policies.
   3) # 29-10: Economic reforms.
e. Reflection of urbanization resulting from state establishment of enterprises in urban areas and permission for peasants to depart from their agrarian livelihood in
   1) # 6: Industrialization in architecture is a waste of time and money.
   2) # 29-6: Overall consideration of urban development.

4. Sign-production variables:
   a. Invention:
      1) # 27: To hybrid the essence of both traditional and modern architectural features.
   b. Ostention:
      1) # 29-9: Western architectural characteristics
   c. Replica:
      1) # 25: To design based on traditional principles but physical features are modified and simplified.
   d. Recognition:
      1) # 24: To reproduce traditional architecture in reinforced concrete and other modern construction materials.

A relationship is analyzed in terms of cross-tabulations of variables by comparing variance of frequency of subject responses toward the variables. But most "Chi-square" and "level of significance" values resulting from the cross-tabulations of the survey data were too large to be useful for interpretation of the relationship. Instead, these values are used to compare the strength of associations between variables. A positive relation occurred, for instance, when the number of people who agree (or disagree) with the question statement increases or decreases conspicuously. As cross-tabulation of all sample buildings with the variables are numerous, only six building patterns, two out of each sample group, are selected to interpret the relationships. These cross-tab tables used in this discussion were generated by the SPSSx program at Virginia Tech (Appendix-III), and can be found in Tables V-1 to V-210 of Appendx-IV. These Tables were resulted from recategorizing original rating data into five groups: (1) excellent, (2) good, (3) fair, (4) poor and (5) bad (in communicating Chinese identity to the perceiver). Similarly, the scale regarding a subject's

responses were recategorized as (1) disagree, (2) neither and (3) agree. The results of each cross-tabulation are briefly summarized below.

6.3.1 Political Elements

Altogether, nine variables are cross-tabulated with the survey subjects' ratings of six buildings to ascertain six core elements of political meanings. Of these, five show significant relationships to the data. The analyses below indicate that following a hierarchical order of "strength of association," the core elements which are related to the perceived identity are socialism of Chinese characteristics, shaping the built environment without user involvement, the notion of proletarian architecture and nationalization of design patterns for political education.

Over 86.4 percent of the subjects responded that Communist ideologies such as class struggle and class distinction are not related to their perception of identity in architecture. This is supported by Tables V-1 to V-12 in which variance of identity rating is related to governmental officials' opinions in architectural design, and political ideologies reflected in buildings. Specifically, in Tables V-1, V-2, V-7 and V-8, the subjects (75%, 70.5%) who rated the buildings as excellent examples of Chinese identity considered the variables irrelevant to their perception. Similar results are found in the cases of V-3, V-4, V-9 and V-10, except that the subjects rated the buildings excellent (29.5%, 36.4%) or good (38.6%, 47.4%) examples of Chinese identity. A reversed order of ratings are found in Tables V-5, V-6, V-11 and V-12 where subjects who considered the variables irrelevant to their perception of identity rated the buildings fair or bad examples. Such a trend of rating supports the negative relation.

A second set of cross-tabulations show that political influences on public life are related to the ratings. The relationship is evident in Tables V-13 to V-18, which indicate more than 68 percent of the survey subjects rated the sample buildings as excellent examples of Chinese identity. Specifically, 75 percent of the ratings were for the Suspended Temple, 70.5 percent for the Yellow Crane Tower, 68.1 percent (29.5% + 38.6%) for the Yellow Dragon Hotel, 84.1 percent for the Fragrant Hill Hotel, 70 percent for the Modern Hotel, and 84.1 percent for the High-rise Apartments at Beijing.

The third core element, political involvement and control of environmental design, is represented by the phrases, "The government's plans for environmental development," and "Client's (the government) demands." Tables V-19 to V-24 indicate that over 77 percent of the survey subjects did not consider this variable to be related to the perception of identity. Those who denied the relationship rated the Suspended Temple and the Fragrant Hill Hotel excellent examples, 75 and 70.5 percent respectively. The same group of subjects rated the hotels excellent or good examples, 68.1 and 84.1 respectively; and the high-rise apartments fair or bad examples, 84.1 and 70.4 percent respectively.

Responses to the core element, reflection of the notion of proletarian architecture, indicates a relation to the subjects' perception. The specific question asked in the survey was meant to yield a distinguishable difference in design between governmental or official, and popular or civic purposes. Cross-tabulation of these two variables shows a positive increment of frequency in the ratings of the first two sample buildings as frequency for the degree of agreement increases. Approximately 76 and 88 percent of the subjects who rated these two buildings as excellent examples agreed (90.2%) that proletarian characteristics in buildings should be maintained in China's architecture (Tables V-25 and V-26). Most of the subjects rated

building samples of Group Two as good (41.5%, 48%) rather than excellent (29.3%, 34.1%) examples (Tables V-27, V-28) of Chinese identity. Similarly, more of them rated sample buildings of Group Three as fair (34.1%, 29.3%) and bad (29.3%, 56.1%) examples than on other scales (Tables V-29, V-30).

Considering the fifth core element, socialism of Chinese characteristics, more than ninety-five percent (95.2%) of the survey subjects agreed that they appreciate architectural design of foreign styles. And over seventy-eight percent (78.6%) of the subjects agreed that architects should not only modernize but also incorporate cultural characteristics into designs. Responses to both statements indicate that a high percentage of subjects had consistently rated the sample buildings of Group One to be best, Group Two, second, and Group Three, worst, examples of Chinese identity. In other words, the data in Tables V-31 to V-42 suggest that the subjects might be indifferent to whatever is designed by the architects.

The fifth set of cross-tabulations were made to ascertain whether nationalization of architecture is needed in China. For this reason, the survey subjects were asked (1) if the exterior appearance of buildings was important to them, and (2) if they prefer all buildings to be made the same, to be free of feudalist implications, and to be unique from those in other countries. Most responses to the first question fall into the "Disagree" category (Tables V-43 to V-48). But 61.0 percent of the responses were in "Agree" category, and 39 percent were in "Disagree" or "neither" categories for the second question (Tables V-49 to V-54). This means approximately one-third of the subjects did not feel a strong need for nationalization of architectural design. In short, the variable may be related to the perceived identity, but is less significant than the others.

6.3.2 *Social Elements*

Thirteen variables were cross-tabulated with the ratings to ascertain the relevance of six core elements of social/behavioral concerns. The following analyses indicate that all core elements are supported by the data.

In reference to the first phrase, "The exterior image of China's architecture should project the contemporary culture and life styles," over 97 percent (97.7%) of the subjects agreed and rated distinctly among the selected buildings (Tables V-55 to V-60). Slightly over 72 percent (72.1%) of the responses to the second phrase, "I care about the future appearance of China's architecture," fall into the "Agree" category, but over 20 percent (20.9%) fall into the "Neither" category (Tables V-61 to V-66). For the third phrase, "I think that making cultural distinction in architecture will not be important in a highly progressive society in the future," 57.9 percent of the subjects disagreed with the statement, and 42.2 percent either agreed or were not certain of their judgments (Tables V-67 to V-72). The last set of statistic fail to support the statement significantly, but it does not deny the statement completely either. In all, this core element should be accepted as related to subjects' perception of identity because the first two sets of responses signified high percentages of agreement and consistent patterns of rating.

A significant relationship occurred for the second core element when cross-tabulations were made between traditional philosophical teachings and perception of cultural identity. Tables V-73 to V-74 indicate that of the respondents who considered the teachings related, 90.9 percent and 86.4 percent rated the Suspended Temple and the Fragrant Hill Hotel to be excellent examples respectively. The same percentage of all subjects also rated the Yellow Dragon Hotel and the Fragrant Hill Hotel to be excellent or good examples (68% and 84.1% of Tables V-75, V-76); and the

Modern Hotel and the High-rise Apartment in Beijing fair or bad (70.4%, and 84.1% of Tables V-77, V-78) examples of Chinese identity. These responses and patterns of rating are found supporting the relationship between these two variables significantly.

The third core element, "New social ethics and moral demands," was cross-tabulated with the subjects' perception of identity. Approximately 70 percent agreed with the phrase, "I care very much about how the Chinese are able to maintain cultural characteristics in painting, literature, drama, and architecture," (69.8%, Tables V-79 to V-84). But approximately 90 percent (88.6%) of the subjects considered such a need to be irrelevant to their religious beliefs (Tables V-85 to V-90). In both cases, the rating patterns supported the responses significantly, although they signify controverted opinions. In all, moral demands which do not necessarily include religious beliefs are related to the perception.

Approximately 62 percent of the subjects agreed with the need for the fourth core element, "Users' group identity." Specifically, 61.9 percent of the subjects agreed that an ideal house can be the symbol of one's personality (Tables V-91 to V-96); and 62.5 percent disagreed that cultural identity in architecture in China is adequate (V-97 to V-102). The patterns of rating indicate the need for different types of architectural design which would reflect the identity of building users. In other words, such needs are related to the perception.

The fifth set of cross-tabulations were done to study the variable, "popular signs of associable meanings." Three questions were designed to yield responses in this regard, but not all statistic have provided significant supports. Specifically, 65 percent of the subjects agreed that they like design objects to be free of decorative elements (Tables V-103 to V-108). But they considered characteristics of traditional architecture (75% in Tables V-109 to V-114) and decorative elements of traditional

architecture (63.6% in Tables V-115 to V-120) relevant to their perception. The contrast between the first and the other sets of data indicate that buildings reflecting Chinese identity may not necessarily be appreciated. In this sense, the core element is considered relevant to the survey subjects' perception.

To understand how the variable, "The collective habitual way of life and the commune system," was judged, cross-tabulations were made with regard to the phrase, "It is important to establish the various types of my identity within my work places and neighborhoods. Over 67 percent (67.5%) of the subjects have agreed, but over 30 percent have either disagreed or were uncertain of their judgment with the statement. Even so, the rating pattern shown in the cross-tabulations (Tables V-121 to V-126) support the relationship between the collective way of social life and the perception of identity.

6.3.3 Economic Elements

Ten variables were designed to ascertain how core elements of economic concern relate to survey subjects' perception of cultural identity. Based on the following summary, none of the variables or core elements has been considered relevant.

Cross-tabulations were made to evaluate questions regarding economic values of buildings with the variable, "The destruction of traditional economic system and land reform in rural and urban areas." Subject responses indicate that they strongly disagree (95.3%) with the core element (Tables V-127 to V-132), and 77.3 percent of them considered economic values of a building irrelevant to their perception of identity (Tables V-133 to V-138). These results suggest that the sample buildings are remote from laypersons' understanding of the core element. Thus, the variable is irrelevant to Chinese identity.

The second variable to be correlated with subjects' perception is "Socialist state-run economic system in architectural production and use of resources." The result of the cross-tabulation indicates that only 53.5 percent of the subjects agreed with the statement, "For a modernized and progressive China, the Chinese should endeavor to adopt Western models of development and set aside the current state-run economic system." The rest of the data are under "Neither" (20.9%) and "Agree" (25.6%) scales (Tables V-139 to V-144). Thus, this core element should not be considered relevant to survey subjects' perception of identity.

Similar to that of the third variable, "Socialist living arrangements," is found unrelated to the perception of cultural identity. Despite the fact that over 47 percent of the subjects disagreed with the phrase, "I am less interested in the appearance of a building than its comfort and arrangements," more than half (52.3%) of the subjects agreed (25.0%) or were uncertain (27.3%) of their judgments (Tables V-145 to V-150). However, slightly over 68 percent (68.2%) of the subjects believed that the variable, "building functions," is related to their perception of Chinese identity (Tables V-151 to V-156). As building functions are related to comfort, the concern for living arrangements should not be accepted as related to the perception.

The results of cross-tabulation between the variable "The primary socialist stage and the Open-Door Policy," and subjects' perception of identity indicates an insignificant relationship. As shown in Tables V-157 to V-172, survey subjects considered the core element to be irrelevant to each other with a statistic of 72.7 and 68.2 percent.

The fifth variable of economic concern, "Urbanization resulted from state establishment of enterprises in urban areas and permission for peasants to depart from their agrarian livelihood," is studied by cross-tabulations of the following two phrases with the perception of identity. They are, "Industrialization of architecture is a waste of time and money," and "Overall considerations of urban development." Over 83

percent (83.7%) of the subjects disagreed with the first phrase (Tables V-173 to V-178), but only 50 percent of the subjects considered the second phrase relevant to their perception of identity (Tables V-179 to V-184). With such a result, this core element should not be considered relevant to the perception of identity.

6.3.4 Sign-production Approaches

Four core elements derived from design approaches were cross-tabulated with the perception of cultural identity. But it is found that none of the result indicate significant relationships.

Over 67 percent (67.4%) of the subjects disagreed with the phrase which represents the first core element, "Invention: hybridization of the essence of traditional and modern architecture." Only slightly over one-fifth of the subjects considered it an agreeable approach. The hybrid approach does not seem to be widely accepted by the subjects, because the subjects who disagreed with the statement rated the Suspended Temple and the Yellow Crane Tower excellent examples (74.4% and 86.0% of Tables V-187, V-188), but rated the Yellow Dragon Hotel and the Fragrant Hill Hotel good examples (39.5%, and 46.5% of Tables V-189, V-190) of Chinese architecture. Thus, this core element should not be considered as relevant to the perception of identity.

The "Ostention" category, which was represented by the phrase, "Western architectural characteristics," was considered irrelevant to the perception identity by 97.7% of the subjects. Because this approach involves an inevitable hybrid of the old and the new, the rejection of Western characteristics suggests the subjects' preference for architectural design free of foreign influences. Tables V-193 to V-198 illustrate such an attitude. In those tables, traditional buildings of Group One received

better ratings than those combined with the foreign design patterns of Group Two and Three.

The third core element: "Replica," represented by the phrase, "To design based on traditional principles but physical features are modified and simplified," was cross-tabulated with the subjects' perception of identity. The result indicates an insignificant relationship since 45 percent of the subjects disagreed with the phrase, 32.5 percent agreed, and 22.5 percent were not certain of their judgments (Tables V-199 to V-204).

The last core element of this concern: "Recognition," was represented by the phrase, "Duplication of traditional architecture in reinforced concrete and other modern construction materials." The data indicate that the majority of subjects (82.9 percent in Tables V-205 to V-210) not only disagree with the statement but also have shown consistent pattern in rating the sample buildings. Thus, this core element should not be considered as relevant to the perception of identity.

6.4 Findings

The following findings regarding laypersons' judgments are projected from the above data analysis which is summarized in Table 63. The list shows the variables which are related to the perception of Chinese identity and their hierarchical importance. It shows that core elements of social/behavioral concern received the highest strength of correlation with the perception. Political elements received the second highest strength, economic elements the third and elements of sign-production approaches the least.

Table 63. Core elements relevant to the perception of cultural identity in China's architecture

Core	disagree	neither	agree	mean	relevance to the percieved identity	hierarchy of importance
1-a-1 1-a-2	86.4% 86.4%	0% 0%	13.6% 13.6%		irrelevant irrelevant	
1-b-1	31.8%	0%	68.2%		relevant	third
1-c-1	77.3%	0%	22.7%		irrelevant	
1-d-1	2.4%	7.3%	90.3%	(4.5)	relevant	second
1-e-1 1-e-2	95.3% 9.5%	2.3% 11.9%	2.4% 78.6%	(1.3) (4.0)	relevant relevant	first
1-f-1 1-f-2	97.7% 19.5%	2.3% 19.6%	0% 60.9%	(1.2) (3.6)	relevant relevant	fourth
Overall importance of political elements: **Second**						
2-a-1 2-a-2 2-a-3	2.3% 72.1% 57.9%	0% 20.9% 21.1%	97.7% 7.0% 21.0%	(4.6) (4.1) (2.5)	relevant relevant irrelevant	first
2-b-1	25%	0%	75%		relevant	third
2-c-1 2-c-2	4.6% 88.6%	25.6% 0%	69.8 11.4%	(4.0)	relevant irrelevant	fifth
2-d-1 2-d-2	19.0% 62.5%	19.0% 30.0%	61.9% 7.5%	(3.7) (2.3)	relevant relevant	sixth
2-e-1 2-e-2 2-e-3	20.0% 25% 36.4%	15.0% 0% 0%	65.0% 75% 63.6%	(3.6)	irrelevant relevant relevant	second
2-f-1)	12.5%	20.0%	67.5%	(3.8)	relevant	third
Overall importance of social/behavioral elements: **First**						
3-a-1 3-a-2	22.7% 95.3%	0% 2.4%	77.3% 2.3%	(1.2)	irrelevant irrelevant	
3-b-1	25.6%	20.9%	53.5%	(3.4)	irrelevant	
3-c-1 3-c-2	47.7% 31.8%	27.3% 0%	25.0% 68.2%	(2.6)	irrelevant irrelevant	
3-d-1 3-d-2 3-d-3	72.7% 72.7% 68.2%	0% 0% 0%	27.3% 27.3% 31.8%		irrelevant irrelevant irrelevant	
3-e-1 3-e-2	83.8% 50%	4.6% 0%	11.6% 50%	(1.6)	irrelevant irrelevant	
Overall importance of economic elements: **Fourth**						
4-a-1 4-a-2	7.2% 67.5%	7.1% 11.6%	85.7% 20.9%	(4.3) (2.3)	irrelevant irrelevant	
4-b-1	97.7%	0%	2.3%		irrelevant	
4-c-a	45.0%	22.5%	32.5%	(2.8)	irrelevant	
4-d-a	83.0%	7.3%	9.7%	(1.9)	irrelevant	
Overall importance of sign production: **Third**						

It is conceived in Chapter 4 that social/behavioral concerns would be far from satisfactory in China due to state-run architectural production and the introverted nature of the people. And it seems safe to state that pursuing personal identity is uncommon in China, let alone making a house a symbol of a person and personality. In contrast, it is found that laypersons anticipated the expression of both personal and national identities of Chinese people in architecture. Laypersons considered it necessary to appropriately succeed and preserve cultural legacy, yet they think it unnecessary to deliberately make China's architecture unique. Although employing various perceptual constructs to architecture, most laypersons agreed that viewing architecture in terms of cultural identity is meaningful and significant. They supported the need for an architecture to reflect cultural characteristics, but were uncertain of the future route that architecture in China should take.

The data analyses also found that few laypersons associated cultural identity with political and economic elements, although these elements have strong influence on China's architectural design. In a commune, as an example of political influence on architecture, a person's "class" is identified in the housing assigning system rather than by cultural background. And although contemporary architecture is designed for a future higher living standard, such an improvement is out of laypersons' control and is not to be considered a public demand in architecture.

Laypersons' tendency to associate with cultural identity with buildings full of past design features was probably evoked by architectural signs familiar to them. Such an attitude may be due to the fact that important buildings of the past usually exhibit the monumentality of place, not only of design style. Vernacular and rural buildings have the same effect because, they provide ample and popular meanings. However, laypersons rarely considered old buildings, whether traditional or vernacular, to be the most favorable and creative.

It is also found that laypersons encourage variety in building patterns in future architecture. In this sense, they appreciate both modern duplication of traditional buildings and foreign models. Since most laypersons can not make clear distinction between modern hybrid forms of similar types, the hybrid forms cannot be considered relevant to identity. This makes laypersons' perception of identity differ significantly from that of professionals. Laypersons' judgment toward all design patterns justifies the finding that (1) they tend to think traditional architecture effective in communication, and (2) they prefer more construction of buildings with contemporary meanings and Chinese appearance.

6.5 Comparison of Survey and Semiotic Results

The findings indicate that the perception of cultural identity in China's architecture should place more emphasis on social/behavioral than political elements. This makes social/behavioral concerns major, and political and other concerns minor core elements for Chinese identity. In addition, the difference should be identified between the results of semiotic analyses (Figure 75, 78) and the survey analyses (Figures 79 and 81). The following discussion is a comparison between two close figures, i.e., Figures 76 and 79.

The curves indicate a difference in architectural perception between professionals (Fig. 75) and laypersons (Fig. 78). This is because the ratings of sample Groups One, traditional architecture, and Two, hybrid forms, are rated differently. All of the buildings considered by laypersons as most representative of Chinese identity belong to sample Group One, while the semiotic analysis identified buildings of Group Two as the most representative. But both results indicate greater relevance

of sample Group Two over Group Three, forms of International styles, to Chinese identity.

Figures 76 and 79 have different inter-group relationships between sample Groups One and Two. Group relationships between One and Three and between Two and Three are similar in both Figures because the ratings are gradually decreased between sample groups. Additionally, ratings of sample Group Three are always the lowest in these Figures. Both Figures indicate that hybrid designs of Group Two are regarded as more "Chinese" than the International Style designs of Group Three. This means that hybrid design patterns have a positive effect on the perception of cultural identity in architecture to both design professionals and laypersons.

Laypersons' reluctance in associating political and economic elements with Chinese identity is probably the reason that the results of semiotic analyses differ from those of subjective responses. In semiotic stance, newly constructed residential communes and low-rise apartments are those full of political ideologies, yet most laypersons favored none of them. Because there is a popular clinging to traditional architecture, both feudalist values and its antitheses, the political ideologies, apparently have not influenced this perceptual tendency significantly.

The difference between semiotic and survey results does not reject the validity of either analysis. One may wonder, however, which set of result is more reliable and valid than the other. The answer would be semiotic analysis, because it includes many objective factors that may be overlooked or subjectively set aside by laypersons. Since the survey was meant to project the popular perception of over-seas Chinese students and scholars, the findings must be limited to a certain group of biased opinions. The semiotic analysis, on the other hand, has endeavored to es-tablish objective standards and evaluations that embrace the factors under study. For this reason, the resulting difference was expected, and the hierarchical order of core

elements should be reorganized to establish cultural identity in China's architecture. The strength of these two types of analyses lies in the similarity and difference of final results; they reveal important factors attributed to the perception of cultural identity.

7.0   SUMMARY, CONCLUSIONS and IMPLICATIONS

Chapter Summary

This research was motivated by the lack of cultural identity in the architecture of lesser developed countries, the need to resolve the concern empirically and the need to reinterpret architectural tradition for cultural continuation. Identity in architecture can be interpreted in a notion as broad as "whatever the man builds is the indices of what he is," or as narrow as that defined by specific cultural elements. This research has attempted to conceive the narrower sense of identity. It focused on solving the problem in differentiating architecture that "communicates" cultural identity from that which does not. The criteria for such a differentiation need to be culture-specific and objective.

Culture-specificity means that only those core elements attributed to shaping the built environment are considered as possible criteria. Thus, the research hypothesizes the existence of a certain relationship between architectural signs and cultural elements. It states: <u>Distinct identity in architecture is related to core elements of contemporary culture categorized in political, social/behavioral, economic meanings</u>

and design approaches. Identification of these elements marks the beginning of a self-definition process.[273]

Objectivity means the need to applying the criteria in differentiating architectural features in various designs. Acknowledging the fact that cultural elements vary in place and time, it is necessary to determine important elements from the others. Important ones can be considered as the components of distinct identity as well. Thus the research formulated the second hypothesis by stating: There is a certain hierarchy of importance among the core elements of a selected cultural context which are attributed to distinct identity in architecture.

The differential importance of cultural elements and architectural features make a linguistic analogy between them possible. The features which reflect important elements are considered to be effective means of communication of the identity. The analogy enables the transformation of cultural elements into a scheme of sign types of "levels of communication." It is so designed that by determining sign types of design features cultural distinctness can be evaluated, more aspects than environmental preference are evaluated, and the methods of architectural semioticians in studying sign-meaning relationships are extended. In short, the scheme enables the conception of culturally identifiable architecture.

In addition to construing an empirical approach to differentiate design patterns and identity-components, the research also was interested in finding out why the issue of identity is brought up popularly in certain cultural contexts. The research hypothesize: While modern technology and world development of architecture encourage universality in design, the relatively urgent call for culturally identifiable

[273] See Chapter 2.

architecture has primarily resulted from the need to shelter the slow evolving life-styles and traditional values, than for presentation of identity, per se.

The above hypotheses were tested in a case study of China's architecture. Three major tasks were essential in the case study. First, to identify the cultural elements and their hierarchical importance. Second, to select sample buildings, and categorize their sign types. Finally, to identify culturally distinct design patterns. The following conclusions are drawn from findings obtained in the case study.

7.1 Conclusions

In general, the findings confirm these three hypotheses. Distinct identity in architecture is found to be related to core elements categorized in political, social/behavioral, economic influences and sign-production approaches. The findings of both semiotic and survey analyses indicate such relationships. The second hypothesis is supported by statistical indicators (Table 63, Chapter 6) which indicate the relationships, whether negative or positive, between cultural elements and laypersons' perception. But these indicators only partly support the hierarchical importance of the cultural elements presupposed in Chapter 4. This means that the presupposed hierarchy should be modified to be reconsider social/behavioral elements to be most important; political elements second; economic elements third; and architectural influences last.

The third hypothesis is supported by the finding that the perceived cultural identity of China's architecture is not conspicuously different from that of the past. The finding indicates that traditional architectural patterns are considered by laypersons as the most representative of Chinese identity of today. This is the evi-

dence of the "cultural lag" phenomenon despite traditional cultural elements which were originally attached to architectural features have been changed. Regardless of the need to designate the identity of contemporary culture, modern Western and hybrid designs have not rooted in laypersons' minds. Since Chinese people are slow in accepting the unorthodox and the new, their perception of cultural distinctness seems to be reminiscent of traditional signs. For the people with such a "cultural lag" the gap of perception is obvious between professionals and laypersons. This may be because the former group prefers designs of "high styles" which can be illustrated by modern hybrid designs, and disdain "vernacular" styles preferred by the latter. "High styles" derived from designs of the past or vernacular buildings are likely be unintelligible to laypersons. And laypersons may not be able to associate with modified design features beyond the knowledge of their past experience. Nevertheless, findings of this kind are culture-specific, they should vary between case studies.

The rationale for the importance of political elements to differ from that of social/behavioral elements needs further explanation   First, it is possible that Communist political ideologies have not significantly influenced the perception of what "Chinese" architecture ought to be. And laypersons might have failed to sense political influences on built forms. Second, some buildings, particularly those constructed under the Open-Door Policy, may be overwhelmed by foreign meanings. Third, laypersons are probably reluctant to associate their identities with political ideologies. Fourth, since there was less government involvement in shaping the built environment under the Open-Door Policy, architectural professionals dominated their ideas in design. Fifth, the ongoing national socialization has redefined traditional social structure and values to justify political influences. Sixth, the survey findings indicate that Chinese laypersons' aspiration for new and different things to happen in architectural design is not related to their concern for culturally identifiable architec-

ture. Likewise, laypersons could not make significant distinctions among hybrid forms. As the survey findings indicate, laypersons' concern for creativity is unrelated to the perception of identity in architecture. Finally, some of the philosophical teachings of the tradition have remained important guidelines of Chinese laypersons' judgments. This may account for the popular association of traditional buildings with Chinese identity. Also, signs of the past which are hybridized in contemporary structures are probably more familiar to laypersons than foreign design features.

Acknowledging this rationale, China's architecture can be made culturally identifiable under the following suggested conditions. First, the design should be "culturally responsive" before cultural distinctness is achievable. Second, referring to the findings of semiotics analysis, the hybrid design patterns should display a sign-relationship rated higher than level 54.[274] Third, the building should show the state-of-the-art in synthesizing the old into the new in design. Fourth, the design should reflect the strength of economy and resources available. Fifth, the design should both be large in scale and open to the public to be considered "proletarian" and fundable by the government.[275] Sixth, simplicity in design should be ruled out in such a pursuit of identity because simplicity in design reduces the establishment of distinct identity, and variety in design is conducive to distinctness in design. Although it is arguable that simplified forms/figures record cultural information more compactly, it is more likely that complex forms contain abundant information of various levels to various perceivers. The simplified forms symbolize a new industrial era and is consciously intended to break with the traditional past.

---

[274] Appendix-I.
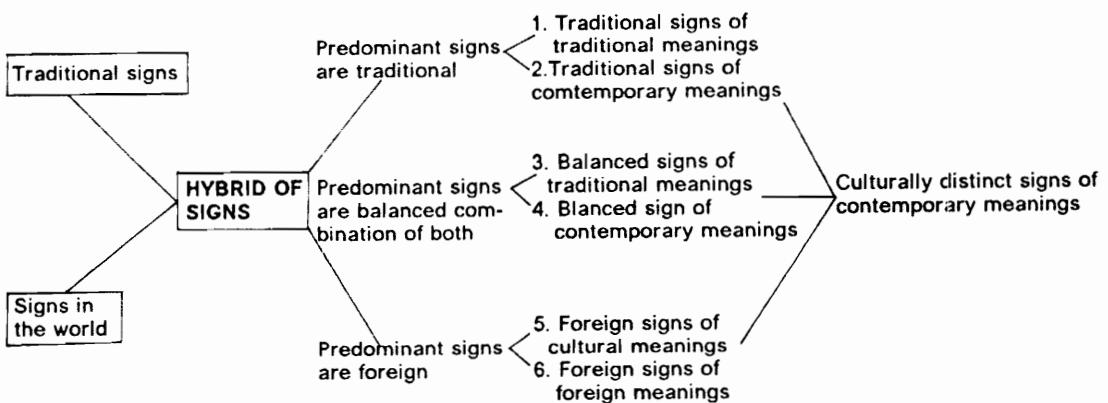
[275] In most cases, a building of a scale larger than a common house discourage contact and interaction in the neighborhood. But this is not the case in China for people tend to justify their identities via public activities in public spaces as well as buildings.

Seventh, designers should endeavor to synthesize traditional features with new meanings rather than use them for the sake of differentiation alone. Otherwise, traditional design features should be abandoned for one's ancestry is no longer an active part of one's identify. Eighth, as long as the political system continues, it remains one of the major determinants of planning and design of the built environment. Designers should realize that while some traditional elements are revitalizing, they play a less important role in design than political elements. This is not only caused by the dominance of political influences, but also by the popular will to obey the rulers and remain suppressed in a society with obvious class distinctions.

By and large, "proletarian" architecture which is imbued with political meanings is far from satisfying the nature of Chinese social life, moral demands, and psychological needs. Given the need to mass-produce and modernize buildings, more emphasis should be given to public spaces and social needs in an explicit and economic way. This means, architects ought to incorporate as many core elements as possible in their designs to satisfy the needs within these conditions.

Ninth, under strict management and control of community and personal life, communes became a useful way to identify a person's class, to design new rituals, and customs of many kinds, alter a person's moral and emotional demands, reduce public spaces and the distance between individuals at the expense of social needs and so forth. Although the survey findings indicate users' strong need for social/behavioral freedom, such a large scale community, resembles the organization of traditional cities, can be regarded as one of the distinct signs of Chinese identity.

Finally, the sample hybrid forms may be distinguished into six relatively distinct patterns of identifiable means of communication as shown in Figure 32. The figure shows that neither traditional signs nor signs in the world should play major roles in communicating distinct identity. Whether features of the past have better inter-sign

Traditional signs

HYBRID OF SIGNS

Signs in the world

Predominant signs are traditional
1. Traditional signs of traditional meanings
2. Traditional signs of comtemporary meanings

Predominant signs are balanced combination of both
3. Balanced signs of traditional meanings
4. Blanced sign of contemporary meanings

Culturally distinct signs of contemporary meanings

Predominant signs are foreign
5. Foreign signs of cultural meanings
6. Foreign signs of foreign meanings

Figure 82.   Patterns of hybrid forms and their inter-relations

relations is not a concern of cultural distinctness, but of aesthetics. Although modification of traditional signs may be essential when new meanings are to be signified, the new/old ratio appearing in a hybrid form should be insignificant. Both the proportion of old signs on modern forms and the extent to which a sign is modified is not as significant as determining whether the hybrid signs are meaningful to function, activities, values and ideologies of the users and the society.

The first of these patterns is represented by the traditional signs of limited association with contemporary culture. Thus, it is not considered culturally distinct. Examples include sample buildings 8, 17, 20, 23, 25, 26, 27, 31, 32, 36, 40, 43, 44, and 45 (Chapter 5). Whether they are classical, vernacular, or classical buildings built today, they are hybrid forms. In this pattern the choice of materials and principles of design are continued from the past.

The second pattern is represented by its traditional signs with contemporary meanings. Examples include buildings 6, 12, 13, 16, 23, 28, 29, 30, 34, 41, 43, and 46 (Chapter 5). The common characteristics of this pattern are new functions and meanings of old signs. Vernacular forms have variously been used to signify office

spaces, gift shops, hotel, and other economic meanings. Palatial signs, on the other hand, are found on top of libraries and gates. Also, many other vernacular patterns are renewed without altering principles of designs for today's needs.

The third pattern is represented by a roughly balanced hybrid of the new and the old which communicate traditional meanings. Buildings 13 and 42 (Chapter 5) belong to this pattern and are not culturally distinct.

The fourth group roughly balances hybrid signs which communicate contemporary meanings. Examples include buildings 5, 7, 10, 11, 14, 18, 37, and 42 (Chapter 5). These signs are characterized by their strong relationships with the core elements and creative production of new signs.

The fifth group, buildings 15, 16, and 35 (Chapter 5), is represented by its "architectural rendering" of Modern Architectural forms through traditional signs without any functional needs.

The last pattern is foreign signs adopted for contemporary use. Examples include buildings 2, 4, 8, 21, 24, 33, 38, and 39 (Chapter 5). These signs are characterized by their limited association with core elements and freedom from redundant design features. They are not culturally distinct.

Of all these hybrid forms, patterns number two, four and five are more likely to be culturally identifiable. Among these three, pattern four illustrates the most significant sign-relationships.

7.2 Implications

The results of this study have important implications for establishing culturally identifiable designs. A culturally identifiable architecture does not necessarily need

to be "creative." Differentiation and continuation are its major concerns. On the other hand, as far as the concerns are met, a building can be culturally meaningful, ideological, and creative in displaying distinct identity.

Achieving distinct identity through visually perceptible signs is inevitable and significant, but creating new signs may not be as achievable as combining signs out of existing patterns. Many signs can be designed onto buildings for communication while being functionally redundant. It is likely that when incorporated and consistently used, redundant signs are what promote architecture from monotonous, sleek and meaningless to meaningful.

Not only built forms account for cultural distinctness. There is always ambiguity between identity and its means of communication. Identity can be communicated by many different means. An old form can serve new functions and vise versa. Designers and investigators should realize the varying importance of cultural elements and relate them to different means of communication. In other words, no single aspect in architecture should account for the distinctness. A combination of physical and non-physical elements compose the distinct identity.

Continuation of the tradition and establishment of identity based on past is a controversial, but essential, approach. For one thing, foreign buildings free of cultural reference are being imported at a high speed and are threatening the preservation of architectural tradition. Although the ambiguity involving hybrid forms is always caused by the coexistence of the signs of different cultural products, these forms provide a reference frame for the past and the future. However, tradition has sometimes been mistakenly treated as an entity foreign to the culture of today. Presence of traditional features does not necessarily relate to distinctness of contemporary culture, nor is it equal to preservation of the tradition. Thus, pursuit of distinct identity in terms of imitation of the past in spirit should be re-approached as an expression

of the present in reality because the culture of today is inclusive of meaningful tradition. In this manner, buildings may respond to contemporary life styles and values, as well as reinterpret and continue tradition.

The sample buildings illustrate that traditional signs can be applied in any type of buildings to provide function without conforming to the signs' original meanings. But the appropriateness of such application should be assessed by specific cultural criteria related to the people who design and use these signs. In this way, signs may attain contemporary meanings.

Important cultural elements, as related to distinct identity in design, can be derived from life styles, social activities and behavioral patterns of ordinary people. Designers/investigators should not overlook the importance of the everyday life of popular culture.

In sum, the systematic approach enables an investigator to perceive the relationships between identities and their components to distinguish architecture which is culturally relevant from that which is not, to suggest proper ways to treat the tradition and the culture and to determine what distinct identity is about. Thus, this approach can be applied to resolving identity problem in architecture of other less developed countries. But survey of laypersons regarding hierarchical importance of cultural elements may not be essential, since laypersons would not likely be thoughtful enough to include the numerous factors possibly relate to the subject.

7.3 Recommendations for Further Study

Completion of this case study does not mean that the research is completed. An investigation should be followed to discern the reliability of the semiotic coding

scheme in architectural design of other cultures. Since application of this scheme is designed to be performed by an insider and architect, its reliability would rely on supports from further applications.

An investigation would be valuable in determining how popular the issue of cultural identity is across various population groups. There may be inconceivable variances of perception of distinct identity between population groups. This study projected only the values across overseas Chinese students who are under the impact of cultural differences but not those who never left China. In other words, studies involving other populations, different professionals, and sample building would be valuable.

In future studies, more emphasis should be placed on finding meanings attached to design features. Enough time should be allotted to allow the investigator to conduct field research to actually experience the values and emotions contained in popular culture. Moreover, this case study should be replicated in larger settings, such as a small town or a business district in a city. Since the visual stimulant, or the sign of cultural identity, could vary by place and time, and since some of the hybrid designs have negative effects on laypersons' perceptions, the possibility exists that other patterns might have a different effect on the measure of cultural identity.

Bibliography

Abel, Chris. (1982) **"Living in a Hybrid World, II: Built Sources of Malaysian Identity,"** in Proceeding of Conference Held at Royal College of Art, London, pp. 11-21.

Agrest, D. and M. Gandelsonas. (1973) **"Critical Remarks of Semiology and Architecture,"** Semiotica, Vol. 9, pp. 252-271.

Altman, Irwin, and Martin Chembers. (1986) **Cultural and Environment,** New York: Cambridge University Press.

Ardalan, Nader. (1979) **"The Visual language of Symbolic Form: A Preliminary Study of Mosque Architecture,"** in Jonathan G. Katz (ed.) Architecture as Symbol and Self-identity, Proceeding of Seminar Four in the Series Architectural Transformation in the Islamic World. Philadelphia: Smith-Edwards-Dunlap Co., pp. 18-36.

Yang, Shijiau. (1985) **"Art Department Building, Northwest Institute for Nationalities,"** Jian-Zhu-Xue-Bao, No. 8, pp. 68-70.

Austin, Michael R. (1986) **"Amos Rapoport and the South Seas,"** Built Form and Cultural Research, Conference Proceeding, pp. 1-5.

Beijing Architectural Design Institute. (1987) **"New Buildings of the National Library of China,"** Jian-Zhu-Xue-Bao, No. 12, pp. 43-45.

Baumeister, Roy F. (1986) **Identity, Cultural Change and the Struggle for the Self,** New York: Oxford University Press.

Bechhoefer, William B. (1983) **"Cultural Context in Design,"** in Architectural Values and World Issues, Proceedings of the 71st Annual Meeting of the Association of Graduate Schools of Architecture, pp. 199-204.

Becker, Franklin. (1977) **Housing Messages,** Stroudsburg, PA: Dowden, Hutchingson & Ross Inc.

Bonta, Juan p. (1979) **Architecture and Its Interpretation,** New York: Rizzoli International Publications, Inc.

Blaser, Werner. (1979) **Courtyard House in China: Tradition and Present,** Stuggart: Birkhauser Berlag Basel.

Blecher, Marc. (1986) **China, Politics, Economics and Society,** London: Feances Pinter Pub.

Blomeyer G. R. and R. M. Helmholtz. (1976) **"Semiotics in architecture, A Classifying Analysis of An Architectural Object,"** Semiosis, Vol. 1, pp. 42-51.

Broadbent, Geoffrey, Richard Bunt, and Charles Jencks (eds.) (1980) **Signs, Symbols, and Architecture,** London: John Wiley and Sons.

----------. (1982) **"Building as Symbols of Political Ideology,"** Semiotics: 1980, pp. 45-54.

----------. (1980) **"Meaning in the Islamic Environment,"** in Islamic Architecture and Urbanism, Selected papers from a symposium organized by the College of Architecture and Planning, 5-10 (Jan), Ed. Germen Agdin.

----------. (1980) **"The Deep Structure of Architecture,"** in his (ed.) Signs, Symbol and Architecture, London: John Wiley and Sons, pp. 119-163.

Bunge, Frederica M. and etc. (eds.) (1981) **China, A Country Study,** The American University.

Chang, Chao-Kang, and Werner Blaser. (1987) **China, Tao in Architecture,** Birkhauser Verlag Basel.

Chen, Chipeng. (1985) **Architecture and Signs,** Taipei, Taiwan: Ming Wen Pub. Inc.

Chen, Taining. (1985) **"Huanglong Hotel, Hangzhou,"** Jian-Zhu-Xue-Bao, No.12, pp. 39-41.

Christenshen, Anne L.G. (1979) **"Dwellings as Communication,"** Ethnologia Scandinavica, 9, pp. 68-88.

Comercio, El. (1988) **"China's Socialism: a Pathetic Waste,"** World Press, (Jan.), p. 8.

Criggs, Janis, K. (1985) **Design Guidelines for a Workers' Community in Shenzhen, People's Republic of China: How Cultural Criteria are Put to Work,** Master thesis, Virginia Polytechnic Institute and State University.

Dai, Nianci. (1986) **"On The Design of Chuei Hotel,"** Building in China, pp. 14-20.

David, Theoharis. (1983) **Search for Identity,** Contemporary Third World Architecture, A Traveling Exhibition Organized by the Dept. of Exhibition, New York: Pratt Institute.

Duncan, James Jr. (1973) **"Landscape Taste as A Symbol of Group Identity: A Westechester County Village,"** The Geographical Review, 63, pp. 334-355.

Diamondstein, Barbaralee. (1980) **American Architecture Now,** New York: Rizzoli International Publications, Inc.

Eco, Umberto. (1979) **A Theory of Semiotics,** Bloomington: Indiana University Press.

Espeland, Wigdis J. (1979) **"The Concept of Identity in Connection with Out-groups and Minorities,"** Ethnologia Scandinavica, No. 9, pp. 139-147.

El-Wakil, Abdel Wahid. (1984) **"Identity, Tradition and Architecture,"** in (ed.) Anthony Hutt Arab Architecture: Past and Present, The Center for Middle Eastern and Islamic Studies, pp. 26-35.

Fan, Jifu. (1986) **"The Cheng Huang Pedestrian Shopping Mall,"** Jian-Zhu-Xue-Bao, No. 6, pp. 14-17.

Fisher, Robert, and Leslie Brown. (1979) **Fodor's People's Republic of China,** New York: David Mckay Company, inc.

Fu, kecheng. (1985) **"Competition Design for the Xidan Shopping Center,"** Jian-Zhu-Xue-Bao, No. 7, pp. 19-23.

Gandelsonas, Mario D. and D. Mouton. (1972) **"On Reading Architecture,"** Progressive Architecture, 3, pp. 37-55.

Gastal, Alfredo. (1982) **Towards a Model of Cultural Analysis for the Designing Process,** Ph.D. Dissertation, University, of Pennsylvania.

Glassie, Henry. (1975) **Folk Housing in Middle Virginia,** Knoxville, TN: University of Tennessee Press.

Gove, Philip B. (1965) **Webster's Third New International Dictionary,** Springfield, MA: G. C. Merrill Company Pub.

Goldstein, Steven M. and etc. (1984) **The People's Republic of China, A Basic Handbook,** New York: Learning Resources in International Studies.

Greene, Herb. (1976) **"Cultural Continuity,"** in Mind and Image, The University Press of Kentucky, pp. 37-45.

Groat, Linda. (1983) **"The Past and Future on Meaning in Architecture: the Case for Architectural Theory as a Basis for Future Research,"** Environmental Design and Research Association (EDRA), No. 13, pp. 29-35.

----------. (1982) **"Meaning in Post-modern Architecture: an Examination Using the Multiple Sorting Task,"** Journal of Environmental Psychology, No. 2, pp. 3-22.

----------. (1981) **"Meaning in Architecture: New Directions and Sources,"** Journal of Environmental Psychology, Vol. 1, pp. 73-85.

Hakim, Besim S. (1983) **"Tradition and Contemporary Islamic Cities,"** Journal of Architectural Education, (summer), pp. 22-28.

Hayward, D.G. (1969) **"An Overview of Psychological Aspects of Homes,"** in R.L. Brauer (ed.) Priorities for Environmental Design Research: Workshop Summaries, pp. 418-419.

Hershberger, Robert G. (1969a) **"Towards a set of Semantic Scale to Measure the Meaning of Architectural Environments,"** EDRA, 3, pp. 6-4-1 - 6-4-10.

----------. (1969b) **A Study of Meaning and Architecture,** Ph.D. Dissertation, University of Pennsylvania, 1969.

Hill, John W. (1983) **"The Conservation of Architectural Tradition in China,"** in Architectural Values and World Issues, pp. 114-124.

Hinton, Harold C. (ed). (1986) **The People's Republic of China 1979-1984,** Vol.2, Wilmington, Delaware: Scholarly Resources Inc.

Ho, Kanchin. (1959) **A History of the Modern Chinese Revolution,** Beijing China: Foreign Language Press.

Ho, Zhaoshu. (1983) **"A Chinese View of Fragrant Hill,"** Architecture, (Nov.), pp. 33-35.

Holod, Renata (ed.) (1983) **Architecture and Community: Building in the Islamic World Today,** Islamic Publication Ltd.

Hook, Brian. (1982) **The Cambridge Encyclopedia of China,** Cambridge: Cambridge University Press.

Hsu, Immanuel C. Y. (1990) **The Rise of China,** New York: Oxford University Press.

----------. (1990) **China Without Mao: in The Search for a New Order,** New York: Oxford University Press.

Hu, Dunchang. (1981) **"More Stress on the Present in Architecture Design,"** Jian-Zhu-Xue-Bao, No. 8, pp. 35-36.

Jencks, Charles. (1972) **"Rhetoric and Architecture,"** Architectural Association Quarterly, Vol. 4, (Oct/Dec), pp. 4-17.

----------. (1981) **The Language of Post-Modern Architecture,** New York: Rizzoli International Pub. Inc.

Jing, Yauji. (1983) **The Process of Chinese Modernization,** Taipei, Taiwan: China Times Pub. Co.

Kawama, Tetsuo. (1985) **"An Analysis of the Decoding Process of International Signs,"** Semiotica, Vol. 57-1/2, pp. 101-115.

Khan, Fazlur R. (1978) **"The Islamic Environment: Can the Future Learn From the Past,"** in Towards an Architecture in the Spirit of Islam, Proceeding of Seminar One in the Series Architectural Transformation in the Islamic World held at Alignment, Fonvieux, France, (Apr.), pp. 32-38.

Khwaja, Zahir-ud Deen. (1978) **"The Spirit of Islamic Architecture,"** in Towards an Architecture in the Spirit of Islam, Proceeding of Seminar One in the Series Architectural Transformation in the Islamic World held at Alignment, Fonvieux, France, (Apr.), pp. 39-42.

Krampen, Martin. (1979) **Meaning in the Urban Environment,** London: Pion Ltd.

Krier, Leon. (1983) **"Radiance of the Past, Revivalism in Context,"** The Architect's Journal, Vol. 178, No. 46, pp. 61-66.

Lewis, John W. (1972) **"Traditional Social Structure and Communist Goal,"** in Yung Wei (ed.) Communist China, Columbus, Ohio: Charles E. Merrill Pub. Co., pp. 128-140.

Lin, Zhiqun. (1987a) **"Development Policy in the Process of Industrialization, Modernization and Urbanization in China,"** Building in China, China Building Technology Development Center, No. 2, pp. 1-6.

----------. (1987b) **"Summary of Residential Development in China,"** City Planning Review, (Jun.), No. 6, pp. 3-5.

Liu, Duenzhen. (1981) **A Brief Review of Chinese Traditional Dwellings,** Taipei, Taiwan: Ming Wen Pub. Inc.

Liu, Kaiji. (1986) **"A Period of Transition in Chinese Architecture,"** Spazio e Societa, No. 34, pp. 116-127.

Lu, Shishao. (1985) **"Comments on Imitation of Reality in Spirit"** Jianjushi, No. 22, pp. 22-26.

Luo, Changren. (1986) **"Urban Development and Architecture in Shenzhen,"** Jian-Zhu-Xue-Bao, No. 8, pp. 2-7.

Martin, Garry, and Peter G. Rowe. (1984) **"Building in the Middle East Today - in Search of a Direction,"** in (ed.) Anthony Hutt Arab Architecture: Past and Present, The Center for Middle Eastern And Islamic Studies, pp. 29-32.

Morris, Charles. (1950) **Signs, Language and Behavior,** New York: Prentice Hall Inc.

Moseley, George. (1968) **China Since 1911,** New York: Harper & Row, Pub.

Nasar, Jack. (1988a) **"Architectural Symbolism: A Study of House-style Meanings,"** EDRA, 19, pp. 163-171.

----------. (1988b) **"Symbolic Meanings of House Style,"** Environment and Behavior, (May), pp. 235-257.

"New Buildings of the National Library of China," Jian-Zhu-Xue-Bao, No. 12, pp. 43-45.

Norusis, Marija J. (1988) **The SPSS Guide to Data Analysis for SPSSX,** Spss Inc.

Osgood, Charles É. (1957) **The Measurement of Meaning,** Urbana: University of Illinois Press.

Peirce, Charles. (1955) **"Logic as Semiotic: The Theory of Signs,"** in Justus Burchler (ed.) Philosophical Writings of Peirce, New York: Dover Publications, Inc., pp. 98-119.

Pelli, Cesar. (1982) **"Fresh Patterns,"** Perspecta, Vol. 19, pp. 127-137.

Peng, Hanqun. (1988) "**Buddhism in China Today,**" China Reconstructs, (Oct.), pp. 8-10.

Perrolle, Pierre M. (Ed.) (1976) **Fundamentals of Chinese Communist Party,** White Plains, NY: International Art and Science Press Inc.

Prak, Niel L. (1968) **The Language of Architecture** Paris: Mouton & Co.

Preziosi, Donald. (1979) **The Semiotics of the Built Environment,** Bloomington: Indiana University press.

Proceedings of Seminar in the Series Architectural Transformation in the Islamic World, (1980) Philadelphia: Dunlap Publishing Co.

Qian, Jiaju. (1988) "**The Primary Stage of Socialism,**" China Reconstructs, (March), pp. 15-18.

Qian, Li. (1986) "**On Reconstructions of Liulichang Street, Beijing,**" Jian-Zhu-Xue-Bao, No. 6, pp. 8-25.

Rapoport, Amos. (1982) **The Meaning of the Built Environment,** Beverly Hills: Sage Publications, Inc.

----------. (1981) "**Identity and Environment: A Cross-cultural Perspective,**" in Housing and Identity: Cross-cultural Perspectives, Ed. J.S. Duncan. London: Croom-Helms, pp. 6-35.

"**Revive into Style: the Search for a New Tradition,**" (1983) The Architect's Journal, Vol. 178, No. 60-90.

Roanoke Times & World News, (1989) Roanoke, Virginia, (Sept. 27).

Rossabach, Sarah. (1983) **Feng Sui, The Chinese Art of Placement,** New York: E.P. Futton, Inc.

Rowe, Peter G. (1984)   "**Problems of Coping with Traditional in Shaping Settlements,**" in Architectural Values and World Issues, Proceeding of the 71th Annual Meeting of the Association of Collegiate School of Architecture, pp. 71-72.

Royse, D.C. (1969) **Social Inference Via Environmental Cues,** Ph.D. Dissertation MIT, Cambridge.

Sadalla, Edward K., Jeffrey Burroughs, & Maureen Quaid. (1970) "**House Form and Social Identity: A Validity Study,**" EDRA, 11, pp. 201-206.

Saussure, Ferdinand. (1979) **Course in General Linguistics,** London: Geral Press.

Schmertz, Mildred. (1980) "**The 1980 Winners of the First Aga Khan Award for Architecture,**" Architectural Record, Vol. 168, (Nov.), pp 104-105.

Sommer, Robert. (1983) **Social Design, Creating Buildings with People in Mind,** Englewood Cliffs, NJ: Prentice-Hall, Inc.

Stretton, Hugh. (1978) **"Poor Communist Cities,"** In his Urban Planning in Rich and Poor Countries, Oxford: Oxford University Press, pp. 132-142.

Su, Gin-Djih. (1964) **Chinese Architecture: Past and Contemporary,** Hong Kong: Sin Poh Amalgamated.

Sumner, Kimberly, S. (1981) **A Study of Cultural Influences on Architecture,** Master Thesis, Virginia Polytechnic Institute and State University.

Sun, Lung Kee. (1983) **The Deep Structure of Chinese Culture,** Hong Kong: Hong Kong Chinese University

Tang, Zudin. (1989) **"Exploration on Certain Problems in Rural Housing Construction, Hunan,** Jian-Zhu-Xue-Bao, No. 5, pp. 42-47.

Tao, Ho. (1965) **"The Problem of A Chinese Architectural Spirit,"** Ekistics, Vol. 20, No. 120, (Nov.), pp. 288-292.

The Aga Khan Awards. **Architecture as Symbol and Self-Identity,** Proceeding of Seminar Four in the Series Architectural Transformations in the Islamic World, Philadelphia: Smith-Edwards-Dunlap Co.

Yao, Yucheng. (1988) **"The Chinese Painting Academy,"** Jian-Zhu-Xue-Bao, No. 9, pp. 34-40.

The Government Information Office, Republic of China. **Republic of China,** Taipei, Taiwan: Hilit Pub. Co.

"The Liyuan Hotel, Huangshan," (1987) Jian-Zhu-Xue-Bao, No. 9, pp. 47-50.

Towards an Architecture in the Spirit of Islam, (1978) Proceeding of Seminar One in the Series Architectural Transformation in the Islamic World held at Alignment, Fonveiux, France, (Apr.).

Tsai, Zhenyi. (1984) **"Design of the Quyang Commune,"** Jian-Zhu-Xue-Bao, No. 3, pp. 42-46.

Tsau, Qinnan. (1980) **"The Term: Cultural Form, Should Not Be Used in Architectural Discourses,"** Jian-Zhu-Xue-Bao, No. 5, pp. 24-25.

Wang, Mingshen. (1986) **"Symposium on the Great Wall Hotel and Conservation of Old Cities,"** Jian-Zhu-Xue-Bao, No. 7, pp. 30-38.

Wang, Dihua. (1981) **"On Symbolic Content and Nationalistic Form in Architecture,"** Jian-Zhu-Xue-Bao, No.2, pp. 29-31.

Wang, Shi-Jen. (1987) **Cultural Form of Contemporary Chinese Architecture in Inter-action with Ration and Romance,** Beijing: Chinese Architectural Industry Publishing Inc., (Dec.).

Wang, Tianxi. (1981) **"The Design of Fragrant Hill Hotel,"** Jian-Zhu-Xue-Bao, No. 6, pp.13-18.

Warfield, James P. (1984) **"Vernacular Influence as Means to Culturally Responsive Architecture,"** Unpublished paper. Champaign, IL: Dept. of Architecture, University of Illinois.

Wei, Yung. (1972) **Communist China,** Columbus, Ohio: Charles E. Merrill Pub. Co.

Weina, Nia. (1988) **"Magic? - Examples of Rural Boom,"** Building in China, Vol. 1, No. 4, (Dec), pp. 36-38.

Wu, Guang-Zu. (1986) **"Chinese Architecture: Tradition or Innovation,"** Spazio e Societa, pp. 84-92.

Wu, Jinxiang, et. al. (1986) **"A Joint Speech,"** Jian-Zhu-Xue-Bao, No. 8, pp. 26-27.

Wu, On-Tai. (1988) **"An Architectural Challenge for China's Future,"** Building in China, Vol. 1, No. 2, (June), pp. 38-39.

Wurtzel, Gary I. (1978) **A Theory of Semiotics, Communications, Technologies, and Culture,** Ph.d. Dissertation New York University.

Xian, Bingren. (1985) **"Fuyuan Market, Ma'anshan,"** Jian-Zhu-Xue-Bao, No. 12, pp. 43-49.

Yan, Jiaqi. (1986) **"Why China Needs Political Reform,"** China Reconstructs, (Nov.), pp. 24-26.

Yang, C. K. (1972) **"Social Structure and Political System,"** in Yung Wei (ed.) Communist China, Columbus, OH: Charles E. Merrill Pub. Co., 1972, pp. 116-127.

Yang, Zishen. (1985) **"Design of Wuyi Mountain Hotel,"** Jian-Zhu-Xue-Bao, No. 1., pp. 16-24.

Yenal, Engin. (1979) **"Designing in the Spirit of Islam,"** Architectural Record, (March), p. 117.

Yu, Qingkang. (1988) **"Integration of Old and New in China's Historical Cities,"** Building in China, Vol. 1, No. 2, pp. 8 -15.

Zhang Qinnan. (1986) **"Change and Development, 1949-1985,"** Spazio e Societa, 34, pp. 109-115.

Zhang, Shaogui. (1981) **"Form and Spirit in One,"** Jian-Zhu-Xue-Bao, No. 4, p. 38.

Zhao, Hanping. (1987) **"Tradition and Modernization,"** <u>China Reconstructs,</u> (May), p. 15.

Zhao, L.Y. (1987) **"In Retrospect of the Chinese Nationalization Movement,"** <u>Jian-Zhu-Xue-Bao,</u> No. 2, pp. 3-15.

Zhao, Xilun. (1982) **"Inheritance and Innovation in China's Rural Housing Development,"** <u>Building in China,</u> Selected Papers, China Building Technology Development Center, No. 2, pp. 16-26.

Zhao, Xue-Dong. (1987) **<u>Attributions of Architectural Form: Models for Understanding and Inheriting Characteristics of Chinese Traditional Form,</u>** Ph.D. Dissertation Sweden: Lund Institute of Technology.

Zhao, Yuanxiang et al. (1985) **"Tiyuanbei Residential District, Tianjin,"** <u>Jian-Zhu-Xue-Bao,</u> No. 5, pp. 11-16.

APPENDICES

Appendix-I   Hierarchial Levels of Architectural Communication Applied in the

Case Study

Level	Sign production	Syntactic	Semantic	Pragmatic
1	Invention	legisign	symbol	argument
2	Ostention	legisign	symbol	argument
3	Replica	legisign	symbol	argument
4	Recognition	legisign	symbol	argument
5	Invention	sigsign	symbol	argument
6	Ostention	singsign	symbol	argument
7	Replica	sinsign	symbol	argument
8	Recognition	sinsign	symbol	argument
9	Invention	qualisign	symbol	argument
10	Ostention	qualisign	symbol	argument
11	Replica	qualisign	symbol	argument
12	qualisign	qualisign	symbol	argument
13	Invention	legisign	index	argument
14	Ostention	legisign	index	argument
15	Replica	legisign	index	argument
16	Recognition	legisign	index	argument
17	Invention	sinsign	index	argument
18	Ostention	sinsign	index	argument
19	Replica	sinsign	index	argument
20	Recognition	sinsign	index	argument
21	Invention	qualisign	index	argument
22	Ostention	qualisign	index	argument
23	Replica	qualisign	index	argument
24	Recognition	qualisign	index	argument
25	Invention	legisign	icon	argument
26	Ostention	legisign	icon	argument
27	Replica	legisign	icon	argument
28	Recognition	legisign	icon	argument
29	Invention	sinsign	icon	argument
30	Ostention	sinsign	icon	argument
31	Replica	sinsign	icon	argument
32	Recognition	sigsign	icon	argument
33	Invention	qualisign	icon	argument
34	Ostention	qualisign	icon	argument
35	Replica	qualisign	icon	argument
36	Recognition	qualisign	icon	argument
37	Invention	legisign	symbol	dicent
38	Ostention	legisign	symbol	dicent
39	Replica	legisign	symbol	dicent

40	Recognition	legisign	symbol	dicent
41	Invention	sinsign	symbol	dicent
42	Ostention	sinsign	symbol	dicent
43	Replica	sinsign	symbol	dicent
44	Recognition	sinsign	symbol	dicent
45	Invention	qualisign	Symbol	dicent
46	Ostention	qualisign	symbol	dicent
47	Replica	qualisign	symbol	dicent
48	Recognition	qualisign	symbol	dicent
49	Invention	legisign	index	dicent
50	Ostention	legisign	index	dicent
51	Replica	legisign	index	dicent
52	Recognition	legisign	index	dicent
53	Invention	sinsign	index	dicent
54	Ostention	sinsign	index	dicent
55	Replica	sinsign	index	dicent
56	Recognition	sinsign	index	dicent
57	Inventino	qualisign	index	dicent
58	Ostention	qualisign	index	dicent
59	Replica	qualisign	index	dicent
60	Recognition	qualisign	index	dicent
61	Invention	legisign	icon	dicent
62	Ostention	legisign	icon	dicent
63	Replica	legisign	icon	dicent
64	Recognition	legisign	icon	dicent
65	Invention	sinsign	icon	dicent
66	Ostention	sinsign	icon	dicent
67	Replica	sinsign	icon	dicent
68	Recognition	sinsign	icon	dicent
69	Invention	qualisign	icon	dicent
70	Ostention	qualisign	icon	dicent
71	Replica	qualisign	icon	dicent
72	Recognition	qualisign	icon	dicen
73	Invention	legisign	symbol	rheme
74	Ostention	legisign	symbol	rheme
75	Replica	legisign	symbol	rheme
76	Recognition	legisign	symbol	rheme
77	Invention	sinsign	symbol	rheme
78	Ostention	sinsign	symbol	rheme
79	Replica	sinsign	symbol	rheme

80	Recognition	sinsign	symbol	rheme
81	Invention	qualisign	symbol	rheme
82	Ostention	qualisign	symbol	rheme
83	Replica	qualisign	symbol	rheme
84	Recognition	qualisign	symbol	rheme
85	Invention	legisign	index	rheme
86	Ostention	legisign	index	rheme
87	Replica	legisign	index	rheme
88	Recognition	legisign	index	rheme
89	Invention	sinsign	index	rheme
90	Ostention	sinsign	index	rheme
91	Replica	sinsign	index	rheme
92	Recognition	sinsign	index	rheme
93	Invention	qualisign	index	rheme
94	Ostention	qualisign	index	rheme
95	Replica	qualisign	index	rheme
96	Recognition	qualisign	index	rheme
97	Invention	legisign	icon	rheme
98	Ostention	legisign	icon	rheme
99	Replica	legisign	icon	rheme
100	Recognition	legisign	icon	rheme
101	Invention	sigsign	icon	rheme
102	Ostention	sinsign	icon	rheme
103	Replica	sinsign	icon	rheme
104	Recognition	sinsign	icon	rheme
105	Invention	qualisign	icon	rheme
106	Ostention	qualisign	icon	rheme
107	Replica	qualisign	icon	rheme
108	Recognition	qualisign	icon	rheme

Appendix-II   Questionnaire Used in the Case Study

Dear Sir or Madam:

I am a Taiwanese student who is studying in the Dept. of Architecture and Urban Studies at Virginia Tech. I am carrying out my graduate research on cultural identity in China's contemporary architecture. This questionnaire is designed to obtain information about public perception in architectural design. Because of your previous stay in China, you are invited to answer the questions to help me in my research work. The cultural identity referred to here is the distinctiveness of architecture in appearance or in spirit you may have sensed as you traveled.

This questionnaire is composed of two parts, part one, the questions, and part two, photos and graphics of buildings. Please refer to the information in part two to answer the questions in part one. In part two, I took most of the photos in China between 1987 and 1988. The others were copied from magazines.

As you answer these questions, try to base your personal judgment on the architectural design of apartment buildings and hotels you stayed at or walked by. If you are not sure how to respond to a particular statement, simply circle the "Don't Know" category.

Thank you for your help!

Chris Chang

Respondent Number: _____

Please sort the buildings in Part II into groups of similar identity, and answer the following questions.

1. Write down the figure numbers of the buildings into the groups that you have formed, and indicate the most distinguishing feature(s) of each building following its number.

    Example: Group 1: #5 (Western style pointed roof, window frames of classical style, etc.), #35 (traditional gabled roof),...

    _____

    _____

    _____

    _____

    _____

    _____

    _____

    _____

2. Rate the above groups by the degree to which they reflect the Chinese identity and indicate the type of Chinese identity you used to sort these buildings.

    Example: The second: Group No. 5, modern China with traditional features
    The sixth: Group No. 4, Chinese socialist

    The first: Group No._____

    The second: Group No._____

    The third: Group No._____

    The fourth: Group No._____

    The fifth: Group No._____

    The sixth: Group No._____

    The seventh: Group No._____

    And so forth:

    _____

3. Point out the group of buildings you like most.   No._____

4.   Point out the group of buildings you regard the most creative.   No. _____

5.   If you could think of any, please specify other architecture designs which are not included in Part II, but which showed Chinese identity to you.

                                                                Don't Know

      Name(s) and location(s) of architecture:

      _____

      _____

      _____

      _____

Please indicate the extent to which you agree or disagree with the following statements.

		Strongly Disagree			Strongly Agree	
		1	2	3	4	5
6.	Industrialization of architecture is a waste of time and money.	1	2	3	4	5
7.	I like to try new and different things.	1	2	3	4	5
	Don't Know					
8.	Architecture is meaningless to me.	1	2	3	4	5
	Don't Know					
9.	I am less interested in the appearance (interior and exterior) of a building than its comfort and arrangements.	1	2	3	4	5
	Don't Know					
10.	My ideal house design should be a symbol of myself, my own personality.	1	2	3	4	5
	Don't Know					
11.	It is important to establish my identity within my work places, and neighborhoods.	1	2	3	4	5
	Don't Know					
12.	I like design objects that are free of decorative elements.	1	2	3	4	5
	Don't Know					
13.	I care very much about how the Chinese are able to maintain cultural characteristics in painting, literature and drama.	1	2	3	4	5
	Don't Know					

14. For a modernized and progressive China, the Chinese should endeavor to adopt western models of development and set aside the current state-run economic system.

   1 2 3 4 5
Don't Know

15. The exterior appearance of buildings is not important to me.

   1 2 3 4 5
Don't Know

16. The exterior image of modern China's architecture should project our present culture and life styles.

   1 2 3 4 5
Don't Know

17. I do not appreciate any architecture design except that of my own house.

   1 2 3 4 5
Don't Know

18. I care about the future appearance of China's architecture.

   1 2 3 4 5
Don't Know

19. I think that the cultural identity of modern China's architecture is adequate.

   1 2 3 4 5
Don't Know

20. I think that making cultural distinction in architecture will not be important in a highly progressive society.

   1 2 3 4 5
Don't Know

21. I like buildings in China to be unique.

   1 2 3 4 5
Don't Know

22. I think that Chinese architects should not only modernize but also appropriately incorporate cultural characteristics in certain architectural designs.

   1 2 3 4
Don't Know

23. I do not think architecture in China express any cultural identity at all.

   1 2 3 4 5
Don't Know

The following are suggested approaches for the design of Chinese identity in architecture. Please indicate the extent to which you agree or disagree with them.

		Strongly Disagree			Strongly Agree	
24.	To reproduce classical architecture in reinforced concrete and other modern construction materials.	1	2	3	4	5
		Don't Know				
25.	To design based on classical principles but physical features are modified and simplified.	1	2	3	4	5
		Don't K				
26.	To design neither by imitating foreign nor Chinese traditional	1	2	3	4	5

models.   Don't Know

27. To hybridize the essence of Chinese traditional and modern architecture.

         1   2   3   4   5
         Don't know

28. Not all architecture should display Chinese identity; some should maintain classical styles, as in governmental buildings; others should have modern appearance such as in hotels; still others should remain local and traditional, such as in rural housing.

         1   2   3   4   5
         Don't Know

---

29. Check among the following items and circle those which are essential to the first impression of Chinese identity in architecture. Add additional elements if you want to.

Building function / economic value of a building / primary socialist stage / traditional architectural characteristics / client's (the government) demands / overall considerations of urban development / the open-door policies / government official's opinions / Western architectural characteristics / economic reforms and the Open-Door Policy/ / political ideologies reflected on a building / the immediate urban setting / traditional decorative details on architecture / present life styles / dressing and outfits / political influence/ the government's plan for environmental control/ the building users

_____

_____

Any other comments?

_____

_____

Personal profile

Date: __/__/____

30. Sex: (1) male, (2) female ---- [   ]

31. Age: ---- [   ]

32. Occupation:_____; Area of major:_____

33. Highest education level completed:_____

34. The cities or towns in which you have spent most of your life time:

---

35. How long have you been in the United States:_____years.

36. Place of birth:_____(Province), China;

37. Did you ever set up specific space or corner for your religious beliefs or customs in your home in China?

Yes_____. Which type?_____. (e.g. ancestor worshiping, Buddhism, Christianity, Islam, or others.)

If not, did you participate periodic or seasonal religious activities?

Yes_____. Which type?_____, (Ancestor worshiping, Buddhism, Christianity, Islam, or others.)

and on what type of occasion?_____. (Temples, churches, friend's house, or others.)

38. Regardless of China's current policies, do you appreciate traditional customs such as the Dragon-boat race, the Mid-autumn festival, and the Lunar new year celebrations?

Yes_____.

No_____. Why?_____

39. If you were asked the same set of questions before you came to the U.S.A, how much would the answers differ from those in this set?

Completely the same _____

Somewhat different _____

Completely different _____

Appendix-III   Sample SPSSX Program Designed for Studying Variable Correlations

RUN NAME   CULTURAL IDENTITY IN ARCHITECTURE
DATA LIST FIXED RECORDS = 3
  /ID 1-2 TECH 3 NEWID 4 MACH 5 COMFT 6 SYMBO 7 PERID 8 CLEAN 9
   MANTN 10 DESERT 11 LOOK 12 REFLT 13 CARENOT 14 CARE 15
   CHIID 16 FUNCTION 17 FUTURE 18 NODIST 19 BOTH 20 AGREE 21
   CONCRETE 22 NEWCLAS 23 MODCLAS 24 BRANEW 25 NEWOLD 26 VARIETY 27
   SEX 29 AGE 30 MAHJOR 31 DEGREE 32 YEAR 33 BIRTH 34 CITY 35
   CITIES 36 RELIGION 37 CUSTOM 38 ANSWER 39 SANATOM 41-42
   HIRISE 43-44 SETBAK 45-46 EXHIB 47-48 LASA 49-50 XIDAN 51-52
   HILL 53-54 DUNHU 55-56 OLDLIB 57-58 WUYI 59-60 XUCHEN 61-62
  /HERO 3-4 FUYUN 5-6 DRAGON 7-8 KUNSHAN 9-10 TORST 11-12
   PAINT 13-14 NEWLIB 15-16 LOCAL 17-18 TEMPL 19-20 QUYAN 21-22
   CRANE 23-24 SUN 25-26 MAO 27-28 CORNER 29-30 SHANXI 31-32
   COURT 33-34 STUDIO 35-36 PEACH 37-38 MIANXI 39-40 FUYAN 41-42
   WATER 43-44 COLONL 45-46 LULICHN 47-48 WUXI 49-50
   MALL 51-52 ART 53-54 MODERN 55-56 SHANHI 57-58
   SUZHOU 59-60 DORM 61-62 PALACE 63-64 FRIEND 65-66
   SHANHOU 67-68 ANHUI 69-70 RURAL 71-72
  /FUNCTON 3 VALUE 4 FIRM 5 CHARACT 6 CLENT 7 CONSID 8
   CONSTRT 9 OFFICE 10 WEST 11 MATER 12 POLITC 13 DECOR 14
   LIFE 15 DRESS 16 USERS 17 CREAT1 19-20 CREAT2 21-22 CREAT3 23-24
   CREAT4 25-26 CREAT5 27-28 CREAT6 29-30 CREAT7 31-32 CREAT8 33-34
   CREAT9 35-36 CREAT10 37-38 CREAT11 39-40 CREAT12 41-42 CREAT13 43-44
   FAVOR1 46-47 FAVOR2 48-49 FAVOR3 50-51 FAVOR4 52-53 FAVOR5 54-55
   FAVOR6 56-57 FAVOR7 58-59 FAVOR8 60-61 FAVOR9 62-63 FAVOR10 64-65
   FAVOR11 66-67 FAVOR12 68-69 FAVOR13 70-71 FAVOR14 72-73
   FAVOR15 74-75 FAVOR16 76-77
BEGIN DATA
013114443211421350443112150 13131122111 05060507050505060010307
  04030508030104040106010109020101010302020209020202010808010101010 20202
  100100010101101 02082100000000000000000000 20821000000000000000000000000000
021513550551515240245222445 11131122111 09070704080210070 20210
  02101009100202100107010120200101030201010105011010030607010203030 10101
  000100000001100 04000000000000000000000000 04000000000000000000000000000000
031413344421513245334443244 13133155111 08060808070804060 20108
  02010803010202020206070208070202070105050520070607020606050202020 50505
  110110010111101 22340000000000000000000000 10131629000000000000000000000000
044412414342414340442233344 22221131121 02060202030602020 60502
  06050302020503050406040402010401030501010120050603050206010505050 10101
  100101101001111 01030406071014152438000000 01030406071014152438000000000000
052414444341414350342111354 12131122111 08060807080801060 30807
  02010107040401010306030201090305030409090908030604020706090202020 90909
  101001100000111 04111538000000000000000000 07131418192400000000000000000000
062511250511515145554133105 12221133121 08090903081002090 40211
  07111108020607100609060410050105060205050520062002070309010707070 50505
  100101000000000 02030821390000000000000000 00000000000000000000000000000000
072414304542523420552443445 12131122121 04050405070320030 10203
  01200203020203010105010103020102010202020206020202010505010101010 50202
  100100000001100 06081115182400000000000000 09121920222326283740414243000000
082512555431515351554123454 12231122121 05060605010501060 40205
  04020105020204010306030404020302040102020208020202040706020404020 20202
  101101100000101 05071419290000000000000000 10131617252730313632353440444546
094312552541424332553223154 13132122122 07070707050704070 10407
  04040407010104040107010104060102010103030308010404040707010404040 30303
  000111010101000 07101213141819243536374142 07101213141819243536374142000000
101413451551213343443110514 22211122112 07060706040606060 10606

0104060601010606010501010604010301010202020701040404060601010401020202
000110000001000 27000000000000000000000000 09121617202223262829344041430000
11251342443151115225122435 22231132122 030909030606060708060604
08060404060608060209020805090201080601010105020706080409010808080801 0101
110101100101111 050607101316171929360000000 27303132404445460000000000000000000
12241243453151344224211244 13132111121 0203030302030203010202
020102030101020201030101030101010102010101030101010203030102020201 01 0101
111011100000100 40000000000000000000000000 170000000000000000000000000000000000000
132412545511515252444143145 13223122121 0505050503030305020404
0204050501010203010501020201010101030101010501030302050501020202010103
000101100101100 0506071929353646000000000 010203040814152133383900000000000
1410142423515142434532435 54 21131122222 04060401040501 06030701
030101040301050103060303080203020301020202080202010305060203020202 0202
100010000001000 2433000000000000000000000000 061838000000000000000000000000000000
15251344443141515233202425 5 14142143221 05060505010101060403 01
010301060303010204060404040304030202030303050306030202050603020204030303
100000000001100 05060711121418000000000000 05060711121418000000000000000000000
16151224243142424244 3244154 24121111122 1109090405040509010505
03040505030101050710080202100606070306060611010301010509060302020206 0606
100101000001100 050710111438000000000000 0917183436370000000000000000000000000
171511554411415221544324255 12131122121 040404040104040401 0203
022004040101020201040101020101010102010101040101010203030101010201 0101
000100000101100 0102030406070814152133 0000 010203040607081415213 30000000000
18112424445242312444 3342245 12132122112 0609040704200409010607
01050120020107020108010107030104010403030320020402010909010101010 30303
100101000101100 041118240000000000000000000 0411182400000000000000000000000000
191313302431514344003500350 23121122112 0605040702050205010605
020102070101020101050101020301030101030303070104010205050301010103 0303
100101100001001 05071214182437000000000000 05071214182437000000000000000000000
201514454441515231254244255 13132122122 0708010905040408020209
060209090201040501080101060301030105030303100207020409080304040403 0303
100000000001100 010335000000000000000000000 06070910131618343637414243000000 00
21052400004150534510423535 5 23221122112 03030303030103030 10103
010103030101030301020101202001020101030102020401020101030301020101010202
000100000000100 01020304050708111415181929 01020304050708111415181929383900
22151355434151524444310025 5 24121122121 1109201005100509010510
0210051004040205060901030220010703020808081106080603090901030303080808
101100000001000 09222640000000000000000000 30313235444454600000000000000000000
234512352551515141553122455 12131122111 0306030203020106010402
01040202040301010306030101040304030204040405030304010206040501010404 04
000100000011000 04061114152938000000000000 0709121819232437424 30000000000000000
241424114442503244334111154 12121121121 0705070704050405010205
030404050101040401070101030201010303020202060102040305050 1030403020202
111111100101111 02040608111538390000000000 05071314181936420000000000000000000
2553125125324242320534532 54 11121122121 010401040404040402 0104
010304040302010103040201010402020101010303040204040104040 3010101020203
100000000100101 07000000000000000000000000 01031002080923242829374142430000
263511353541415031124134134 11211122221 030503030 2030205010203
010203030201010201050102030401020102040404030104040103030102010 2040404
100000000010001 00000000000000000000000000 0912171820222628343740420000000 0
271511322531415233543133254 12121111122 2006060620030306020305
0103030102020501010602012020002010103030404200204010206060401050504 0404
000100000000000 38000000000000000000000000 1218192023272836410000000000000 0000
2815113444215152224241222 54 12231122121 030304040303030303020304
030304040301020301040102020101010203030101050103030204030102020201 0101

100100000000100 010205060708101213161929350 01020506070810121316192935360000
29151244442151524254422445412124122121 020302010302010302010202
030601060304020204050404020504050301050505010405060201200503020204050505
000000000000000 040710142933380000000000 0407101429333800000000000000000000
30251213354151522144303415512222212212 040603030104010602010101
050101040102050102060201050202010202010202030202020503060205050502020202
000101000000100 010615000000000000000000 05071011131416192330000000000000000
311512334541515253442233155111211122122 07111010070807110506008
050908110606020501110101020301040505070303200409050510110105020503030303
110111000011101 1824420000000000000000000 18244200000000000000000000000000000
321513505351515052555254255111211122121 07060407070705060107055
042004040101040401060102200301030104030303070103010406060010404040103033
000100000001000 040000000000000000000000 04000000000000000000000000000000000
331513244452514452223225255141211142121 06040603060703040206077
010706070502010602040201010502025020605050503050607010304050801020505055
111111100100101 121823243742000000000000 121823243742000000000000000000000
341504435321513252553111505121221221111 01020404040401020101044
010401040303010103020303020503050010205050506030103010202050101010505055
100010100000011 030405061113150000000000 330000000000000000000000000000000000
351232535133453355115133535211211221111 01010301050102010304044
030402010303020203010303020403030203020404060304030201010303030304406
011110010011110 010204060815213839000000 330000000000000000000000000000000000
362424030301530043040004004141111511522 06060604020603060305044
030506060303020201060102020501050303050505070304030306060103010205055
101100000001111 202226404200000000000000 0518192324430000000000000000000000
371512434441415243334125135131311211211 04050505070504050103055
020707050201070201050102020301010104050303060103010205050102020105033
001101100001000 010729000000000000000000 0107290000000000000000000000000000000
381554144342424342352213244232111211221 04050505070504050103055
020707050201070201050102020301010104050303060103010205050102020105033
111101100100100 010729000000000000000000 010729000000000000000000000000000000
391013445341512253342202155121311212222 10090807070710090305088
060308030101110302090202020402040208050404141208010607091214160304055
100101010000100 000000000000000000000000 01070000000000000000000000000000000
40141255352151533145413314313231122121 04070404080707050703010707
060105080101060602070303060203020301020202080201010307070303030302022
000001000000100 010304000000000000000000 0000000000000000000000000000000000000
41141254332151424144425215521221121222 060709100606060901041010
02010610010105100109020202040104010106040408030903010709010101010404
100100000101101 01050607103000000000000 38000000000000000000000000000000000
42151155355151515334424325513221131121 06040903080302040702033
012003030110020201040101010501100102080505060109010703041007070705050555
111111000111101 121620222324262834360000 09374142430000000000000000000000
43451344442251433053424324413232133122 060301070101010302010777
08070707010201010203020808200205050104040406050302050703040505050404004
100101000001101 27283437414243000000000000 272834374142430000000000000000000
44151353534151305244034015523121133122 080408040804040401040888
07010804060604080604010102030103010703030307030507070404060702020605055
111000100101001 010305141900000000000000 09222326280000000000000000000000000
END DATA
RECODE SANATOM TO RURAL (1,2,3,=1) (4,5,6=2) (7,8,9=3) (10,11,12,13=4)
    (14,15,16,20=5)
VALUE LABELS SANATOM TO RURAL 1 'EXCELLENT' 2 'GOOD' 3 'FAIR'
    4 'POOR' 5 'BAD'
MISSING VALUES TECH TO NEWOLD (0)
RECODE TECH TO NEWOLD (1,2=1) (3=2) (4,5=3)

```
VALUE LABELS TECH TO NEWOLD 1 'DISAGREE' 2 'NEITHER' 3 'AGREE'
CROSSTABS TABLES = TECH BY SHANXI
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = NEWID BY SHANXI
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = MACH BY SHANXI
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = COMFT BY SHANXI
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = SYMBO BY SHANXI
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = PERID BY SHANXI
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = CLEAN BY SHANXI
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = MANTN BY SHANXI
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = DESERT BY SHANXI
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = LOOK BY SHANXI
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = REFLT BY SHANXI
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = CARENOT BY SHANXI
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = CARE BY SHANXI
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = CHIID BY SHANXI
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = FUNCTION BY SHANXI
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = FUTURE BY SHANXI
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = NODIST BY SHANXI
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = BOTH BY SHANXI
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = AGREE BY SHANXI
```

```
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = CONCRETE BY SHANXI
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = NEWCLAS BY SHANXI
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = MODCLAS BY SHANXI
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = BRANEW BY SHANXI
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = NEWOLD BY SHANXI
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = TECH BY CRANE
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = NEWID BY CRANE
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = MACH BY CRANE
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = COMFT BY CRANE
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = SYMBO BY CRANE
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = PERID BY CRANE
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = CLEAN BY CRANE
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = MANTN BY CRANE
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = DESERT BY CRANE
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = LOOK BY CRANE
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = REFLT BY CRANE
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = CARENOT BY CRANE
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = CARE BY CRANE
OPTIONS 14 15
STATISTICS 1
```

CROSSTABS TABLES = CHIID BY CRANE
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = FUNCTION BY CRANE
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = FUTURE BY CRANE
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = NODIST BY CRANE
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = BOTH BY CRANE
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = AGREE BY CRANE
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = CONCRETE BY CRANE
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = NEWCLAS BY CRANE
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = MODCLAS BY CRANE
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = BRANEW BY CRANE
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = NEWOLD BY CRANE
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = TECH BY DRAGON
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = NEWID BY DRAGON
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = MACH BY DRAGON
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = COMFT BY DRAGON
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = SYMBO BY DRAGON
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = PERID BY DRAGON
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = CLEAN BY DRAGON
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = MANTN BY DRAGON
OPTIONS 14 15

```
STATISTICS 1
CROSSTABS TABLES = DESERT BY DRAGON
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = LOOK BY DRAGON
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = REFLT BY DRAGON
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = CARENOT BY DRAGON
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = CARE BY DRAGON
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = CHIID BY DRAGON
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = FUNCTION BY DRAGON
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = FUTURE BY DRAGON
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = NODIST BY DRAGON
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = BOTH BY DRAGON
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = AGREE BY DRAGON
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = CONCRETE BY DRAGON
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = NEWCLAS BY DRAGON
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = MODCLAS BY DRAGON
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = BRANEW BY DRAGON
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = NEWOLD BY DRAGON
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = TECH BY HILL
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = NEWID BY HILL
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = MACH BY HILL
```

```
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = COMFT BY HILL
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = SYMBO BY HILL
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = PERID BY HILL
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = CLEAN BY HILL
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = MANTN BY HILL
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = DESERT BY HILL
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = LOOK BY HILL
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = REFLT BY HILL
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = CARENOT BY HILL
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = CARE BY HILL
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = CHIID BY HILL
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = FUNCTION BY HILL
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = FUTURE BY HILL
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = NODIST BY HILL
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = BOTH BY HILL
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = AGREE BY HILL
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = CONCRETE BY HILL
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = NEWCLAS BY HILL
OPTIONS 14 15
STATISTICS 1
```

```
CROSSTABS TABLES = MODCLAS BY HILL
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = BRANEW BY HILL
OPTIONS 14 15
STATISTICS 1
CROSSTABS TABLES = NEWOLD BY HILL
OPTIONS 14 15
STATISTICS 1
FINISH
```

Appendix-IV   Cross-tab Tables of Core Elements with the Perceived Cultural Identity in Architecture

OFFICE by SHANXI

Cell contents: Count / Exp Val / Residual

SHANXI

OFFICE	EXCELLEN 1	GOOD 2	FAIR 3	Row Total
IRRELEVANT 0	29 / 28.5 / .5	8 / 8.6 / -.6	1 / .9 / .1	38 / 86.4%
RELEVANT 1	4 / 4.5 / -.5	2 / 1.4 / .6	0 / .1 / -.1	6 / 13.6%
Column Total	33 / 75.0%	10 / 22.7%	1 / 2.3%	44 / 100.0%

OFFICE by CRANE   V-2

Cell contents: Count / Exp Val / Residual

CRANE

OFFICE	EXCELLEN 1	GOOD 2	FAIR 3	Row Total
IRRELEVANT 0	28 / 26.8 / 1.2	10 / 10.4 / -.4	0 / .9 / -.9	38 / 86.4%
RELEVANT 1	3 / 4.2 / -1.2	2 / 1.6 / .4	1 / .1 / .9	6 / 13.6%
Column Total	31 / 70.5%	12 / 27.3%	1 / 2.3%	44 / 100.0%

OFFICE by DRAGON   V-3

Cell contents: Count / Exp Val / Residual

DRAGON

OFFICE	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
IRRELEVANT 0	11 / 11.2 / -.2	15 / 14.7 / .3	10 / 10.4 / -.4	2 / 1.7 / .3	38 / 86.4%
RELEVANT 1	2 / 1.8 / .2	2 / 2.3 / -.3	2 / 1.6 / .4	0 / .3 / -.3	6 / 13.6%
Column Total	13 / 29.5%	17 / 38.6%	12 / 27.3%	2 / 4.5%	44 / 100.0%

OFFICE by HILL   V-4

Cell contents: Count / Exp Val / Residual

HILL

OFFICE	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
IRRELEVANT 0	14 / 13.8 / .2	18 / 18.1 / -.1	4 / 3.5 / .5	2 / 2.6 / -.6	38 / 86.4%
RELEVANT 1	2 / 2.2 / -.2	3 / 2.9 / .1	0 / .5 / -.5	1 / .4 / .6	6 / 13.6%
Column Total	16 / 36.4%	21 / 47.7%	4 / 9.1%	3 / 6.8%	44 / 100.0%

OFFICE by MODERN   V-5

Cell contents: Count / Exp Val / Residual

MODERN

OFFICE	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
IRRELEVANT 0	1 / 1.7 / -.7	10 / 9.5 / .5	13 / 11.2 / 1.8	14 / 15.5 / -1.5	38 / 86.4%
RELEVANT 1	1 / .3 / .7	1 / 1.5 / -.5	0 / 1.8 / -1.8	4 / 2.5 / 1.5	6 / 13.6%
Column Total	2 / 4.5%	11 / 25.0%	13 / 29.5%	18 / 40.9%	44 / 100.0%

OFFICE by HIRISE   V-6

Cell contents: Count / Exp Val / Residual

HIRISE

OFFICE	EXCELLEN 1	GOOD 2	FAIR 3	POOR 4	BAD 5	Row Total
IRRELEVANT 0	0 / .9 / -.9	5 / 4.3 / .7	12 / 10.4 / 1.6	21 / 21.6 / -.6	0 / .9 / -.9	38 / 86.4%
RELEVANT 1	1 / .1 / .9	0 / .7 / -.7	0 / 1.6 / -1.6	4 / 3.4 / .6	1 / .1 / .9	6 / 13.6%
Column Total	1 / 2.3%	5 / 11.4%	12 / 27.3%	25 / 56.8%	1 / 2.3%	44 / 100.0%

POLITC by SHANXI — V-7

SHANXI

POLITC	Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	Row Total
IRRELEVANT 0		29 / 28.5 / .5	8 / 8.6 / -.6	1 / .9 / .1	38 / 86.4%
RELEVANT 1		4 / 4.5 / -.5	2 / 1.4 / .6	0 / .1 / -.1	6 / 13.6%
Column Total		33 / 75.0%	10 / 22.7%	1 / 2.3%	44 / 100.0%

POLITC by CRANE — V-8

CRANE

POLITC	Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	Row Total
IRRELEVANT 0		28 / 26.8 / 1.2	8 / 8.6 / -.6	2 / 2.6 / -.6	38 / 86.4%
RELEVANT 1		3 / 4.2 / -1.2	2 / 1.4 / .6	1 / .4 / .6	6 / 13.6%
Column Total		31 / 70.5%	10 / 22.7%	3 / 6.8%	44 / 100.0%

POLITC by DRAGON — V-9

DRAGON

POLITC	Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
IRRELEVANT 0		11 / 11.2 / -.2	15 / 14.7 / .3	10 / 10.4 / -.4	2 / 1.7 / .3	38 / 86.4%
RELEVANT 1		2 / 1.8 / .2	2 / 2.3 / -.3	2 / 1.6 / .4	0 / .3 / -.3	6 / 13.6%
Column Total		13 / 29.5%	17 / 38.6%	12 / 27.3%	2 / 4.5%	44 / 100.0%

POLITC by HILL — V-10

HILL

POLITC	Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
IRRELEVANT 0		12 / 13.8 / -1.8	20 / 18.1 / 1.9	3 / 3.5 / -.5	3 / 2.6 / .4	38 / 86.4%
RELEVANT 1		4 / 2.2 / 1.8	1 / 2.9 / -1.9	1 / .5 / .5	0 / .4 / -.4	6 / 13.6%
Column Total		16 / 36.4%	21 / 47.7%	4 / 9.1%	3 / 6.8%	44 / 100.0%

POLITC by MODERN — V-11

MODERN

POLITC	Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
IRRELEVANT 0		1 / 1.7 / -.7	8 / 9.5 / -1.5	13 / 11.2 / 1.8	16 / 15.5 / .5	38 / 86.4%
RELEVANT 1		1 / .3 / .7	3 / 1.5 / 1.5	0 / 1.8 / -1.8	2 / 2.5 / -.5	6 / 13.6%
Column Total		2 / 4.5%	11 / 25.0%	13 / 29.5%	18 / 40.9%	44 / 100.0%

POLITC by HIRISE — V-12

HIRISE

POLITC	Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	POOR 4	BAD 5	Row Total
IRRELEVANT 0		0 / .9 / -.9	1 / .9 / .1	5 / 4.5 / .7	10 / 10.4 / -.4	22 / 21.6 / .4	38 / 86.4%
RELEVANT 1		1 / .1 / .9	0 / .1 / -.1	0 / .7 / -.7	2 / 1.6 / .4	3 / 3.4 / -.4	6 / 13.6%
Column Total		1 / 2.3%	1 / 2.3%	5 / 11.4%	12 / 27.3%	25 / 56.8%	44 / 100.0%

LIFE by SHANXI   V-13

SHANXI

Count Exp Val Residual	EXCELLENT 1	GOOD 2	FAIR 3	Row Total
LIFE				
IRRELEVANT 0	10 10.5 -.5	4 3.2 .8	0 .3 -.3	14 31.8%
RELEVANT 1	23 22.5 .5	6 6.8 -.8	1 .7 .3	30 68.2%
Column Total	33 75.0%	10 22.7%	1 2.3%	44 100.0%

LIFE by CRANE   V-14

CRANE

Count Exp Val Residual	EXCELLENT 1	GOOD 2	FAIR 3	Row Total
LIFE				
IRRELEVANT 0	9 9.9 -.9	4 3.2 .8	1 1.0 .0	14 31.8%
RELEVANT 1	22 21.1 .9	6 6.8 -.8	2 2.0 .0	30 68.2%
Column Total	31 70.5%	10 22.7%	3 6.8%	44 100.0%

LIFE by DRAGON   V-15

DRAGON

Count Exp Val Residual	EXCELLENT 1	GOOD 2	FAIR 3	BAD 4	Row Total
LIFE					
IRRELEVANT 0	5 4.1 .9	5 5.4 -.4	3 3.8 -.8	1 .6 .4	14 31.8%
RELEVANT 1	8 8.9 -.9	12 11.6 .4	9 8.2 .8	1 1.4 -.4	30 68.2%
Column Total	13 29.5%	17 38.6%	12 27.3%	2 4.5%	44 100.0%

LIFE by HILL   V-16

HILL

Count Exp Val Residual	EXCELLENT 1	GOOD 2	FAIR 3	BAD 4	Row Total
LIFE					
IRRELEVANT 0	7 5.1 1.9	6 6.7 -.7	1 1.3 -.3	0 1.0 -1.0	14 31.8%
RELEVANT 1	9 10.9 -1.9	15 14.3 .7	3 2.7 .3	3 2.0 1.0	30 68.2%
Column Total	16 36.4%	21 47.7%	4 9.1%	3 6.8%	44 100.0%

LIFE by MODERN   V-17

MODERN

Count Exp Val Residual	EXCELLENT 1	GOOD 2	FAIR 3	BAD 4	Row Total
LIFE					
IRRELEVANT 0	1 .6 .4	4 3.5 .5	4 4.1 -.1	5 5.7 -.7	14 31.8%
RELEVANT 1	1 1.4 -.4	7 7.5 -.5	9 8.9 .1	13 12.3 .7	30 68.2%
Column Total	2 4.5%	11 25.0%	13 29.5%	18 40.9%	44 100.0%

LIFE by HIRISE   V-18

HIRISE

Count Exp Val Residual	EXCELLENT 1	GOOD 2	FAIR 3	POOR 4	BAD 5	Row Total
LIFE						
IRRELEVANT 0	0 .3 -.3	1 .3 .7	1 1.6 -.6	4 3.8 .2	8 8.0 .0	14 31.8%
RELEVANT 1	1 .7 .3	0 .7 -.7	4 3.4 .6	8 8.2 -.2	17 17.0 .0	30 68.2%
Column Total	1 2.3%	1 2.3%	5 11.4%	12 27.3%	25 56.8%	44 100.0%

V-19

CLENT by MODERN

Count Exp Val Residual	MODERN EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
CLENT					
IRRELEVANT 0	2 / 1.5 / .5	8 / 8.5 / -.5	11 / 10.0 / 1.0	14 / 13.9 / .1	34 77.3%
RELEVANT 1	1 / 1.5 / -.5	3 / 2.5 / .5	2 / 3.0 / -1.0	4 / 4.1 / -.1	10 22.7%
Column Total	2 4.5%	11 25.0%	13 29.5%	18 40.9%	44 100.0%

V-20

CLENT by HILL

Count Exp Val Residual	HILL EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
CLENT					
IRRELEVANT 0	12 / 12.4 / -.4	17 / 16.2 / .8	2 / 3.1 / -1.1	3 / 2.3 / .7	34 77.3%
RELEVANT 1	4 / 3.6 / .4	4 / 4.8 / -.8	2 / .9 / 1.1	0 / .7 / -.7	10 22.7%
Column Total	16 36.4%	21 47.7%	4 9.1%	3 6.8%	44 100.0%

V-21

CLENT by DRAGON

Count Exp Val Residual	DRAGON EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
CLENT					
IRRELEVANT 0	10 / 10.0 / .0	14 / 13.1 / .9	8 / 9.3 / -1.3	2 / 1.5 / .5	34 77.3%
RELEVANT 1	3 / 3.0 / .0	3 / 3.9 / -.9	4 / 2.7 / 1.3	0 / .5 / -.5	10 22.7%
Column Total	13 29.5%	17 38.6%	12 27.3%	2 4.5%	44 100.0%

V-22

CLENT by SHANXI

Count Exp Val Residual	SHANXI EXCELLEN 1	GOOD 2	FAIR 3	Row Total
CLENT				
IRRELEVANT 0	25 / 25.5 / -.5	8 / 7.7 / .3	1 / .8 / .2	34 77.3%
RELEVANT 1	8 / 7.5 / .5	2 / 2.3 / -.3	0 / .2 / -.2	10 22.7%
Column Total	33 75.0%	10 22.7%	1 2.3%	44 100.0%

V-23

CLENT by CRANE

Count Exp Val Residual	CRANE EXCELLEN 1	GOOD 2	FAIR 3	Row Total
CLENT				
IRRELEVANT 0	24 / 24.0 / .0	8 / 7.7 / .3	2 / 2.3 / -.3	34 77.3%
RELEVANT 1	7 / 7.0 / .0	2 / 2.3 / -.3	1 / .7 / .3	10 22.7%
Column Total	31 70.5%	10 22.7%	3 6.8%	44 100.0%

V-24

CLENT by HIRISE

Count Exp Val Residual	HIRISE EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
CLENT					
IRRELEVANT 0	0 / .8 / -.8	5 / 4.6 / .4	9 / 9.3 / -.3	20 / 19.3 / .7	34 77.3%
RELEVANT 1	1 / .2 / .8	1 / 1.4 / -.4	3 / 2.7 / .3	5 / 5.7 / -.7	10 22.7%
Column Total	1 2.3%	6 13.6%	12 27.3%	25 56.8%	44 100.0%

NEWOLD by HILL — V-28

HILL

NEWOLD	Count / Exp Val / Residual	EXCELLENT 1	GOOD 2	FAIR 3	BAD 4	Row Total
DISAGREE (1)	Count	0	0	1	0	1
	Exp Val	.3	.5	.1	.1	2.4%
	Residual	-.3	-.5	.9	-.1	
NEITHER (2)	Count	2	1	0	0	3
	Exp Val	1.0	1.5	.3	.2	7.3%
	Residual	1.0	-1.5	-.3	-.2	
AGREE (3)	Count	12	19	3	3	37
	Exp Val	12.6	18.0	3.6	2.7	90.2%
	Residual	-.6	1.0	-.6	.3	
Column Total		14 (34.1%)	20 (48.8%)	4 (9.8%)	3 (7.3%)	41 (100.0%)

NEWOLD by MODERN — V-29

MODERN

NEWOLD	Count / Exp Val / Residual	EXCELLENT 1	GOOD 2	FAIR 3	BAD 4	Row Total
DISAGREE (1)	Count	0	0	1	0	1
	Exp Val	.1	.3	.3	.3	2.4%
	Residual	-.1	-.3	.7	-.3	
NEITHER (2)	Count	1	1	1	0	3
	Exp Val	.3	.8	1.0	.9	7.3%
	Residual	.7	.2	.0	-.9	
AGREE (3)	Count	3	10	12	12	37
	Exp Val	3.6	9.9	12.6	10.8	90.2%
	Residual	-.6	.1	-.6	1.2	
Column Total		4 (9.8%)	11 (26.8%)	14 (34.1%)	12 (29.3%)	41 (100.0%)

NEWOLD by HIRISE — V-30

HIRISE

NEWOLD	Count / Exp Val / Residual	EXCELLENT 1	FAIR 3	POOR 4	BAD 5	Row Total
DISAGREE (1)	Count	0	0	0	1	1
	Exp Val	.0	.1	.3	.6	2.4%
	Residual	.0	-.1	-.3	.4	
NEITHER (2)	Count	1	0	2	0	3
	Exp Val	.1	.4	.9	1.7	7.3%
	Residual	.9	-.4	1.1	-1.7	
AGREE (3)	Count	0	5	10	22	37
	Exp Val	.9	4.5	10.8	20.8	90.2%
	Residual	-.9	.5	-.8	1.2	
Column Total		1 (2.4%)	5 (12.2%)	12 (29.3%)	23 (56.1%)	41 (100.0%)

NEWOLD by SHANXI — V-25

SHANXI

NEWOLD	Count / Exp Val / Residual	EXCELLENT 1	GOOD 2	FAIR 3	Row Total
DISAGREE (1)	Count	1	0	0	1
	Exp Val	.8	.2	.0	2.4%
	Residual	.2	-.2	.0	
NEITHER (2)	Count	2	1	0	3
	Exp Val	2.3	.7	.1	7.3%
	Residual	-.3	.3	-.1	
AGREE (3)	Count	28	8	1	37
	Exp Val	28.0	8.1	.9	90.2%
	Residual	.0	-.1	.1	
Column Total		31 (75.6%)	9 (22.0%)	1 (2.4%)	41 (100.0%)

NEWOLD by CRANE — V-26

CRANE

NEWOLD	Count / Exp Val / Residual	EXCELLENT 1	GOOD 2	FAIR 3	Row Total
DISAGREE (1)	Count	1	0	0	1
	Exp Val	.9	.1	.0	2.4%
	Residual	.1	-.1	.0	
NEITHER (2)	Count	3	0	0	3
	Exp Val	2.6	.2	.1	7.3%
	Residual	.4	-.2	-.1	
AGREE (3)	Count	32	3	2	37
	Exp Val	32.5	2.7	1.8	90.2%
	Residual	-.5	.3	.2	
Column Total		36 (87.8%)	3 (7.3%)	2 (4.9%)	41 (100.0%)

NEWOLD by DRAGON — V-27

DRAGON

NEWOLD	Count / Exp Val / Residual	EXCELLENT 1	GOOD 2	FAIR 3	BAD 4	Row Total
DISAGREE (1)	Count	0	0	1	0	1
	Exp Val	.3	.4	.3	.0	2.4%
	Residual	-.3	-.4	.7	.0	
NEITHER (2)	Count	1	1	1	0	3
	Exp Val	.9	1.2	.8	.1	7.3%
	Residual	.1	-.2	.2	-.1	
AGREE (3)	Count	11	16	9	1	37
	Exp Val	10.8	15.3	9.9	.9	90.2%
	Residual	.2	.7	-.9	.1	
Column Total		12 (29.3%)	17 (41.5%)	11 (26.8%)	1 (2.4%)	41 (100.0%)

CARENOT by HILL

HILL

Count Exp Val Residual	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
CARENOT					
DISAGREE 1	15 15.2 -.2	18 18.1 -.1	4 3.8 .2	3 2.9 .1	40 95.2%
NEITHER 2	0 .4 -.4	1 .5 .5	0 .1 -.1	0 .1 -.1	1 2.4%
AGREE 3	1 .4 .6	0 .5 -.5	0 .1 -.1	0 .1 -.1	1 2.4%
Column Total	16 38.1%	19 45.2%	4 9.5%	3 7.1%	42 100.0%

CARENOT by MODERN

MODERN

Count Exp Val Residual	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
CARENOT					
DISAGREE 1	4 4.8 -.8	11 10.5 .5	13 13.3 -.3	12 11.4 .6	40 95.2%
NEITHER 2	0 .1 -.1	0 .3 -.3	1 .3 .7	0 .3 -.3	1 2.4%
AGREE 3	1 .1 .9	0 .3 -.3	0 .3 -.3	0 .3 -.3	1 2.4%
Column Total	5 11.9%	11 26.2%	14 33.3%	12 28.6%	42 100.0%

CARENOT by HIRISE

HIRISE

Count Exp Val Residual	EXCELLEN 1	GOOD 2	FAIR 3	POOR 4	BAD 5	Row Total
CARENOT						
DISAGREE 1	1 1.0 -1.0	1 1.0 .0	4 3.8 .2	11 10.5 .5	24 23.8 .2	40 95.2%
NEITHER 2	0 .0 .0	0 .0 .0	0 .1 -.1	0 .3 -.3	1 .6 .4	1 2.4%
AGREE 3	1 .0 1.0	0 .0 .0	0 .1 -.1	0 .3 -.3	0 .6 -.6	1 2.4%
Column Total	1 2.4%	1 2.4%	4 9.5%	11 26.2%	25 59.5%	42 100.0%

CARENOT by SHANXI

SHANXI

Count Exp Val Residual	EXCELLEN 1	GOOD 2	FAIR 3	Row Total
CARENOT				
DISAGREE 1	30 29.5 .5	9 9.5 -.5	1 1.0 .0	40 95.2%
NEITHER 2	1 .7 .3	0 .2 -.2	0 .0 .0	1 2.4%
AGREE 3	0 .7 -.7	1 .2 .8	0 .0 .0	1 2.4%
Column Total	31 73.8%	10 23.8%	1 2.4%	42 100.0%

CARENOT by CRANE

CRANE

Count Exp Val Residual	EXCELLEN 1	GOOD 2	FAIR 3	Row Total
CARENOT				
DISAGREE 1	34 34.3 -.3	4 3.8 .2	2 1.9 .1	40 95.2%
NEITHER 2	1 .9 .1	0 .1 -.1	0 .0 .0	1 2.4%
AGREE 3	1 .9 .1	0 .1 -.1	0 .0 .0	1 2.4%
Column Total	36 85.7%	4 9.5%	2 4.8%	42 100.0%

CARENOT by DRAGON

DRAGON

Count Exp Val Residual	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
CARENOT					
DISAGREE 1	12 12.4 -.4	15 14.3 .7	11 11.4 -.4	2 1.9 .1	40 95.2%
NEITHER 2	0 .3 -.3	0 .4 -.4	1 .3 .7	0 .0 .0	1 2.4%
AGREE 3	1 .3 .7	0 .4 -.4	0 .3 -.3	0 .0 .0	1 2.4%
Column Total	13 31.0%	15 35.7%	12 28.6%	2 4.8%	42 100.0%

BOTH by HILL   (V-40)

Cell contents: Count / Exp Val / Residual

		EXCELLEN (1)	GOOD (2)	FAIR (3)	BAD (4)	Row Total
DISAGREE	Count	2	2	0	0	4
	Exp Val	1.4	1.9	.4	.3	9.5%
	Residual	.6	.1	-.4	-.3	
NEITHER	Count	2	3	0	0	5
	Exp Val	1.8	2.4	.5	.4	11.9%
	Residual	.2	.6	-.5	-.4	
AGREE	Count	11	15	4	3	33
	Exp Val	11.8	15.7	3.1	2.4	78.6%
	Residual	-.8	-.7	.9	.6	
Column Total		15 / 35.7%	20 / 47.6%	4 / 9.5%	3 / 7.1%	42 / 100.0%

BOTH by MODERN   (V-41)

Cell contents: Count / Exp Val / Residual

		EXCELLEN (1)	GOOD (2)	FAIR (3)	BAD (4)	Row Total
DISAGREE	Count	1	3	0	0	4
	Exp Val	.5	1.0	1.3	1.1	9.5%
	Residual	.5	2.0	-1.3	-1.1	
NEITHER	Count	0	0	4	1	5
	Exp Val	.6	1.3	1.7	1.4	11.9%
	Residual	-.6	-1.3	2.3	-.4	
AGREE	Count	4	8	10	11	33
	Exp Val	3.9	8.6	11.0	9.4	78.6%
	Residual	.1	-.6	-1.0	1.6	
Column Total		5 / 11.9%	11 / 26.2%	14 / 33.3%	12 / 28.6%	42 / 100.0%

BOTH by HIRISE   (V-42)

Cell contents: Count / Exp Val / Residual

		EXCELLEN (1)	GOOD (2)	FAIR (3)	POOR (4)	BAD (5)	Row Total
DISAGREE	Count	1	0	1	2	0	4
	Exp Val	.1	.1	.4	1.0	2.4	9.5%
	Residual	.9	-.1	.6	1.0	-2.4	
NEITHER	Count	0	0	1	2	2	5
	Exp Val	.1	.1	.5	1.3	3.0	11.9%
	Residual	-.1	-.1	.5	.7	-1.0	
AGREE	Count	0	1	2	7	23	33
	Exp Val	.8	.8	3.1	8.6	19.6	78.6%
	Residual	-.8	.2	-1.1	-1.6	3.4	
Column Total		1 / 2.4%	1 / 2.4%	4 / 9.5%	11 / 26.2%	25 / 59.5%	42 / 100.0%

BOTH by SHANXI   (V-37)

Cell contents: Count / Exp Val / Residual

		EXCELLEN (1)	GOOD (2)	FAIR (3)	Row Total
DISAGREE	Count	3	1	0	4
	Exp Val	3.0	1.0	.1	9.5%
	Residual	.0	.0	-.1	
NEITHER	Count	4	1	0	5
	Exp Val	3.7	1.2	.1	11.9%
	Residual	.3	-.2	-.1	
AGREE	Count	24	8	1	33
	Exp Val	24.4	7.9	.8	78.6%
	Residual	-.4	.1	.2	
Column Total		31 / 73.8%	10 / 23.8%	2 / 2.4%	42 / 100.0%

BOTH by CRANE   (V-38)

Cell contents: Count / Exp Val / Residual

		EXCELLEN (1)	GOOD (2)	FAIR (3)	Row Total
DISAGREE	Count	4	0	0	4
	Exp Val	3.4	.4	.2	9.5%
	Residual	.6	-.4	-.2	
NEITHER	Count	3	1	1	5
	Exp Val	4.3	.5	.2	11.9%
	Residual	-1.3	.5	.8	
AGREE	Count	29	3	1	33
	Exp Val	28.3	3.1	1.6	78.6%
	Residual	.7	-.1	-.6	
Column Total		36 / 85.7%	4 / 9.5%	2 / 4.8%	42 / 100.0%

BOTH by DRAGON   (V-39)

Cell contents: Count / Exp Val / Residual

		EXCELLEN (1)	GOOD (2)	FAIR (3)	BAD (4)	Row Total
DISAGREE	Count	1	2	1	0	4
	Exp Val	1.1	1.5	1.1	.2	9.5%
	Residual	-.1	.5	-.1	-.2	
NEITHER	Count	1	1	3	0	5
	Exp Val	1.4	1.9	1.4	.2	11.9%
	Residual	-.4	-.9	1.6	-.2	
AGREE	Count	10	13	8	2	33
	Exp Val	9.4	12.6	9.4	1.6	78.6%
	Residual	.6	.4	-1.4	.4	
Column Total		12 / 28.6%	16 / 38.1%	12 / 28.6%	2 / 4.8%	42 / 100.0%

LOOK by HILL — V-46

LOOK — Count / Exp Val / Residual	HILL — EXCELLEN GOOD (1)	GOOD (2)	FAIR (3)	BAD (4)	Row Total
DISAGREE (1)	15 / 15.6 / -.6	21 / 20.5 / .5	4 / 3.9 / .1	3 / 2.9 / .1	43 / 97.7%
NEITHER (2)	1 / .4 / .6	0 / .5 / -.5	0 / .1 / -.1	0 / .1 / -.1	1 / 2.3%
Column Total	16 / 36.4%	21 / 47.7%	4 / 9.1%	3 / 6.8%	44 / 100.0%

LOOK by MODERN — V-47

LOOK — Count / Exp Val / Residual	MODERN — EXCELLEN GOOD (1)	GOOD (2)	FAIR (3)	BAD (4)	Row Total
DISAGREE (1)	4 / 4.9 / -.9	12 / 11.7 / .3	15 / 14.7 / .3	12 / 11.7 / .3	43 / 97.7%
NEITHER (2)	1 / .1 / .9	0 / .3 / -.3	0 / .3 / -.3	0 / .3 / -.3	1 / 2.3%
Column Total	5 / 11.4%	12 / 27.3%	15 / 34.1%	12 / 27.3%	44 / 100.0%

LOOK by HIRISE — V-48

LOOK — Count / Exp Val / Residual	HIRISE — EXCELLEN GOOD (1)	GOOD (2)	FAIR (3)	POOR (4)	BAD (5)	Row Total
DISAGREE (1)	1 / 1.0 / -1.0	1 / 1.0 / .0	5 / 4.9 / .1	12 / 11.7 / .3	25 / 24.4 / .6	43 / 97.7%
NEITHER (2)	1 / 1.0 / 1.0	0 / .0 / .0	0 / .1 / -.1	0 / .3 / -.3	0 / .6 / -.6	1 / 2.3%
Column Total	1 / 2.3%	1 / 2.3%	5 / 11.4%	12 / 27.3%	25 / 56.8%	44 / 100.0%

LOOK by SHANXI — V-43

LOOK — Count / Exp Val / Residual	SHANXI — EXCELLEN GOOD (1)	GOOD (2)	FAIR (3)	Row Total
DISAGREE (1)	33 / 32.3 / .8	9 / 9.8 / -.8	1 / 1.0 / .0	43 / 97.7%
NEITHER (2)	0 / .8 / -.8	1 / .2 / .8	0 / .0 / .0	1 / 2.3%
Column Total	33 / 75.0%	10 / 22.7%	1 / 2.3%	44 / 100.0%

LOOK by CRANE — V-44

LOOK — Count / Exp Val / Residual	CRANE — EXCELLEN GOOD (1)	GOOD (2)	FAIR (3)	Row Total
DISAGREE (1)	37 / 37.1 / -.1	4 / 3.9 / .1	2 / 2.0 / .0	43 / 97.7%
NEITHER (2)	1 / .9 / .1	0 / .1 / -.1	0 / .0 / .0	1 / 2.3%
Column Total	38 / 86.4%	4 / 9.1%	2 / 4.5%	44 / 100.0%

LOOK by DRAGON — V-45

LOOK — Count / Exp Val / Residual	DRAGON — EXCELLEN GOOD (1)	GOOD (2)	FAIR (3)	BAD (4)	Row Total
DISAGREE (1)	12 / 12.7 / -.7	17 / 16.6 / .4	12 / 11.7 / .3	2 / 2.0 / .0	43 / 97.7%
NEITHER (2)	1 / .3 / .7	0 / .4 / -.4	0 / .3 / -.3	0 / .0 / .0	1 / 2.3%
Column Total	13 / 29.5%	17 / 38.6%	12 / 27.3%	2 / 4.5%	44 / 100.0%

NODIST by SHANXI — V-49

Each cell: Count / Exp Val / Residual

NODIST	SHANXI EXCELLENT 1	GOOD 2	FAIR 3	Row Total
DISAGREE (1)	7 / 5.9 / 1.1	2 / 2.0 / -1.0	0 / .2 / -.2	8 / 19.5%
NEITHER (2)	6 / 5.9 / .1	2 / 2.0 / .0	0 / .2 / -.2	8 / 19.5%
AGREE (3)	17 / 18.3 / -1.3	7 / 6.7 / .9	1 / .6 / .4	25 / 61.0%
Column Total	30 / 73.2%	10 / 24.4%	1 / 2.4%	41 / 100.0%

NODIST by CRANE — V-50

Each cell: Count / Exp Val / Residual

NODIST	CRANE EXCELLENT 1	GOOD 2	FAIR 3	Row Total
DISAGREE (1)	8 / 6.8 / 1.2	0 / .8 / -.8	0 / .4 / -.4	8 / 19.5%
NEITHER (2)	6 / 6.8 / -.8	1 / .8 / .2	1 / .4 / .6	8 / 19.5%
AGREE (3)	21 / 21.3 / -.3	3 / 2.4 / .6	1 / 1.2 / -.2	25 / 61.0%
Column Total	35 / 85.4%	4 / 9.8%	2 / 4.9%	41 / 100.0%

NODIST by DRAGON — V-51

Each cell: Count / Exp Val / Residual

NODIST	DRAGON EXCELLENT 1	GOOD 2	FAIR 3	BAD 4	Row Total
DISAGREE (1)	2 / 2.3 / -.3	3 / 3.1 / -.1	2 / 2.1 / -.1	1 / .4 / .6	8 / 19.5%
NEITHER (2)	2 / 2.3 / -.3	2 / 3.1 / -1.1	4 / 2.1 / 1.9	0 / .4 / -.4	8 / 19.5%
AGREE (3)	8 / 7.3 / .7	11 / 9.8 / 1.2	5 / 6.7 / -1.7	1 / 1.2 / -.2	25 / 61.0%
Column Total	12 / 29.3%	16 / 39.0%	11 / 26.8%	2 / 4.9%	41 / 100.0%

NODIST by HILL — V-52

Each cell: Count / Exp Val / Residual

NODIST	HILL EXCELLENT 1	GOOD 2	FAIR 3	BAD 4	Row Total
DISAGREE (1)	3 / 2.9 / .1	3 / 3.7 / -.7	1 / .8 / .2	1 / .6 / .4	8 / 19.5%
NEITHER (2)	3 / 2.9 / .1	4 / 3.7 / .3	0 / .8 / -.8	1 / .6 / .4	8 / 19.5%
AGREE (3)	9 / 9.1 / -.1	12 / 11.6 / .4	3 / 2.4 / .6	1 / 1.8 / -.8	25 / 61.0%
Column Total	15 / 36.6%	19 / 46.3%	4 / 9.8%	3 / 7.3%	41 / 100.0%

NODIST by MODERN — V-53

Each cell: Count / Exp Val / Residual

NODIST	MODERN EXCELLENT 1	GOOD 2	FAIR 3	BAD 4	Row Total
DISAGREE (1)	1 / 1.0 / .0	5 / 2.1 / 2.9	1 / 2.5 / -1.5	1 / 2.3 / -1.3	8 / 19.5%
NEITHER (2)	0 / 1.0 / -1.0	1 / 2.1 / -1.1	5 / 2.5 / 2.5	2 / 2.3 / -.3	8 / 19.5%
AGREE (3)	4 / 3.0 / 1.0	5 / 6.7 / -1.7	7 / 7.9 / -.9	9 / 7.3 / 1.7	25 / 61.0%
Column Total	5 / 12.2%	11 / 26.8%	13 / 31.7%	12 / 29.3%	41 / 100.0%

NODIST by HIRISE — V-54

Each cell: Count / Exp Val / Residual

NODIST	HIRISE EXCELLENT 1	GOOD 2	FAIR 3	POOR 4	BAD 5	Row Total
DISAGREE (1)	1 / .2 / .8	0 / .2 / -.2	2 / 1.0 / 1.0	2 / 2.0 / .0	3 / 4.7 / -1.7	8 / 19.5%
NEITHER (2)	0 / .2 / -.2	0 / .2 / -.2	0 / 1.0 / -1.0	4 / 2.0 / 2.0	4 / 4.7 / -.7	8 / 19.5%
AGREE (3)	0 / .6 / -.6	1 / .6 / .4	3 / 3.0 / .0	4 / 6.1 / -2.1	17 / 14.6 / 2.4	25 / 61.0%
Column Total	1 / 2.4%	1 / 2.4%	5 / 12.2%	10 / 24.4%	24 / 58.5%	41 / 100.0%

REFLT by DRAGON   V-55

DRAGON

Count Exp Val Residual	EXCELLEN T 1	GOOD 2	FAIR 3	BAD 4	Row Total
REFLT					
DISAGREE 1	0 .3 -.3	0 .4 -.4	1 .3 .7	0 .0 .0	1 2.3%
AGREE 3	13 12.7 .3	17 16.6 .4	11 11.7 -.7	2 2.0 .0	43 97.7%
Column Total	13 29.5%	17 38.6%	12 27.3%	2 4.5%	44 100.0%

REFLT by CRANE   V-56

CRANE

Count Exp Val Residual	EXCELLEN T 1	GOOD 2	FAIR 3	Row Total
REFLT				
DISAGREE 1	1 .9 .1	0 .1 -.1	0 .0 .0	1 2.3%
AGREE 3	37 37.1 -.1	4 3.9 .1	2 2.0 .0	43 97.7%
Column Total	38 86.4%	4 9.1%	2 4.5%	44 100.0%

REFLT by SHANXI   V-57

SHANXI

Count Exp Val Residual	EXCELLEN T 1	GOOD 2	FAIR 3	Row Total
REFLT				
DISAGREE 1	1 .8 .3	0 .2 -.2	0 .0 .0	1 2.3%
AGREE 3	32 32.3 -.3	10 9.8 .2	1 1.0 .0	43 97.7%
Column Total	33 75.0%	10 22.7%	1 2.3%	44 100.0%

REFLT by HILL   V-58

HILL

Count Exp Val Residual	EXCELLEN T 1	GOOD 2	FAIR 3	BAD 4	Row Total
REFLT					
DISAGREE 1	0 .4 -.4	0 .5 -.5	1 .1 .9	0 .1 -.1	1 2.3%
AGREE 3	16 15.6 .4	21 20.5 .5	3 3.9 -.9	3 2.9 .1	43 97.7%
Column Total	16 36.4%	21 47.7%	4 9.1%	3 6.8%	44 100.0%

REFLT by MODERN   V-59

MODERN

Count Exp Val Residual	EXCELLEN T 1	GOOD 2	FAIR 3	BAD 4	Row Total
REFLT					
DISAGREE 1	0 .1 -.1	0 .3 -.3	1 .3 .7	0 .3 -.3	1 2.3%
AGREE 3	5 4.9 .1	12 11.7 .3	14 14.7 -.7	12 11.7 .3	43 97.7%
Column Total	5 11.4%	12 27.3%	15 34.1%	12 27.3%	44 100.0%

REFLT by HIRISE   V-60

HIRISE

Count Exp Val Residual	EXCELLEN T 1	GOOD 2	FAIR 3	POOR 4	BAD 5	Row Total
REFLT						
DISAGREE 1	0 .0 .0	0 .0 .0	0 .1 -.1	0 .3 -.3	1 .6 .4	1 2.3%
AGREE 3	1 1.0 .0	1 1.0 .0	5 4.9 .1	12 11.7 .3	24 24.4 -.4	43 97.7%
Column Total	2 2.3%	1 2.3%	5 11.4%	12 27.3%	25 56.8%	44 100.0%

CARE by SHANXI — V-61

SHANXI Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	Row Total
CARE — DISAGREE 1	3 / 2.2 / .8	0 / .7 / -.7		3 7.0%
NEITHER 2	7 / 6.7 / .3	2 / 2.1 / -.1	0 / .2 / -.2	9 20.9%
AGREE 3	22 / 23.1 / -1.1	8 / 7.2 / .8	1 / .7 / .3	31 72.1%
Column Total	32 74.4%	10 23.3%	1 2.3%	43 100.0%

CARE by CRANE — V-62

CRANE Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	Row Total
CARE — DISAGREE 1	3 / 2.6 / .4	0 / .3 / -.3	0 / .1 / -.1	3 7.0%
NEITHER 2	8 / 7.8 / .3	0 / .8 / -.8	1 / .4 / .6	9 20.9%
AGREE 3	26 / 26.7 / -.7	4 / 2.9 / 1.1	1 / 1.4 / -.4	31 72.1%
Column Total	37 86.0%	4 9.3%	2 4.7%	43 100.0%

CARE by DRAGON — V-63

DRAGON Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
CARE — DISAGREE 1	0 / .9 / -.9	1 / 1.2 / -.2	2 / .8 / 1.2	0 / .1 / -.1	3 7.0%
NEITHER 2	5 / 2.7 / 2.3	2 / 3.6 / -1.6	2 / 2.3 / -.3	0 / .4 / -.4	9 20.9%
AGREE 3	8 / 9.4 / -1.4	14 / 12.3 / 1.7	7 / 7.9 / -.9	2 / 1.4 / 1.6	31 72.1%
Column Total	13 30.2%	17 39.5%	11 25.6%	2 4.7%	43 100.0%

CARE by HILL — V-64

HILL Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
CARE — DISAGREE 1	0 / 1.1 / -1.1	1 / 1.4 / -.4	1 / .3 / .7	1 / .2 / .8	3 7.0%
NEITHER 2	3 / 3.3 / -.3	4 / 4.2 / -.2	1 / .8 / .2	1 / .6 / .4	9 20.9%
AGREE 3	13 / 11.5 / 1.5	15 / 14.4 / .6	2 / 2.9 / -.9	1 / 2.2 / -1.2	31 72.1%
Column Total	16 37.2%	20 46.5%	4 9.3%	3 7.0%	43 100.0%

CARE by MODERN — V-65

MODERN Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
CARE — DISAGREE 1	0 / .3 / -.3	1 / .8 / .2	0 / 1.0 / -1.0	2 / .8 / 1.2	3 7.0%
NEITHER 2	2 / 1.0 / 1.0	2 / 2.5 / -.5	4 / 2.9 / 1.1	1 / 2.5 / -1.5	9 20.9%
AGREE 3	3 / 3.6 / -.6	9 / 8.7 / .3	10 / 10.1 / -.1	9 / 8.7 / .3	31 72.1%
Column Total	5 11.6%	12 27.9%	14 32.6%	12 27.9%	43 100.0%

CARE by HIRISE — V-66

HIRISE Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	POOR 4	BAD 5	Row Total
CARE — DISAGREE 1	0 / .1 / -.1	0 / .3 / -.3	0 / .8 / -.8	0 / .1 / -.1	3 / 1.7 / 1.3	3 7.0%
NEITHER 2	1 / .2 / .8	2 / 1.0 / 1.0	3 / 2.5 / .5	0 / .2 / -.2	3 / 5.0 / -2.0	9 20.9%
AGREE 3	0 / .7 / -.7	3 / 3.6 / -.6	9 / 8.7 / .3	1 / .7 / .3	18 / 17.3 / .7	31 72.1%
Column Total	1 2.3%	5 11.6%	12 27.9%	1 2.3%	24 55.8%	43 100.0%

FUTURE by MODERN — V-70

MODERN

FUTURE	EXCELLENT 1	GOOD 2	FAIR 3	BAD 4	Row Total
DISAGREE	3 / 2.3 / .7	9 / 6.9 / 2.1	5 / 7.5 / -2.5	5 / 5.2 / -.2	22 / 57.9%
NEITHER	0 / .8 / -.8	1 / 2.5 / -1.5	5 / 2.7 / 2.3	2 / 1.9 / .1	8 / 21.1%
AGREE	1 / .8 / .2	2 / 2.5 / -.5	3 / 2.7 / .3	2 / 1.9 / .1	8 / 21.1%
Column Total	4 / 10.5%	12 / 31.6%	13 / 34.2%	9 / 23.7%	38 / 100.0%

Count / Exp Val / Residual

FUTURE by HILL — V-71

HILL

FUTURE	EXCELLENT 1	GOOD 2	FAIR 3	BAD 4	Row Total
DISAGREE	8 / 7.5 / .5	12 / 11.6 / .4	2 / 2.3 / -.3	0 / .6 / -.6	22 / 57.9%
NEITHER	2 / 2.7 / -.7	3 / 4.2 / -1.2	2 / .8 / 1.2	1 / .2 / .8	8 / 21.1%
AGREE	3 / 2.7 / .3	5 / 4.2 / .8	0 / .8 / -.8	0 / .2 / -.2	8 / 21.1%
Column Total	13 / 34.2%	20 / 52.6%	4 / 10.5%	1 / 2.6%	38 / 100.0%

Count / Exp Val / Residual

FUTURE by HIRISE — V-72

HIRISE

FUTURE	EXCELLENT 1	GOOD 2	FAIR 3	POOR 4	BAD 5	Row Total
DISAGREE	0 / .6 / -.6	1 / .6 / .4	3 / 2.3 / .7	7 / 6.4 / .6	11 / 12.2 / -1.2	22 / 57.9%
NEITHER	0 / .2 / -.2	0 / .2 / -.2	0 / .8 / -.8	2 / 2.3 / -.3	6 / 4.4 / 1.6	8 / 21.1%
AGREE	1 / .2 / .8	0 / .2 / -.2	1 / .8 / .2	2 / 2.3 / -.3	4 / 4.4 / -.4	8 / 21.1%
Column Total	1 / 2.6%	1 / 2.6%	4 / 10.5%	11 / 28.9%	21 / 55.3%	38 / 100.0%

Count / Exp Val / Residual

FUTURE by SHANXI — V-67

SHANXI

FUTURE	EXCELLENT 1	GOOD 2	FAIR 3	Row Total
DISAGREE	15 / 16.8 / -1.8	6 / 4.6 / 1.4	1 / .6 / .4	22 / 57.9%
NEITHER	7 / 6.1 / .9	1 / 1.7 / -.7	0 / .2 / -.2	8 / 21.1%
AGREE	7 / 6.1 / .9	1 / 1.7 / -.7	0 / .2 / -.2	8 / 21.1%
Column Total	29 / 76.3%	8 / 21.1%	1 / 2.6%	38 / 100.0%

Count / Exp Val / Residual

FUTURE by CRANE — V-68

CRANE

FUTURE	EXCELLENT 1	GOOD 2	FAIR 3	Row Total
DISAGREE	19 / 19.1 / -.1	2 / 1.7 / .3	1 / 1.2 / -.2	22 / 57.9%
NEITHER	8 / 6.9 / 1.1	0 / .6 / -.6	0 / .4 / -.4	8 / 21.1%
AGREE	6 / 6.9 / -.9	1 / .6 / .4	1 / .4 / .6	8 / 21.1%
Column Total	33 / 86.8%	3 / 7.9%	2 / 5.3%	38 / 100.0%

Count / Exp Val / Residual

FUTURE by DRAGON — V-69

DRAGON

FUTURE	EXCELLENT 1	GOOD 2	FAIR 3	BAD 4	Row Total
DISAGREE	7 / 6.4 / .6	10 / 8.7 / 1.3	5 / 6.4 / -1.4	0 / .6 / -.6	22 / 57.9%
NEITHER	2 / 2.3 / -.3	3 / 3.2 / -.2	5 / 2.3 / 2.7	0 / .2 / -.2	8 / 21.1%
AGREE	2 / 2.3 / -.3	2 / 3.2 / -1.2	1 / 2.3 / -1.3	1 / .2 / .8	8 / 21.1%
Column Total	11 / 28.9%	15 / 39.5%	11 / 28.9%	1 / 2.6%	38 / 100.0%

Count / Exp Val / Residual

CUSTOM by SHANXI   V-73

SHANXI

Count Exp Val Residual	EXCELLENT 1	GOOD 2	FAIR 3	Row Total
CUSTOM				
NO 1	11 10.0 1.0	0 .8 -.8	0 .3 -.3	11 25.0%
YES 2	29 30.0 -1.0	3 2.3 .8	1 .8 .3	33 75.0%
Column Total	40 90.9%	3 6.8%	1 2.3%	44 100.0%

CUSTOM by CRANE   V-74

CRANE

Count Exp Val Residual	EXCELLENT 1	GOOD 2	FAIR 3	Row Total
CUSTOM				
NO 1	10 9.5 .5	0 .8 -.8	1 .8 .3	11 25.0%
YES 2	28 28.5 -.5	3 2.3 .8	2 2.3 -.3	33 75.0%
Column Total	38 86.4%	3 6.8%	3 6.8%	44 100.0%

CUSTOM by DRAGON   V-75

DRAGON

Count Exp Val Residual	EXCELLENT 1	GOOD 2	FAIR 3	BAD 4	Row Total
CUSTOM					
NO 1	7 4.5 2.5	1 3.0 -2.0	3 2.8 .3	0 .8 -.8	11 25.0%
YES 2	11 13.5 -2.5	11 9.0 2.0	8 8.3 -.3	3 2.3 .8	33 75.0%
Column Total	18 40.9%	12 27.3%	11 25.0%	3 6.8%	44 100.0%

CUSTOM by HILL   V-76

HILL

Count Exp Val Residual	EXCELLENT 1	GOOD 2	FAIR 3	BAD 4	Row Total
CUSTOM					
NO 1	6 5.5 .5	3 3.8 -.8	1 1.0 .0	1 .8 .3	11 25.0%
YES 2	16 16.5 -.5	12 11.3 .8	3 3.0 .0	2 2.3 -.3	33 75.0%
Column Total	22 50.0%	15 34.1%	4 9.1%	3 6.8%	44 100.0%

CUSTOM by MODERN   V-77

MODERN

Count Exp Val Residual	EXCELLENT 1	GOOD 2	FAIR 3	BAD 4	Row Total
CUSTOM					
NO 1	1 .5 .5	3 2.8 .3	1 3.3 -2.3	6 4.5 1.5	11 25.0%
YES 2	1 1.5 -.5	8 8.3 -.3	12 9.8 2.3	12 13.5 -1.5	33 75.0%
Column Total	2 4.5%	11 25.0%	13 29.5%	18 40.9%	44 100.0%

CUSTOM by HIRISE   V-78

HIRISE

Count Exp Val Residual	EXCELLENT 1	GOOD 2	FAIR 3	BAD 4	Row Total
CUSTOM					
NO 1	1 .3 .8	2 1.5 .5	1 3.0 -2.0	7 6.3 .8	11 25.0%
YES 2	0 .8 -.8	4 4.5 -.5	11 9.0 2.0	18 18.8 -.8	33 75.0%
Column Total	1 2.3%	6 13.6%	12 27.3%	25 56.8%	44 100.0%

MANTN by SHANXI   V-79

SHANXI — Count / Exp Val / Residual

MANTN	EXCELLEN 1	GOOD 2	FAIR 3	Row Total
DISAGREE (1)	1 / 1.5 / -.5	1 / .5 / .5	0 / .0 / .0	2 / 4.7%
NEITHER (2)	7 / 8.2 / -1.2	4 / 2.6 / 1.4	0 / .3 / -.3	11 / 25.6%
AGREE (3)	24 / 22.3 / 1.7	5 / 7.0 / -2.0	1 / .7 / .3	30 / 69.8%
Column Total	32 / 74.4%	10 / 23.3%	1 / 2.3%	43 / 100.0%

MANTN by CRANE   V-80

CRANE — Count / Exp Val / Residual

MANTN	EXCELLEN 1	GOOD 2	FAIR 3	Row Total
DISAGREE (1)	2 / 1.7 / .3	0 / .2 / -.2	0 / .1 / -.1	2 / 4.7%
NEITHER (2)	10 / 9.5 / .5	1 / 1.0 / .0	0 / .5 / -.5	11 / 25.6%
AGREE (3)	25 / 25.8 / -.8	3 / 2.8 / .2	2 / 1.4 / .6	30 / 69.8%
Column Total	37 / 86.0%	4 / 9.3%	2 / 4.7%	43 / 100.0%

MANTN by DRAGON   V-81

DRAGON — Count / Exp Val / Residual

MANTN	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
DISAGREE (1)	1 / .6 / .4	1 / .7 / .3	0 / .6 / -.6	0 / .1 / -.1	2 / 4.7%
NEITHER (2)	3 / 3.3 / -.3	3 / 4.1 / -1.1	5 / 3.1 / 1.9	0 / .5 / -.5	11 / 25.6%
AGREE (3)	9 / 9.1 / -.1	12 / 11.2 / .8	7 / 8.4 / -1.4	2 / 1.4 / .6	30 / 69.8%
Column Total	13 / 30.2%	16 / 37.2%	12 / 27.9%	2 / 4.7%	43 / 100.0%

MANTN by HILL   V-82

HILL — Count / Exp Val / Residual

MANTN	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
DISAGREE (1)	1 / .7 / .3	1 / .9 / .1	0 / .2 / -.2	0 / .1 / -.1	2 / 4.7%
NEITHER (2)	4 / 4.1 / -.1	5 / 5.1 / -.1	1 / 1.0 / .0	1 / .8 / .2	11 / 25.6%
AGREE (3)	11 / 11.2 / -.2	14 / 14.0 / .0	3 / 2.8 / .2	2 / 2.1 / -.1	30 / 69.8%
Column Total	16 / 37.2%	20 / 46.5%	4 / 9.3%	3 / 7.0%	43 / 100.0%

MANTN by MODERN   V-83

MODERN — Count / Exp Val / Residual

MANTN	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
DISAGREE (1)	1 / .2 / .8	0 / .5 / -.5	0 / .7 / -.7	1 / .6 / .4	2 / 4.7%
NEITHER (2)	2 / 1.3 / .7	1 / 2.8 / -1.8	4 / 3.8 / .2	4 / 3.1 / .9	11 / 25.6%
AGREE (3)	2 / 3.5 / -1.5	10 / 7.7 / 2.3	11 / 10.5 / .5	7 / 8.4 / -1.4	30 / 69.8%
Column Total	5 / 11.6%	11 / 25.6%	15 / 34.9%	12 / 27.9%	43 / 100.0%

MANTN by HIRISE   V-84

HIRISE — Count / Exp Val / Residual

MANTN	EXCELLEN 1	GOOD 2	FAIR 3	POOR 4	BAD 5	Row Total
DISAGREE (1)	1 / .0 / 1.0	0 / .0 / .0	0 / .2 / -.2	0 / .6 / -.6	1 / 1.2 / -.2	2 / 4.7%
NEITHER (2)	0 / .3 / -.3	1 / .3 / .7	2 / 1.0 / 1.0	0 / 3.1 / -3.1	8 / 6.4 / 1.6	11 / 25.6%
AGREE (3)	0 / .7 / -.7	0 / .7 / -.7	2 / 2.8 / -.8	12 / 8.4 / 3.6	16 / 17.4 / -1.4	30 / 69.8%
Column Total	1 / 2.3%	1 / 2.3%	4 / 9.3%	12 / 27.9%	25 / 58.1%	43 / 100.0%

RELIGION by SHANXI — V-85

SHANXI

Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	Row Total
RELIGION NO	36 / 35.5 / .5	2 / 2.7 / -.7	1 / .9 / .1	39 / 88.6%
YES	4 / 4.5 / -.5	1 / .3 / .7	0 / .1 / -.1	5 / 11.4%
Column Total	40 / 90.9%	3 / 6.8%	1 / 2.3%	44 / 100.0%

RELIGION by CRANE — V-86

CRANE

Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	Row Total
RELIGION NO	34 / 33.7 / .3	2 / 2.7 / -.7	3 / 2.7 / .3	39 / 88.6%
YES	4 / 4.3 / -.3	1 / .3 / .7	0 / .3 / -.3	5 / 11.4%
Column Total	38 / 86.4%	3 / 6.8%	3 / 6.8%	44 / 100.0%

RELIGION by DRAGON — V-87

DRAGON

Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
RELIGION NO	15 / 16.0 / -1.0	12 / 10.6 / 1.4	9 / 9.8 / -.8	3 / 2.7 / .3	39 / 88.6%
YES	3 / 2.0 / 1.0	0 / 1.4 / -1.4	2 / 1.3 / .8	0 / .3 / -.3	5 / 11.4%
Column Total	18 / 40.9%	12 / 27.3%	11 / 25.0%	3 / 6.8%	44 / 100.0%

RELIGION by HILL — V-88

HILL

Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
RELIGION NO	19 / 19.5 / -.5	15 / 13.3 / 1.7	3 / 3.5 / -.5	2 / 2.7 / -.7	39 / 88.6%
YES	3 / 2.5 / .5	0 / 1.7 / -1.7	1 / .5 / .5	1 / .3 / .7	5 / 11.4%
Column Total	22 / 50.0%	15 / 34.1%	4 / 9.1%	3 / 6.8%	44 / 100.0%

RELIGION by MODERN — V-89

MODERN

Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
RELIGION NO	2 / 1.8 / .2	10 / 9.8 / .3	11 / 11.5 / -.5	16 / 16.0 / .0	39 / 88.6%
YES	0 / .2 / -.2	1 / 1.3 / -.3	2 / 1.5 / .5	2 / 2.0 / .0	5 / 11.4%
Column Total	2 / 4.5%	11 / 25.0%	13 / 29.5%	18 / 40.9%	44 / 100.0%

RELIGION by HIRISE — V-90

HIRISE

Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
RELIGION NO	1 / .9 / .1	6 / 5.3 / .7	11 / 10.6 / .4	21 / 22.2 / -1.2	39 / 88.6%
YES	0 / .1 / -.1	0 / .7 / -.7	1 / 1.4 / -.4	4 / 2.8 / 1.2	5 / 11.4%
Column Total	1 / 2.3%	6 / 13.6%	12 / 27.3%	25 / 56.8%	44 / 100.0%

SYMBO by SHANXI   V-91

Count Exp Val Residual	SHANXI EXCELLEN GOOD 1	GOOD 2	FAIR 3	Row Total
SYMBO				
DISAGREE 1	6 5.9 .1	1 1.9 -.9	1 .1 .8	8 19.0%
NEITHER 2	7 5.9 1.1	1 1.9 -.9	0 .2 -.2	8 19.0%
AGREE 3	18 19.2 -1.2	8 6.2 1.8	0 .6 -.6	26 61.9%
Column Total	31 73.8%	10 23.8%	1 2.4%	42 100.0%

SYMBO by CRANE   V-92

Count Exp Val Residual	CRANE EXCELLEN GOOD 1	GOOD 2	FAIR 3	Row Total
SYMBO				
DISAGREE 1	6 6.9 -.9	1 .8 .2	1 .4 .6	8 19.0%
NEITHER 2	7 6.9 .1	0 .8 -.8	1 .4 .6	8 19.0%
AGREE 3	23 22.3 .7	3 2.5 .5	0 1.2 -1.2	26 61.9%
Column Total	36 85.7%	4 9.5%	2 4.8%	42 100.0%

SYMBO by DRAGON   V-93

Count Exp Val Residual	DRAGON EXCELLEN GOOD 1	GOOD 2	FAIR 3	BAD 4	Row Total
SYMBO					
DISAGREE 1	3 2.5 .5	2 3.0 -1.0	2 2.1 -.1	1 .4 .6	8 19.0%
NEITHER 2	3 2.5 .5	3 3.0 .0	2 2.1 -.1	0 .4 -.4	8 19.0%
AGREE 3	7 8.0 -1.0	11 9.9 1.1	7 6.8 .2	1 1.2 -1.2	26 61.9%
Column Total	13 31.0%	16 38.1%	11 26.2%	2 4.8%	42 100.0%

SYMBO by HILL   V-94

Count Exp Val Residual	HILL EXCELLEN GOOD 1	GOOD 2	FAIR 3	BAD 4	Row Total
SYMBO					
DISAGREE 1	3 3.0 .0	5 3.6 1.4	0 .8 -.8	0 .6 -.6	8 19.0%
NEITHER 2	3 3.0 .0	3 3.6 -.6	1 .8 .2	1 .6 .4	8 19.0%
AGREE 3	10 9.1 .9	11 11.8 -.8	3 2.5 .5	2 1.9 .1	26 61.9%
Column Total	16 38.1%	19 45.2%	4 9.5%	3 7.1%	42 100.0%

SYMBO by MODERN   V-95

Count Exp Val Residual	MODERN EXCELLEN GOOD 1	GOOD 2	FAIR 3	BAD 4	Row Total
SYMBO					
DISAGREE 1	0 1.0 -1.0	3 2.1 .9	4 2.7 1.3	1 2.3 -1.3	8 19.0%
NEITHER 2	1 1.0 .0	2 2.1 -.1	4 2.7 1.3	1 2.3 -1.3	8 19.0%
AGREE 3	4 3.1 .9	6 6.8 -.8	6 8.7 -2.7	10 7.4 2.6	26 61.9%
Column Total	5 11.9%	11 26.2%	14 33.3%	12 28.6%	42 100.0%

SYMBO by HIRISE   V-96

Count Exp Val Residual	HIRISE EXCELLEN GOOD 1	GOOD 2	FAIR 3	POOR 4	BAD 5	Row Total
SYMBO						
DISAGREE 1	0 .2 -.2	0 .8 -.8	2 2.3 .7	2 2.3 .7	5 4.6 .4	8 19.0%
NEITHER 2	0 .2 -.2	1 .8 .2	2 2.3 .7	2 2.3 .7	4 4.6 -.6	8 19.0%
AGREE 3	1 .6 .4	3 2.5 .5	6 7.4 -1.4	6 7.4 -1.4	15 14.1 .9	26 61.9%
Column Total	1 2.4%	4 9.5%	12 28.6%	12 28.6%	24 57.1%	42 100.0%

CHIID by SHANXI V-97

CHIID by SHANXI

Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	Row Total
CHIID DISAGREE 1	19 / 18.1 / .9	5 / 6.3 / -1.3	1 / .4 / .6	25 / 62.5%
NEITHER 2	7 / 8.7 / -1.7	5 / 3.0 / 2.0	0 / .3 / -.3	12 / 30.0%
AGREE 3	3 / 2.2 / .8	0 / .8 / -.8	0 / .1 / -.1	3 / 7.5%
Column Total	29 / 72.5%	10 / 25.0%	1 / 2.5%	40 / 100.0%

CHIID by CRANE V-98

CHIID by CRANE

Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	Row Total
CHIID DISAGREE 1	20 / 21.3 / -1.3	3 / 2.5 / .5	2 / 1.3 / .8	25 / 62.5%
NEITHER 2	11 / 10.2 / .8	1 / 1.2 / -.2	0 / .6 / -.6	12 / 30.0%
AGREE 3	3 / 2.5 / .5	0 / .3 / -.3	0 / .1 / -.1	3 / 7.5%
Column Total	34 / 85.0%	4 / 10.0%	2 / 5.0%	40 / 100.0%

CHIID by DRAGON V-99

CHIID by DRAGON

Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
CHIID DISAGREE 1	7 / 8.1 / -1.1	10 / 9.4 / .6	6 / 6.3 / -.3	2 / 1.3 / .8	25 / 62.5%
NEITHER 2	4 / 3.9 / .1	5 / 4.5 / .5	3 / 3.0 / .0	0 / .6 / -.6	12 / 30.0%
AGREE 3	2 / 1.0 / 1.0	0 / 1.1 / -1.1	1 / .8 / .3	0 / .1 / -.1	3 / 7.5%
Column Total	13 / 32.5%	15 / 37.5%	10 / 25.0%	2 / 5.0%	40 / 100.0%

CHIID by HILL

CHIID by HILL

Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
CHIID DISAGREE 1	8 / 9.4 / -1.4	12 / 11.3 / .8	3 / 2.5 / .5	2 / 1.9 / .1	25 / 62.5%
NEITHER 2	6 / 4.5 / 1.5	5 / 5.4 / -.4	1 / 1.2 / -.2	0 / .9 / -.9	12 / 30.0%
AGREE 3	1 / 1.1 / -.1	1 / 1.3 / -.3	0 / .3 / -.3	1 / .2 / .8	3 / 7.5%
Column Total	15 / 37.5%	18 / 45.0%	4 / 10.0%	3 / 7.5%	40 / 100.0%

CHIID by MODERN V-101

CHIID by MODERN

Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
CHIID DISAGREE 1	3 / 3.1 / -.1	7 / 6.7 / .8	9 / 8.1 / .9	6 / 7.5 / -1.5	25 / 62.5%
NEITHER 2	2 / 1.5 / .5	1 / 3.0 / -2.0	3 / 3.9 / -.9	6 / 3.6 / 2.4	12 / 30.0%
AGREE 3	0 / .4 / -.4	2 / .8 / 1.3	1 / 1.0 / .0	0 / .9 / -.9	3 / 7.5%
Column Total	5 / 12.5%	10 / 25.0%	13 / 32.5%	12 / 30.0%	40 / 100.0%

CHIID by HIRISE V-102

CHIID by HIRISE

Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	POOR 4	BAD 5	Row Total
CHIID DISAGREE 1	0 / .6 / -.6	1 / .6 / .4	2 / 3.1 / -1.1	6 / 6.3 / -.3	16 / 14.4 / 1.6	25 / 62.5%
NEITHER 2	1 / .3 / .7	0 / .3 / -.3	2 / 1.5 / .5	2 / 3.0 / -1.0	7 / 6.9 / .1	12 / 30.0%
AGREE 3	0 / .1 / -.1	0 / .1 / -.1	1 / .4 / .6	2 / .8 / 1.3	0 / 1.7 / -1.7	3 / 7.5%
Column Total	1 / 2.5%	1 / 2.5%	5 / 12.5%	10 / 25.0%	23 / 57.5%	40 / 100.0%

Each cell below shows **Count / Exp Val / Residual**. The Row Total and Column Total cells show Count and percent.

CLEAN by SHANXI — V-103

SHANXI

CLEAN	EXCELLENT (1)	GOOD (2)	FAIR (3)	Row Total
DISAGREE (1)	5 / 5.8 / -.8	2 / 2.0 / .0	1 / .2 / .8	8 — 20.0%
NEITHER (2)	5 / 4.3 / .7	1 / 1.5 / -.5	0 / .1 / -.1	6 — 15.0%
AGREE (3)	19 / 18.8 / .2	7 / 6.5 / .5	0 / .6 / -.6	26 — 65.0%
Column Total	29 — 72.5%	10 — 25.0%	1 — 2.5%	40 — 100.0%

CLEAN by CRANE — V-104

CRANE

CLEAN	EXCELLENT (1)	GOOD (2)	FAIR (3)	Row Total
DISAGREE (1)	7 / 7.0 / .0	0 / .6 / -.6	1 / .4 / .6	8 — 20.0%
NEITHER (2)	6 / 5.3 / .8	0 / .4 / -.4	0 / .3 / -.3	6 — 15.0%
AGREE (3)	22 / 22.8 / -.8	3 / 1.9 / 1.1	1 / 1.3 / -.3	26 — 65.0%
Column Total	35 — 87.5%	3 — 7.5%	2 — 5.0%	40 — 100.0%

CLEAN by DRAGON — V-105

DRAGON

CLEAN	EXCELLENT (1)	GOOD (2)	FAIR (3)	Row Total
DISAGREE (1)	3 / 2.6 / .4	4 / 3.2 / .8	1 / 2.2 / -1.2	8 — 20.0%
NEITHER (2)	1 / 1.9 / -.9	4 / 2.4 / 1.6	1 / 1.6 / -.6	6 — 15.0%
AGREE (3)	9 / 8.4 / .6	8 / 10.4 / -2.4	9 / 7.1 / 1.9	26 — 65.0%
Column Total	13 — 32.5%	16 — 40.0%	11 — 27.5%	40 — 100.0%

CLEAN by HILL — V-106

HILL

CLEAN	EXCELLENT (1)	GOOD (2)	FAIR (3)	BAD (4)	Row Total
DISAGREE (1)	3 / 3.0 / .0	4 / 3.8 / .2	1 / .8 / .2	0 / .4 / -.4	8 — 20.0%
NEITHER (2)	3 / 2.3 / .8	2 / 2.8 / -.8	1 / .6 / .4	0 / .3 / -.3	6 — 15.0%
AGREE (3)	9 / 9.8 / -.8	13 / 12.3 / .7	2 / 2.6 / -.6	2 / 1.3 / .7	26 — 65.0%
Column Total	15 — 37.5%	19 — 47.5%	4 — 10.0%	2 — 5.0%	40 — 100.0%

CLEAN by MODERN — V-107

MODERN

CLEAN	EXCELLENT (1)	GOOD (2)	FAIR (3)	BAD (4)	Row Total
DISAGREE (1)	1 / 1.0 / .0	1 / 2.0 / -1.0	5 / 2.6 / 2.4	1 / 2.4 / -1.4	8 — 20.0%
NEITHER (2)	0 / .8 / -.8	3 / 1.5 / 1.5	0 / 1.9 / -1.9	3 / 1.8 / 1.2	6 — 15.0%
AGREE (3)	4 / 3.3 / .8	6 / 6.5 / -.5	8 / 8.4 / -.4	8 / 7.8 / .2	26 — 65.0%
Column Total	5 — 12.5%	10 — 25.0%	13 — 32.5%	12 — 30.0%	40 — 100.0%

CLEAN by HIRISE — V-108

HIRISE

CLEAN	EXCELLENT (1)	GOOD (2)	FAIR (3)	POOR (4)	BAD (5)	Row Total
DISAGREE (1)	0 / .2 / -.2	0 / .8 / -.8	2 / 2.4 / -.4	6 / 4.4 / 1.6	0 / .2 / -.2	8 — 20.0%
NEITHER (2)	0 / .1 / -.1	0 / .6 / -.6	2 / 1.8 / .2	4 / 3.3 / .7	0 / .2 / -.2	6 — 15.0%
AGREE (3)	1 / .6 / .4	4 / 2.6 / 1.4	8 / 7.8 / .2	12 / 14.3 / -2.3	1 / .6 / .4	26 — 65.0%
Column Total	1 — 2.5%	4 — 10.0%	12 — 30.0%	22 — 55.0%	1 — 2.5%	40 — 100.0%

CHARACT by SHANXI

Count Exp Val Residual	SHANXI EXCELLEN GOOD 1	 2	 FAIR 3	Row Total
CHARACT				
IRRELEVANT 0	5 8.3 -3.3	6 2.5 3.5	0 .3 -.3	11 25.0%
RELEVANT 1	28 24.8 3.3	4 7.5 -3.5	1 .8 .3	33 75.0%
Column Total	33 75.0%	10 22.7%	1 2.3%	44 100.0%

CHARACT by CRANE

Count Exp Val Residual	CRANE EXCELLEN GOOD 1	 2	 FAIR 3	Row Total
CHARACT				
IRRELEVANT 0	5 7.8 -2.8	6 2.5 3.5	0 .8 -.8	11 25.0%
RELEVANT 1	26 23.3 2.8	4 7.5 -3.5	3 2.3 .8	33 75.0%
Column Total	31 70.5%	10 22.7%	3 6.8%	44 100.0%

CHARACT by DRAGON

Count Exp Val Residual	DRAGON EXCELLEN GOOD 1	 FAIR 2	 3	 BAD 4	Row Total
CHARACT					
IRRELEVANT 0	6 3.3 2.8	3 4.3 -1.3	2 3.0 -1.0	0 .5 -.5	11 25.0%
RELEVANT 1	7 9.8 -2.8	14 12.8 1.3	10 9.0 1.0	2 1.5 .5	33 75.0%
Column Total	13 29.5%	17 38.6%	12 27.3%	2 4.5%	44 100.0%

CHARACT by HILL

Count Exp Val Residual	HILL EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
CHARACT					
IRRELEVANT 0	7 4.0 3.0	4 5.3 -1.3	0 1.0 -1.0	0 .8 -.8	11 25.0%
RELEVANT 1	9 12.0 -3.0	17 15.8 1.3	4 3.0 1.0	3 2.3 .8	33 75.0%
Column Total	16 36.4%	21 47.7%	4 9.1%	3 6.8%	44 100.0%

CHARACT by MODERN

Count Exp Val Residual	MODERN EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
CHARACT					
IRRELEVANT 0	1 .5 .5	3 2.8 .3	4 3.3 .8	3 4.5 -1.5	11 25.0%
RELEVANT 1	1 1.5 -.5	8 8.3 -.3	9 9.8 -.8	15 13.5 1.5	33 75.0%
Column Total	2 4.5%	11 25.0%	13 29.5%	18 40.9%	44 100.0%

CHARACT by HIRISE

Count Exp Val Residual	HIRISE EXCELLEN GOOD 1	 2	 FAIR 3	 POOR 4	 BAD 5	Row Total
CHARACT						
IRRELEVANT 0	0 .3 -.3	1 .3 .8	2 1.3 .8	3 3.0 .0	5 6.3 -1.3	11 25.0%
RELEVANT 1	1 .8 .3	0 .8 -.8	3 3.8 -.8	9 9.0 .0	20 18.8 1.3	33 75.0%
Column Total	1 2.3%	1 2.3%	5 11.4%	12 27.3%	25 56.8%	44 100.0%

DECOR by SHANXI — V-115

SHANXI

Count Exp Val Residual	EXCELLEN GOOD 1	GOOD 2	FAIR 3	Row Total
DECOR				
IRRELEVANT 0	11 12.0 -1.0	5 3.6 1.4	0 .4 -.4	16 36.4%
RELEVANT 1	22 21.0 1.0	5 6.4 -1.4	1 .6 .4	28 63.6%
Column Total	33 75.0%	10 22.7%	1 2.3%	44 100.0%

DECOR by CRANE — V-116

CRANE

Count Exp Val Residual	EXCELLEN GOOD 1	GOOD 2	FAIR 3	Row Total
DECOR				
IRRELEVANT 0	10 11.3 -1.3	5 3.6 1.4	1 1.1 -.1	16 36.4%
RELEVANT 1	21 19.7 1.3	5 6.4 -1.4	2 1.9 .1	28 63.6%
Column Total	31 70.5%	10 22.7%	3 6.8%	44 100.0%

DECOR by DRAGON — V-117

DRAGON

Count Exp Val Residual	EXCELLEN GOOD 1	GOOD 2	FAIR 3	BAD 4	Row Total
DECOR					
IRRELEVANT 0	6 4.7 1.3	6 6.2 -.2	3 4.4 -1.4	1 .7 .3	16 36.4%
RELEVANT 1	7 8.3 -1.3	11 10.8 .2	9 7.6 1.4	1 1.3 -.3	28 63.6%
Column Total	13 29.5%	17 38.6%	12 27.3%	2 4.5%	44 100.0%

DECOR by HILL — V-118

HILL

Count Exp Val Residual	EXCELLEN GOOD 1	GOOD 2	FAIR 3	BAD 4	Row Total
DECOR					
IRRELEVANT 0	8 5.8 2.2	7 7.6 -.6	0 1.5 -1.5	1 1.1 -.1	16 36.4%
RELEVANT 1	8 10.2 -2.2	14 13.4 .6	4 2.5 1.5	2 1.9 .1	28 63.6%
Column Total	16 36.4%	21 47.7%	4 9.1%	3 6.8%	44 100.0%

DECOR by MODERN — V-119

MODERN

Count Exp Val Residual	EXCELLEN GOOD 1	GOOD 2	FAIR 3	BAD 4	Row Total
DECOR					
IRRELEVANT 0	1 .7 .3	7 4.0 3.0	3 4.7 -1.7	5 6.5 -1.5	16 36.4%
RELEVANT 1	1 1.3 -.3	4 7.0 -3.0	10 8.3 1.7	13 11.5 1.5	28 63.6%
Column Total	2 4.5%	11 25.0%	13 29.5%	18 40.9%	44 100.0%

DECOR by HIRISE — V-120

HIRISE

Count Exp Val Residual	EXCELLEN GOOD 1	GOOD 2	FAIR 3	POOR 4	BAD 5	Row Total
DECOR						
IRRELEVANT 0	0 .4 -.4	1 .4 .6	4 1.8 2.2	4 4.4 -.4	7 9.1 -2.1	16 36.4%
RELEVANT 1	1 .6 .4	0 .6 -.6	1 3.2 -2.2	8 7.6 .4	18 15.9 2.1	28 63.6%
Column Total	1 2.3%	1 2.3%	5 11.4%	12 27.3%	25 56.8%	44 100.0%

PERID by HILL

Each cell: Count / Exp Val / Residual

PERID	EXCELLENT (1)	GOOD (2)	FAIR (3)	BAD (4)	Row Total
DISAGREE (1)	1 / 1.9 / -.9	3 / 2.4 / .6	1 / .5 / .5	0 / .3 / -.3	5 / 12.5%
NEITHER (2)	4 / 3.0 / 1.0	3 / 3.8 / -.8	1 / .8 / .2	0 / .4 / -.4	8 / 20.0%
AGREE (3)	10 / 10.1 / -.1	13 / 12.8 / .2	2 / 2.7 / -.7	2 / 1.3 / .7	27 / 67.5%
Column Total	15 / 37.5%	19 / 47.5%	4 / 10.0%	2 / 5.0%	40 / 100.0%

PERID by MODERN

Each cell: Count / Exp Val / Residual

PERID	EXCELLENT (1)	GOOD (2)	FAIR (3)	BAD (4)	Row Total
DISAGREE (1)	1 / .6 / .4	2 / 1.4 / .6	2 / 1.5 / .5	0 / 1.5 / -1.5	5 / 12.5%
NEITHER (2)	2 / 1.0 / 1.0	3 / 2.2 / .8	2 / 2.4 / -.4	1 / 2.4 / -1.4	8 / 20.0%
AGREE (3)	2 / 3.4 / -1.4	6 / 7.4 / -1.4	8 / 8.1 / -.1	11 / 8.1 / 2.9	27 / 67.5%
Column Total	5 / 12.5%	11 / 27.5%	12 / 30.0%	12 / 30.0%	40 / 100.0%

PERID by HIRISE

Each cell: Count / Exp Val / Residual

PERID	EXCELLENT (1)	GOOD (2)	FAIR (3)	POOR (4)	BAD (5)	Row Total
DISAGREE (1)	0 / .1 / -.1	0 / .1 / -.1	0 / .5 / -.5	1 / 1.3 / -.3	3 / 3.0 / .0	5 / 12.5%
NEITHER (2)	1 / .2 / .8	1 / .2 / .8	1 / .8 / .2	2 / 2.0 / .0	3 / 4.8 / -1.8	8 / 20.0%
AGREE (3)	0 / .7 / -.7	0 / .7 / -.7	3 / 2.7 / .3	6 / 6.8 / -.8	18 / 16.2 / 1.8	27 / 67.5%
Column Total	1 / 2.5%	1 / 2.5%	4 / 10.0%	10 / 25.0%	24 / 60.0%	40 / 100.0%

PERID by SHANXI

Each cell: Count / Exp Val / Residual

PERID	EXCELLENT (1)	GOOD (2)	FAIR (3)	Row Total
DISAGREE (1)	4 / 3.6 / .4	1 / 1.3 / -.3	0 / .1 / -.1	5 / 12.5%
NEITHER (2)	6 / 5.8 / .2	2 / 2.0 / .0	0 / .2 / -.2	8 / 20.0%
AGREE (3)	19 / 19.6 / -.6	7 / 6.8 / .3	1 / .7 / .3	27 / 67.5%
Column Total	29 / 72.5%	10 / 25.0%	1 / 2.5%	40 / 100.0%

PERID by CRANE

Each cell: Count / Exp Val / Residual

PERID	EXCELLENT (1)	GOOD (2)	FAIR (3)	Row Total
DISAGREE (1)	4 / 4.3 / -.3	1 / 1.5 / -.5	0 / .3 / -.3	5 / 12.5%
NEITHER (2)	8 / 6.8 / 1.2	0 / .8 / -.8	0 / .4 / -.4	8 / 20.0%
AGREE (3)	22 / 22.9 / -.9	3 / 2.7 / .3	2 / 1.3 / .7	27 / 67.5%
Column Total	34 / 85.0%	4 / 10.0%	2 / 5.0%	40 / 100.0%

PERID by DRAGON

Each cell: Count / Exp Val / Residual

PERID	EXCELLENT (1)	GOOD (2)	FAIR (3)	BAD (4)	Row Total
DISAGREE (1)	0 / 1.4 / -1.4	5 / 1.9 / 3.1	0 / 1.5 / -1.5	0 / .3 / -.3	5 / 12.5%
NEITHER (2)	4 / 2.2 / 1.8	0 / 3.0 / -3.0	4 / 2.4 / 1.6	0 / .4 / -.4	8 / 20.0%
AGREE (3)	7 / 7.4 / -.4	10 / 10.1 / -.1	8 / 8.1 / -.1	2 / 1.3 / .7	27 / 67.5%
Column Total	11 / 27.5%	15 / 37.5%	12 / 30.0%	2 / 5.0%	40 / 100.0%

VALUE by SHANXI — V-127

SHANXI

VALUE	Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	Row Total
IRRELEVANT	0	24 / 25.5 / -1.5	9 / 7.7 / 1.3	1 / .8 / .2	34 / 77.3%
RELEVANT	1	9 / 7.5 / 1.5	1 / 2.3 / -1.3	0 / .2 / -.2	10 / 22.7%
Column Total		33 / 75.0%	10 / 22.7%	1 / 2.3%	44 / 100.0%

VALUE by CRANE — V-128

CRANE

VALUE	Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	Row Total
IRRELEVANT	0	23 / 24.0 / -1.0	9 / 7.7 / 1.3	2 / 2.3 / -.3	34 / 77.3%
RELEVANT	1	8 / 7.0 / 1.0	1 / 2.3 / -1.3	1 / .7 / .3	10 / 22.7%
Column Total		31 / 70.5%	10 / 22.7%	3 / 6.8%	44 / 100.0%

VALUE by DRAGON — V-129

DRAGON

VALUE	Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
IRRELEVANT	0	11 / 10.0 / 1.0	14 / 13.1 / .9	7 / 9.3 / -2.3	2 / 1.5 / .5	34 / 77.3%
RELEVANT	1	2 / 3.0 / -1.0	3 / 3.9 / -.9	5 / 2.7 / 2.3	0 / .5 / -.5	10 / 22.7%
Column Total		13 / 29.5%	17 / 38.6%	12 / 27.3%	2 / 4.5%	44 / 100.0%

VALUE by HILL — V-130

HILL

VALUE	Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
IRRELEVANT	0	13 / 12.4 / .6	16 / 16.2 / -.2	2 / 3.1 / -1.1	3 / 2.3 / .7	34 / 77.3%
RELEVANT	1	3 / 3.6 / -.6	5 / 4.8 / .2	2 / .9 / 1.1	0 / .7 / -.7	10 / 22.7%
Column Total		16 / 36.4%	21 / 47.7%	4 / 9.1%	3 / 6.8%	44 / 100.0%

VALUE by MODERN — V-131

MODERN

VALUE	Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
IRRELEVANT	0	1 / 1.5 / -.5	8 / 8.5 / -.5	9 / 10.0 / -1.0	16 / 13.9 / 2.1	34 / 77.3%
RELEVANT	1	1 / .5 / .5	3 / 2.5 / .5	4 / 3.0 / 1.0	2 / 4.1 / -2.1	10 / 22.7%
Column Total		2 / 4.5%	11 / 25.0%	13 / 29.5%	18 / 40.9%	44 / 100.0%

VALUE by HIRISE — V-132

HIRISE

VALUE	Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	POOR 4	BAD 5	Row Total
IRRELEVANT	0	0 / .8 / -.8	1 / .8 / .2	4 / 3.9 / .1	7 / 9.3 / -2.3	22 / 19.3 / 2.7	34 / 77.3%
RELEVANT	1	1 / .2 / .8	0 / .2 / -.2	1 / 1.1 / -.1	5 / 2.7 / 2.3	3 / 5.7 / -2.7	10 / 22.7%
Column Total		1 / 2.3%	1 / 2.3%	5 / 11.4%	12 / 27.3%	25 / 56.8%	44 / 100.0%

MACH by SHANXI — V-133

Cells: Count / Exp Val / Residual

MACH	SHANXI: EXCELLENT (1)	GOOD (2)	FAIR (3)	Row Total
DISAGREE (1)	32 / 31.5 / .5	8 / 8.6 / -.6	1 / 1.0 / .0	41 / 95.3%
NEITHER (2)	0 / .8 / -.8	1 / .2 / .8	0 / .0 / .0	1 / 2.3%
AGREE (3)	1 / .8 / .2	0 / .2 / -.2	0 / .0 / .0	1 / 2.3%
Column Total	33 / 76.7%	9 / 20.9%	1 / 2.3%	43 / 100.0%

MACH by CRANE — V-134

Cells: Count / Exp Val / Residual

MACH	CRANE: EXCELLENT (1)	GOOD (2)	FAIR (3)	Row Total
DISAGREE (1)	35 / 35.3 / -.3	4 / 3.8 / .2	2 / 1.9 / .1	41 / 95.3%
NEITHER (2)	1 / .9 / .1	0 / .1 / -.1	0 / .0 / .0	1 / 2.3%
AGREE (3)	1 / .9 / .1	0 / .1 / -.1	0 / .0 / .0	1 / 2.3%
Column Total	37 / 86.0%	4 / 9.3%	2 / 4.7%	43 / 100.0%

MACH by DRAGON — V-135

Cells: Count / Exp Val / Residual

MACH	DRAGON: EXCELLENT (1)	GOOD (2)	FAIR (3)	BAD (4)	Row Total
DISAGREE (1)	11 / 11.4 / -.4	17 / 16.2 / .8	11 / 11.4 / -.4	2 / 1.9 / .1	41 / 95.3%
NEITHER (2)	1 / .3 / .7	0 / .4 / -.4	0 / .3 / -.3	0 / .0 / .0	1 / 2.3%
AGREE (3)	0 / .3 / -.3	0 / .4 / -.4	1 / .3 / .7	0 / .0 / .0	1 / 2.3%
Column Total	12 / 27.9%	17 / 39.5%	12 / 27.9%	2 / 4.7%	43 / 100.0%

MACH by HILL — V-136

Cells: Count / Exp Val / Residual

MACH	HILL: EXCELLENT (1)	GOOD (2)	FAIR (3)	BAD (4)	Row Total
DISAGREE (1)	14 / 14.3 / -.3	20 / 20.0 / .0	4 / 3.8 / .2	3 / 2.9 / .1	41 / 95.3%
NEITHER (2)	1 / .3 / .7	0 / .5 / -.5	0 / .1 / -.1	0 / .1 / -.1	1 / 2.3%
AGREE (3)	0 / .3 / -.3	1 / .5 / .5	0 / .1 / -.1	0 / .1 / -.1	1 / 2.3%
Column Total	15 / 34.9%	21 / 48.8%	4 / 9.3%	3 / 7.0%	43 / 100.0%

MACH by MODERN — V-137

Cells: Count / Exp Val / Residual

MACH	MODERN: EXCELLENT (1)	GOOD (2)	FAIR (3)	BAD (4)	Row Total
DISAGREE (1)	3 / 3.8 / -.8	12 / 11.4 / .6	14 / 14.3 / -.3	12 / 11.4 / .6	41 / 95.3%
NEITHER (2)	1 / .1 / .9	0 / .3 / -.3	0 / .3 / -.3	0 / .3 / -.3	1 / 2.3%
AGREE (3)	0 / .1 / -.1	0 / .3 / -.3	1 / .3 / .7	0 / .3 / -.3	1 / 2.3%
Column Total	4 / 9.3%	12 / 27.9%	15 / 34.9%	12 / 27.9%	43 / 100.0%

MACH by HIRISE — V-138

Cells: Count / Exp Val / Residual

MACH	HIRISE: EXCELLENT (1)	FAIR (2)	POOR (3)	BAD (4)	Row Total
DISAGREE (1)	0 / 1.0 / -1.0	5 / 4.8 / .2	11 / 11.4 / -.4	25 / 23.8 / 1.2	41 / 95.3%
NEITHER (2)	1 / .0 / 1.0	0 / .1 / -.1	0 / .3 / -.3	0 / .6 / -.6	1 / 2.3%
AGREE (3)	0 / .0 / .0	0 / .1 / -.1	1 / .3 / .7	0 / .6 / -.6	1 / 2.3%
Column Total	1 / 2.3%	5 / 11.6%	12 / 27.9%	25 / 58.1%	43 / 100.0%

DESERT by SHANXI — V-139

Cell contents: Count / Exp Val / Residual

SHANXI	EXCELLEN 1	GOOD 2	FAIR 3	Row Total
DESERT				
DISAGREE (1)	8 / 8.2 / -.2	3 / 2.6 / .4	0 / .3 / -.3	11 / 25.6%
NEITHER (2)	5 / 6.7 / -1.7	3 / 2.1 / .9	1 / .2 / .8	9 / 20.9%
AGREE (3)	19 / 17.1 / 1.9	4 / 5.3 / -1.3	0 / .5 / -.5	23 / 53.5%
Column Total	32 / 74.4%	10 / 23.3%	1 / 2.3%	43 / 100.0%

DESERT by CRANE — V-140

Cell contents: Count / Exp Val / Residual

CRANE	EXCELLEN 1	GOOD 2	FAIR 3	Row Total
DESERT				
DISAGREE (1)	8 / 9.5 / -1.5	2 / 1.0 / 1.0	1 / .5 / .5	11 / 25.6%
NEITHER (2)	7 / 7.7 / -.7	1 / .8 / .2	1 / .4 / .6	9 / 20.9%
AGREE (3)	22 / 19.8 / 2.2	1 / 2.1 / -1.1	0 / 1.1 / -1.1	23 / 53.5%
Column Total	37 / 86.0%	4 / 9.3%	2 / 4.7%	43 / 100.0%

DESERT by DRAGON — V-141

Cell contents: Count / Exp Val / Residual

DRAGON	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
DESERT					
DISAGREE (1)	2 / 3.3 / -1.3	5 / 4.3 / .7	3 / 2.8 / .2	1 / .5 / .5	11 / 25.6%
NEITHER (2)	5 / 2.7 / 2.3	4 / 3.6 / .4	0 / 2.3 / -2.3	0 / .4 / -.4	9 / 20.9%
AGREE (3)	6 / 7.0 / -1.0	8 / 9.1 / -1.1	8 / 5.9 / 2.1	1 / 1.1 / -.1	23 / 53.5%
Column Total	13 / 30.2%	17 / 39.5%	11 / 25.6%	2 / 4.7%	43 / 100.0%

DESERT by HILL — V-142

Cell contents: Count / Exp Val / Residual

HILL	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
DESERT					
DISAGREE (1)	4 / 4.1 / -.1	6 / 5.1 / .9	1 / 1.0 / .0	0 / .8 / -.8	11 / 25.6%
NEITHER (2)	5 / 3.3 / 1.7	3 / 4.2 / -1.2	1 / .8 / .2	0 / .6 / -.6	9 / 20.9%
AGREE (3)	7 / 8.6 / -1.6	11 / 10.7 / .3	2 / 2.1 / -.1	3 / 1.6 / 1.4	23 / 53.5%
Column Total	16 / 37.2%	20 / 46.5%	4 / 9.3%	3 / 7.0%	43 / 100.0%

DESERT by MODERN — V-143

Cell contents: Count / Exp Val / Residual

MODERN	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
DESERT					
DISAGREE (1)	2 / 1.3 / .7	3 / 3.1 / -.1	2 / 3.6 / -1.6	4 / 3.1 / .9	11 / 25.6%
NEITHER (2)	1 / 1.0 / .0	3 / 2.5 / .5	4 / 2.9 / 1.1	1 / 2.5 / -1.5	9 / 20.9%
AGREE (3)	2 / 2.7 / -.7	6 / 6.4 / -.4	8 / 7.5 / .5	7 / 6.4 / .6	23 / 53.5%
Column Total	5 / 11.6%	12 / 27.9%	14 / 32.6%	12 / 27.9%	43 / 100.0%

DESERT by HIRISE — V-144

Cell contents: Count / Exp Val / Residual

HIRISE	EXCELLEN 1	GOOD 2	FAIR 3	POOR 4	BAD 5	Row Total
DESERT						
DISAGREE (1)	0 / .3 / -.3	1 / .3 / .7	3 / 1.3 / 1.7	2 / 3.1 / -1.1	5 / 6.1 / -1.1	11 / 25.6%
NEITHER (2)	1 / .2 / .8	0 / .2 / -.2	1 / 1.0 / .0	2 / 2.5 / -.5	5 / 5.0 / .0	9 / 20.9%
AGREE (3)	0 / .5 / -.5	0 / .5 / -.5	1 / 2.7 / -1.7	8 / 6.4 / 1.6	14 / 12.8 / 1.2	23 / 53.5%
Column Total	1 / 2.3%	1 / 2.3%	5 / 11.6%	12 / 27.9%	24 / 55.8%	43 / 100.0%

V-145

COMFT by SHANXI

Cell contents: Count / Exp Val / Residual

COMFT	SHANXI EXCELLEN GOOD (1)	(2)	FAIR (3)	Row Total
DISAGREE (1)	14 / 15.8 / -1.8	6 / 4.8 / 1.2	1 / .5 / .5	21 / 47.7%
NEITHER (2)	11 / 9.0 / 2.0	1 / 2.7 / -1.7	0 / .3 / -.3	12 / 27.3%
AGREE (3)	8 / 8.3 / -.3	3 / 2.5 / .5	0 / .3 / -.3	11 / 25.0%
Column Total	33 / 75.0%	10 / 22.7%	1 / 2.3%	44 / 100.0%

V-146

COMFT by CRANE

Cell contents: Count / Exp Val / Residual

COMFT	CRANE EXCELLEN GOOD (1)	(2)	FAIR (3)	Row Total
DISAGREE (1)	17 / 18.1 / -1.1	3 / 1.9 / 1.1	1 / 1.0 / .0	21 / 47.7%
NEITHER (2)	10 / 10.4 / -.4	1 / 1.1 / -.1	1 / .5 / .5	12 / 27.3%
AGREE (3)	11 / 9.5 / 1.5	0 / 1.0 / -1.0	0 / .5 / -.5	11 / 25.0%
Column Total	38 / 86.4%	4 / 9.1%	2 / 4.5%	44 / 100.0%

V-147

COMFT by DRAGON

Cell contents: Count / Exp Val / Residual

COMFT	DRAGON EXCELLEN GOOD (1)	(2)	FAIR (3)	BAD (4)	Row Total
DISAGREE (1)	6 / 6.2 / -.2	11 / 8.1 / 2.9	3 / 5.7 / -2.7	1 / 1.0 / 1.0	21 / 47.7%
NEITHER (2)	2 / 3.5 / -1.5	3 / 4.6 / -1.6	6 / 3.3 / 2.7	1 / .5 / .5	12 / 27.3%
AGREE (3)	5 / 3.3 / 1.8	3 / 4.3 / -1.3	3 / 3.0 / .0	0 / .5 / -.5	11 / 25.0%
Column Total	13 / 29.5%	17 / 38.6%	12 / 27.3%	2 / 4.5%	44 / 100.0%

V-148

COMFT by HILL

Cell contents: Count / Exp Val / Residual

COMFT	HILL EXCELLEN GOOD (1)	(2)	FAIR (3)	BAD (4)	Row Total
DISAGREE (1)	10 / 7.6 / 2.4	9 / 10.0 / -1.0	2 / 1.9 / .1	0 / 1.4 / -1.4	21 / 47.7%
NEITHER (2)	4 / 4.4 / -.4	5 / 5.7 / -.7	2 / 1.1 / .9	2 / .8 / 1.2	12 / 27.3%
AGREE (3)	3 / 4.0 / -1.0	7 / 5.3 / 1.8	1 / 1.0 / -1.0	1 / .8 / .3	11 / 25.0%
Column Total	16 / 36.4%	21 / 47.7%	4 / 9.1%	3 / 6.8%	44 / 100.0%

V-149

COMFT by MODERN

Cell contents: Count / Exp Val / Residual

COMFT	MODERN EXCELLEN GOOD (1)	(2)	FAIR (3)	BAD (4)	Row Total
DISAGREE (1)	4 / 2.4 / 1.6	8 / 5.7 / 2.3	4 / 7.2 / -3.2	5 / 5.7 / -.7	21 / 47.7%
NEITHER (2)	0 / 1.4 / -1.4	3 / 3.3 / -.3	6 / 4.1 / 1.9	3 / 3.3 / -.3	12 / 27.3%
AGREE (3)	1 / 1.3 / -.3	1 / 3.0 / -2.0	5 / 3.8 / 1.3	4 / 3.0 / 1.0	11 / 25.0%
Column Total	5 / 11.4%	12 / 27.3%	15 / 34.1%	12 / 27.3%	44 / 100.0%

V-150

COMFT by HIRISE

Cell contents: Count / Exp Val / Residual

COMFT	HIRISE EXCELLEN GOOD (1)	(2)	FAIR (3)	POOR (4)	BAD (5)	Row Total
DISAGREE (1)	1 / .5 / .5	0 / .5 / -.5	3 / 2.4 / .6	6 / 5.7 / .3	11 / 11.9 / -.9	21 / 47.7%
NEITHER (2)	0 / .3 / -.3	0 / .3 / -.3	1 / 1.4 / -.4	3 / 3.3 / -.3	8 / 6.8 / 1.2	12 / 27.3%
AGREE (3)	0 / .3 / -.3	1 / .3 / .8	1 / 1.3 / -.3	3 / 3.0 / .0	6 / 6.3 / -.3	11 / 25.0%
Column Total	1 / 2.3%	1 / 2.3%	5 / 11.4%	12 / 27.3%	25 / 56.8%	44 / 100.0%

V-154 — FUNCTON by HILL

Count Exp Val Residual	HILL EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
FUNCTON IRRELEVANT (0)	4 / 5.1 / -1.1	8 / 6.7 / 1.3	1 / 1.3 / -.3	1 / 1.0 / .0	14 / 31.8%
RELEVANT (1)	12 / 10.9 / 1.1	13 / 14.3 / -1.3	3 / 2.7 / .3	2 / 2.0 / .0	30 / 68.2%
Column Total	16 / 36.4%	21 / 47.7%	4 / 9.1%	3 / 6.8%	44 / 100.0%

V-155 — FUNCTON by MODERN

Count Exp Val Residual	MODERN EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
FUNCTON IRRELEVANT (0)	2 / .6 / 1.4	4 / 3.5 / .5	2 / 4.1 / -2.1	6 / 5.7 / .3	14 / 31.8%
RELEVANT (1)	0 / 1.4 / -1.4	7 / 7.5 / -.5	11 / 8.9 / 2.1	12 / 12.3 / -.3	30 / 68.2%
Column Total	2 / 4.5%	11 / 25.0%	13 / 29.5%	18 / 40.9%	44 / 100.0%

V-156 — FUNCTON by HIRISE

Count Exp Val Residual	HIRISE EXCELLEN 1	GOOD 2	FAIR 3	POOR 4	BAD 5	Row Total
FUNCTON IRRELEVANT (0)	0 / .3 / -.3	1 / .3 / .7	2 / 1.6 / .4	3 / 3.8 / -.8	8 / 8.0 / .0	14 / 31.8%
RELEVANT (1)	1 / .7 / .3	0 / .7 / -.7	3 / 3.4 / -.4	9 / 8.2 / .8	17 / 17.0 / .0	30 / 68.2%
Column Total	1 / 2.3%	1 / 2.3%	5 / 11.4%	12 / 27.3%	25 / 56.8%	44 / 100.0%

V-151 — FUNCTON by SHANXI

Count Exp Val Residual	SHANXI EXCELLEN 1	GOOD 2	FAIR 3	Row Total
FUNCTON IRRELEVANT (0)	10 / 10.5 / -.5	4 / 3.2 / .8	0 / .3 / -.3	14 / 31.8%
RELEVANT (1)	23 / 22.5 / .5	6 / 6.8 / -.8	1 / .7 / .3	30 / 68.2%
Column Total	33 / 75.0%	10 / 22.7%	1 / 2.3%	44 / 100.0%

V-152 — FUNCTON by CRANE

Count Exp Val Residual	CRANE EXCELLEN 1	GOOD 2	FAIR 3	Row Total
FUNCTON IRRELEVANT (0)	10 / 9.9 / .1	4 / 3.2 / .8	0 / 1.0 / -1.0	14 / 31.8%
RELEVANT (1)	21 / 21.1 / -.1	6 / 6.8 / -.8	3 / 2.0 / 1.0	30 / 68.2%
Column Total	31 / 70.5%	10 / 22.7%	3 / 6.8%	44 / 100.0%

V-153 — FUNCTON by DRAGON

Count Exp Val Residual	DRAGON EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
FUNCTON IRRELEVANT (0)	4 / 4.1 / -.1	7 / 5.4 / 1.6	2 / 3.8 / -1.8	1 / .6 / .4	14 / 31.8%
RELEVANT (1)	9 / 8.9 / .1	10 / 11.6 / -1.6	10 / 8.2 / 1.8	1 / 1.4 / -1.4	30 / 68.2%
Column Total	13 / 29.5%	17 / 38.6%	12 / 27.3%	2 / 4.5%	44 / 100.0%

FIRM by SHANXI   V-157

	SHANXI	EXCELLEN	GOOD	FAIR	
Count Exp Val Residual		1	2	3	Row Total
FIRM					
IRRELEVANT	0	24 24.0 .0	7 7.3 -.3	1 .7 .3	32 72.7%
RELEVANT	1	9 9.0 .0	3 2.7 .3	0 .3 -.3	12 27.3%
Column Total		33 75.0%	10 22.7%	1 2.3%	44 100.0%

FIRM by CRANE   V-158

	CRANE	EXCELLEN	GOOD	FAIR	
Count Exp Val Residual		1	2	3	Row Total
FIRM					
IRRELEVANT	0	22 22.5 -.5	7 7.3 -.3	3 2.2 .8	32 72.7%
RELEVANT	1	9 8.5 .5	3 2.7 .3	0 .8 -.8	12 27.3%
Column Total		31 70.5%	10 22.7%	3 6.8%	44 100.0%

FIRM by DRAGON   V-159

	DRAGON	EXCELLEN	GOOD	FAIR	BAD	
Count Exp Val Residual		1	2	3	4	Row Total
FIRM						
IRRELEVANT	0	9 9.5 -.5	14 12.4 1.6	7 8.7 -1.7	2 1.5 .5	32 72.7%
RELEVANT	1	4 3.5 .5	3 4.6 -1.6	5 3.3 1.7	0 .5 -.5	12 27.3%
Column Total		13 29.5%	17 38.6%	12 27.3%	2 4.5%	44 100.0%

FIRM by HILL   V-160

	HILL	EXCELLEN	GOOD	FAIR	BAD	
Count Exp Val Residual		1	2	3	4	Row Total
FIRM						
IRRELEVANT	0	11 11.6 -.6	14 15.3 -1.3	4 2.9 1.1	3 2.2 .8	32 72.7%
RELEVANT	1	5 4.4 .6	7 5.7 1.3	0 1.1 -1.1	0 .8 -.8	12 27.3%
Column Total		16 36.4%	21 47.7%	4 9.1%	3 6.8%	44 100.0%

FIRM by MODERN   V-161

	MODERN	EXCELLEN	GOOD	FAIR	BAD	
Count Exp Val Residual		1	2	3	4	Row Total
FIRM						
IRRELEVANT	0	1 1.5 -.5	8 8.0 .0	9 9.5 -.5	14 13.1 .9	32 72.7%
RELEVANT	1	1 .5 .5	3 3.0 .0	4 3.5 .5	4 4.9 -.9	12 27.3%
Column Total		2 4.5%	11 25.0%	13 29.5%	18 40.9%	44 100.0%

FIRM by HIRISE   V-162

	HIRISE	EXCELLEN	GOOD	FAIR	POOR	BAD	
Count Exp Val Residual		1	2	3	4	5	Row Total
FIRM							
IRRELEVANT	0	0 .7 -.7	1 .7 .3	4 3.6 .4	6 8.7 -2.7	21 18.2 2.8	32 72.7%
RELEVANT	1	1 .3 .7	0 .3 -.3	1 1.4 -.4	6 3.3 2.7	4 6.8 -2.8	12 27.3%
Column Total		1 2.3%	1 2.3%	5 11.4%	12 27.3%	25 56.8%	44 100.0%

CONSTRT by HILL   V-166

SHANXI

CONSTRT	Count Exp Val Residual	EXCELLEN GOOD 1	GOOD 2	FAIR 3	Row Total
IRRELEVANT 0		24 / 24.0 / .0	7 / 7.3 / -.3	1 / .7 / .3	32 / 72.7%
RELEVANT 1		9 / 9.0 / .0	3 / 2.7 / .3	0 / .3 / -.3	12 / 27.3%
Column Total		33 / 75.0%	10 / 22.7%	1 / 2.3%	44 / 100.0%

HILL

CONSTRT	Count Exp Val Residual	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
IRRELEVANT 0		11 / 11.6 / -.6	15 / 15.3 / -.3	3 / 2.9 / .1	3 / 2.2 / .8	32 / 72.7%
RELEVANT 1		5 / 4.4 / .6	6 / 5.7 / .3	1 / 1.1 / -.1	0 / .8 / -.8	12 / 27.3%
Column Total		16 / 36.4%	21 / 47.7%	4 / 9.1%	3 / 6.8%	44 / 100.0%

CONSTRT by CRANE   V-164

CONSTRT by MODERN   V-167

CRANE

CONSTRT	Count Exp Val Residual	EXCELLEN GOOD 1	GOOD 2	FAIR 3	Row Total
IRRELEVANT 0		22 / 22.5 / -.5	7 / 7.3 / -.3	3 / 2.2 / .8	32 / 72.7%
RELEVANT 1		9 / 8.5 / .5	3 / 2.7 / .3	0 / .8 / -.8	12 / 27.3%
Column Total		31 / 70.5%	10 / 22.7%	3 / 6.8%	44 / 100.0%

MODERN

CONSTRT	Count Exp Val Residual	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
IRRELEVANT 0		2 / 1.5 / .5	8 / 8.0 / .0	6 / 9.5 / -3.5	16 / 13.1 / 2.9	32 / 72.7%
RELEVANT 1		0 / .5 / -.5	3 / 3.0 / .0	7 / 3.5 / 3.5	2 / 4.9 / -2.9	12 / 27.3%
Column Total		2 / 4.5%	11 / 25.0%	13 / 29.5%	18 / 40.9%	44 / 100.0%

CONSTRT by DRAGON   V-165

CONSTRT by HIRISE   V-168

DRAGON

CONSTRT	Count Exp Val Residual	EXCELLEN GOOD 1	GOOD 2	FAIR 3	BAD 4	Row Total
IRRELEVANT 0		9 / 9.5 / -.5	13 / 12.4 / .6	8 / 8.7 / -.7	2 / 1.5 / .5	32 / 72.7%
RELEVANT 1		4 / 3.5 / .5	4 / 4.6 / -.6	4 / 3.3 / .7	0 / .5 / -.5	12 / 27.3%
Column Total		13 / 29.5%	17 / 38.6%	12 / 27.3%	2 / 4.5%	44 / 100.0%

HIRISE

CONSTRT	Count Exp Val Residual	EXCELLEN 1	GOOD 2	FAIR 3	POOR 4	BAD 5	Row Total
IRRELEVANT 0		1 / .7 / .3	1 / .7 / .3	4 / 3.6 / .4	5 / 8.7 / -3.7	21 / 18.2 / 2.8	32 / 72.7%
RELEVANT 1		0 / .3 / -.3	0 / .3 / -.3	1 / 1.4 / -.4	7 / 3.3 / 3.7	4 / 6.8 / -2.8	12 / 27.3%
Column Total		1 / 2.3%	1 / 2.3%	5 / 11.4%	12 / 27.3%	25 / 56.8%	44 / 100.0%

MATER by SHANXI — V-169

SHANXI

Count / Exp Val / Residual	EXCELLENT 1	GOOD 2	FAIR 3	Row Total
MATER				
IRRELEVANT 0	19 / 22.5 / -3.5	10 / 6.8 / 3.2	1 / .7 / .3	30 / 68.2%
RELEVANT 1	14 / 10.5 / 3.5	0 / 3.2 / -3.2	0 / .3 / -.3	14 / 31.8%
Column Total	33 / 75.0%	10 / 22.7%	1 / 2.3%	44 / 100.0%

MATER by CRANE — V-170

CRANE

Count / Exp Val / Residual	EXCELLENT 1	GOOD 2	FAIR 3	Row Total
MATER				
IRRELEVANT 0	18 / 21.1 / -3.1	10 / 6.8 / 3.2	2 / 2.0 / .0	30 / 68.2%
RELEVANT 1	13 / 9.9 / 3.1	0 / 3.2 / -3.2	1 / 1.0 / 1.0	14 / 31.8%
Column Total	31 / 70.5%	10 / 22.7%	3 / 6.8%	44 / 100.0%

MATER by DRAGON — V-171

DRAGON

Count / Exp Val / Residual	EXCELLENT 1	GOOD 2	FAIR 3	BAD 4	Row Total
MATER					
IRRELEVANT 0	12 / 8.9 / 3.1	9 / 11.6 / -2.6	7 / 8.2 / -1.2	2 / 1.4 / .6	30 / 68.2%
RELEVANT 1	1 / 4.1 / -3.1	8 / 5.4 / 2.6	5 / 3.8 / 1.2	0 / .6 / -.6	14 / 31.8%
Column Total	13 / 29.5%	17 / 38.6%	12 / 27.3%	2 / 4.5%	44 / 100.0%

MATER by MODERN — V-172

MODERN

Count / Exp Val / Residual	EXCELLENT 1	GOOD 2	FAIR 3	BAD 4	Row Total
MATER					
IRRELEVANT 0	2 / 1.4 / .6	8 / 7.5 / .5	7 / 8.9 / -1.9	13 / 12.3 / .7	30 / 68.2%
RELEVANT 1	0 / .6 / -.6	3 / 3.5 / -.5	6 / 4.1 / 1.9	5 / 5.7 / -.7	14 / 31.8%
Column Total	2 / 4.5%	11 / 25.0%	13 / 29.5%	18 / 40.9%	44 / 100.0%

MATER by HILL — V-173

HILL

Count / Exp Val / Residual	EXCELLENT 1	GOOD 2	FAIR 3	BAD 4	Row Total
MATER					
IRRELEVANT 0	15 / 10.9 / 4.1	10 / 14.3 / -4.3	2 / 2.7 / -.7	3 / 2.0 / 1.0	30 / 68.2%
RELEVANT 1	1 / 5.1 / -4.1	11 / 6.7 / 4.3	2 / 1.3 / .7	0 / 1.0 / -1.0	14 / 31.8%
Column Total	16 / 36.4%	21 / 47.7%	4 / 9.1%	3 / 6.8%	44 / 100.0%

MATER by HIRISE — V-174

HIRISE

Count / Exp Val / Residual	EXCELLENT 1	GOOD 2	FAIR 3	POOR 4	BAD 5	Row Total
MATER						
IRRELEVANT 0	1 / .7 / .3	1 / .7 / .3	5 / 3.4 / 1.6	4 / 8.2 / -4.2	19 / 17.0 / 2.0	30 / 68.2%
RELEVANT 1	0 / .3 / -.3	0 / .3 / -.3	0 / 1.6 / -1.6	8 / 3.8 / 4.2	6 / 8.0 / -2.0	14 / 31.8%
Column Total	1 / 2.3%	1 / 2.3%	5 / 11.4%	12 / 27.3%	25 / 56.8%	44 / 100.0%

TECH by HILL — V-178

Cells: Count / Exp Val / Residual

TECH	HILL EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
DISAGREE 1	12 / 13.4 / -1.4	17 / 16.7 / .3	4 / 3.3 / .7	3 / 2.5 / .5	36 — 83.7%
NEITHER 2	1 / .7 / .3	1 / .9 / .1	0 / .2 / -.2	0 / .1 / -.1	2 — 4.7%
AGREE 3	3 / 1.9 / 1.1	2 / 2.3 / -.3	0 / .5 / -.5	0 / .3 / -.3	5 — 11.6%
Column Total	16 — 37.2%	20 — 46.5%	4 — 9.3%	3 — 7.0%	43 — 100.0%

TECH by MODERN — V-179

Cells: Count / Exp Val / Residual

TECH	MODERN EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
DISAGREE 1	3 / 4.2 / -1.2	9 / 9.2 / -.2	15 / 12.6 / 2.4	9 / 10.0 / -1.0	36 — 83.7%
NEITHER 2	0 / .2 / -.2	1 / .5 / .5	0 / .7 / -.7	1 / .6 / .4	2 — 4.7%
AGREE 3	2 / .6 / 1.4	1 / 1.3 / -.3	0 / 1.7 / -1.7	2 / 1.4 / .6	5 — 11.6%
Column Total	5 — 11.6%	11 — 25.6%	15 — 34.9%	12 — 27.9%	43 — 100.0%

TECH by HIRISE — V-180

Cells: Count / Exp Val / Residual

TECH	HIRISE EXCELLEN 1	GOOD 2	FAIR 3	POOR 4	BAD 5	Row Total
DISAGREE 1	1 / .8 / .2	1 / .8 / .2	3 / 3.3 / -.3	10 / 10.0 / .0	21 / 20.9 / .1	36 — 83.7%
NEITHER 2	0 / .0 / .0	0 / .0 / .0	0 / .2 / -.2	1 / .6 / .4	1 / 1.2 / -.2	2 — 4.7%
AGREE 3	0 / .1 / -.1	0 / .1 / -.1	1 / .5 / .5	1 / 1.4 / -.4	3 / 2.9 / .1	5 — 11.6%
Column Total	1 — 2.3%	1 — 2.3%	4 — 9.3%	12 — 27.9%	25 — 58.1%	43 — 100.0%

TECH by SHANXI — V-175

Cells: Count / Exp Val / Residual

TECH	SHANXI EXCELLEN 1	GOOD 2	FAIR 3	Row Total
DISAGREE 1	27 / 26.8 / .2	8 / 8.4 / -.4	1 / .8 / .2	36 — 83.7%
NEITHER 2	2 / 1.5 / .5	0 / .5 / -.5	0 / .0 / .0	2 — 4.7%
AGREE 3	3 / 3.7 / -.7	2 / 1.2 / .8	0 / .1 / -.1	5 — 11.6%
Column Total	32 — 74.4%	10 — 23.3%	1 — 2.3%	43 — 100.0%

TECH by CRANE — V-176

Cells: Count / Exp Val / Residual

TECH	CRANE EXCELLEN 1	GOOD 2	FAIR 3	Row Total
DISAGREE 1	31 / 31.0 / .0	3 / 3.3 / -.3	2 / 1.7 / .3	36 — 83.7%
NEITHER 2	2 / 1.7 / .3	0 / .2 / -.2	0 / .1 / -.1	2 — 4.7%
AGREE 3	4 / 4.3 / -.3	1 / .5 / .5	0 / .2 / -.2	5 — 11.6%
Column Total	37 — 86.0%	4 — 9.3%	2 — 4.7%	43 — 100.0%

TECH by DRAGON — V-177

Cells: Count / Exp Val / Residual

TECH	DRAGON EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
DISAGREE 1	12 / 10.9 / 1.1	11 / 13.4 / -2.4	11 / 10.0 / 1.0	2 / 1.7 / .3	36 — 83.7%
NEITHER 2	0 / .6 / -.6	2 / .7 / 1.3	0 / .6 / -.6	0 / .1 / -.1	2 — 4.7%
AGREE 3	1 / 1.5 / -.5	3 / 1.9 / 1.1	1 / 1.4 / -.4	0 / .2 / -.2	5 — 11.6%
Column Total	13 — 30.2%	16 — 37.2%	12 — 27.9%	2 — 4.7%	43 — 100.0%

CONSID by SHANXI V-181

SHANXI

Cell contents: Count / Exp Val / Residual

CONSID	EXCELLEN (1)	GOOD (2)	FAIR (3)	Row Total
IRRELEVANT (0)	17 / 16.5 / .5	5 / 5.0 / .0	0 / .5 / -.5	22 / 50.0%
RELEVANT (1)	16 / 16.5 / -.5	5 / 5.0 / .0	1 / .5 / .5	22 / 50.0%
Column Total	33 / 75.0%	10 / 22.7%	1 / 2.3%	44 / 100.0%

CONSID by CRANE V-182

CRANE

Cell contents: Count / Exp Val / Residual

CONSID	EXCELLEN (1)	GOOD (2)	FAIR (3)	Row Total
IRRELEVANT (0)	16 / 15.5 / .5	5 / 5.0 / .0	1 / 1.5 / -.5	22 / 50.0%
RELEVANT (1)	15 / 15.5 / -.5	5 / 5.0 / .0	2 / 1.5 / .5	22 / 50.0%
Column Total	31 / 70.5%	10 / 22.7%	3 / 6.8%	44 / 100.0%

CONSID by DRAGON V-183

DRAGON

Cell contents: Count / Exp Val / Residual

CONSID	EXCELLEN (1)	GOOD (2)	FAIR (3)	BAD (4)	Row Total
IRRELEVANT (0)	6 / 6.5 / -.5	9 / 8.5 / .5	6 / 6.0 / .0	1 / 1.0 / .0	22 / 50.0%
RELEVANT (1)	7 / 6.5 / .5	8 / 8.5 / -.5	6 / 6.0 / .0	1 / 1.0 / .0	22 / 50.0%
Column Total	13 / 29.5%	17 / 38.6%	12 / 27.3%	2 / 4.5%	44 / 100.0%

CONSID by HILL V-184

HILL

Cell contents: Count / Exp Val / Residual

CONSID	EXCELLEN (1)	GOOD (2)	FAIR (3)	BAD (4)	Row Total
IRRELEVANT (0)	6 / 8.0 / -2.0	12 / 10.5 / 1.5	2 / 2.0 / .0	2 / 1.5 / .5	22 / 50.0%
RELEVANT (1)	10 / 8.0 / 2.0	9 / 10.5 / -1.5	2 / 2.0 / .0	1 / 1.5 / -.5	22 / 50.0%
Column Total	16 / 36.4%	21 / 47.7%	4 / 9.1%	3 / 6.8%	44 / 100.0%

CONSID by MODERN V-185

MODERN

Cell contents: Count / Exp Val / Residual

CONSID	EXCELLEN (1)	GOOD (2)	FAIR (3)	BAD (4)	Row Total
IRRELEVANT (0)	2 / 1.0 / 1.0	4 / 5.5 / -1.5	6 / 6.5 / -.5	10 / 9.0 / 1.0	22 / 50.0%
RELEVANT (1)	0 / 1.0 / -1.0	7 / 5.5 / 1.5	7 / 6.5 / .5	8 / 9.0 / -1.0	22 / 50.0%
Column Total	2 / 4.5%	11 / 25.0%	13 / 29.5%	18 / 40.9%	44 / 100.0%

CONSID by HIRISE V-186

HIRISE

Cell contents: Count / Exp Val / Residual

CONSID	EXCELLEN GOOD (2)	FAIR (3)	POOR (4)	BAD (5)	Row Total
IRRELEVANT (0)	1 / .5 / .5	3 / 2.5 / .5	5 / 6.0 / -1.0	13 / 12.5 / .5	22 / 50.0%
RELEVANT (1)	0 / .5 / -.5	2 / 2.5 / -.5	7 / 6.0 / 1.0	12 / 12.5 / -.5	22 / 50.0%
Column Total	1 / 2.3%	5 / 11.4%	12 / 27.3%	25 / 56.8%	44 / 100.0%

BRANEW by MODERN — V-187

MODERN

Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
BRANEW DISAGREE (1)	0 / 3.4 / -3.4	10 / 8.1 / 1.9	9 / 9.4 / -.4	10 / 8.1 / 1.9	29 / 67.4%
NEITHER (2)	1 / .6 / .4	2 / 1.4 / .6	1 / 1.6 / -.6	1 / 1.4 / -.4	5 / 11.6%
AGREE (3)	4 / 1.0 / 3.0	0 / 2.5 / -2.5	4 / 2.9 / 1.1	1 / 2.5 / -1.5	9 / 20.9%
Column Total	5 / 11.6%	12 / 27.9%	14 / 32.6%	12 / 27.9%	43 / 100.0%

BRANEW by HILL — V-188

HILL

Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
BRANEW DISAGREE (1)	7 / 10.8 / -3.8	19 / 13.5 / 5.5	2 / 2.7 / -.7	1 / 2.0 / -1.0	29 / 67.4%
NEITHER (2)	3 / 1.9 / 1.1	1 / 2.3 / -1.3	1 / .5 / .5	0 / .3 / -.3	5 / 11.6%
AGREE (3)	6 / 3.3 / 2.7	0 / 4.2 / -4.2	1 / .8 / .2	2 / .6 / 1.4	9 / 20.9%
Column Total	16 / 37.2%	20 / 46.5%	4 / 9.3%	3 / 7.0%	43 / 100.0%

BRANEW by DRAGON — V-189

DRAGON

Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
BRANEW DISAGREE (1)	4 / 8.8 / -4.8	14 / 11.5 / 2.5	10 / 7.4 / 2.6	1 / 1.3 / -.3	29 / 67.4%
NEITHER (2)	2 / 1.5 / .5	3 / 2.0 / 1.0	0 / 1.3 / -1.3	0 / .2 / -.2	5 / 11.6%
AGREE (3)	7 / 2.7 / 4.3	0 / 3.6 / -3.6	1 / 2.3 / -1.3	1 / .4 / .6	9 / 20.9%
Column Total	13 / 30.2%	17 / 39.5%	11 / 25.6%	2 / 4.7%	43 / 100.0%

BRANEW by CRANE — V-190

CRANE

Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	Row Total
BRANEW DISAGREE (1)	25 / 25.0 / .0	2 / 2.7 / -.7	2 / 1.3 / .7	29 / 67.4%
NEITHER (2)	4 / 4.3 / -.3	1 / .5 / .5	0 / .2 / -.2	5 / 11.6%
AGREE (3)	8 / 7.7 / .3	1 / .8 / .2	0 / .4 / -.4	9 / 20.9%
Column Total	37 / 86.0%	4 / 9.3%	2 / 4.7%	43 / 100.0%

BRANEW by SHANXI — V-191

SHANXI

Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	Row Total
BRANEW DISAGREE (1)	26 / 21.6 / 4.4	2 / 6.7 / -4.7	1 / .7 / .3	29 / 67.4%
NEITHER (2)	3 / 3.7 / -.7	2 / 1.2 / .8	0 / .1 / -.1	5 / 11.6%
AGREE (3)	3 / 6.7 / -3.7	6 / 2.1 / 3.9	0 / .2 / -.2	9 / 20.9%
Column Total	32 / 74.4%	10 / 23.3%	1 / 2.3%	43 / 100.0%

BRANEW by HIRISE — V-192

HIRISE

Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	POOR 4	BAD 5	Row Total
BRANEW DISAGREE (1)	0 / .7 / -.7	0 / .7 / -.7	3 / 3.4 / -.4	10 / 8.1 / 1.9	16 / 16.2 / -.2	29 / 67.4%
NEITHER (2)	0 / .1 / -.1	0 / .1 / -.1	1 / .6 / .4	1 / 1.4 / -.4	3 / 2.8 / .2	5 / 11.6%
AGREE (3)	1 / .2 / .8	1 / .2 / .8	1 / 1.0 / .0	1 / 2.5 / -1.5	5 / 5.0 / .0	9 / 20.9%
Column Total	1 / 2.3%	1 / 2.3%	5 / 11.6%	12 / 27.9%	24 / 55.8%	43 / 100.0%

V-193

WEST by CRANE

Count Exp Val Residual	EXCELLEN GOOD 1	GOOD 2	FAIR 3	Row Total
WEST				
IRRELEVANT 0	33 / 32.3 / .8	9 / 9.8 / -.8	1 / 1.0 / .0	43 / 97.7%
RELEVANT 1	0 / .8 / -.8	1 / .2 / .8	0 / .0 / .0	1 / 2.3%
Column Total	33 / 75.0%	10 / 22.7%	1 / 2.3%	44 / 100.0%

V-194

WEST by CRANE

Count Exp Val Residual	EXCELLEN GOOD 1	GOOD 2	FAIR 3	Row Total
WEST				
IRRELEVANT 0	31 / 30.3 / .7	9 / 9.8 / -.8	3 / 2.9 / .1	43 / 97.7%
RELEVANT 1	0 / .7 / -.7	1 / .2 / .8	0 / .1 / -.1	1 / 2.3%
Column Total	31 / 70.5%	10 / 22.7%	3 / 6.8%	44 / 100.0%

V-195

WEST by DRAGON

Count Exp Val Residual	EXCELLEN GOOD 1	GOOD 2	FAIR 3	BAD 4	Row Total
WEST					
IRRELEVANT 0	13 / 12.7 / .3	16 / 16.6 / -.6	12 / 11.7 / .3	2 / 2.0 / .0	43 / 97.7%
RELEVANT 1	0 / .3 / -.3	1 / .4 / .6	0 / .3 / -.3	0 / .0 / .0	1 / 2.3%
Column Total	13 / 29.5%	17 / 38.6%	12 / 27.3%	2 / 4.5%	44 / 100.0%

V-196

HILL

COUNT EXP VAL RESIDUAL	EXCELLEN T 1	GOOD 2	FAOR 3	BAD 4	ROW Total
WEST					
IRRELEVANT 0	15 / 15.6 / -.6	21 / 20.5 / .5	4 / 3.9 / .1	3 / 2.9 / .1	43 / 97.7%
RELEVANT 1	1 / .4 / .6	0 / .5 / -.5	0 / .1 / -.1	0 / .1 / -.1	1 / 2.3%
Column Total	16 / 36.4%	21 / 47.7%	4 / 9.1%	3 / 6.8%	44 / 100.0%

V-197

WEST by MODERN

Count Exp Val Residual	EXCELLEN GOOD T 1	GOOD 2	FAIR 3	BAD 4	Row Total
WEST					
IRRELEVANT 0	2 / 2.0 / .0	10 / 10.8 / -.8	13 / 12.7 / .3	18 / 17.6 / .4	43 / 97.7%
RELEVANT 1	0 / .0 / .0	1 / .3 / .8	0 / .3 / -.3	0 / .4 / -.4	1 / 2.3%
Column Total	2 / 4.5%	11 / 25.0%	13 / 29.5%	18 / 40.9%	44 / 100.0%

V-198

WEST by HIRISE

Count Exp Val Residual	EXCELLEN GOOD T 2	FAIR 3	POOR 4	BAD 5	Row Total
WEST					
IRRELEVANT 0	1 / 1.0 / .0	5 / 4.9 / .1	12 / 11.7 / .3	24 / 24.4 / -.4	43 / 97.7%
RELEVANT 1	0 / .0 / .0	0 / .1 / -.1	0 / .3 / -.3	1 / .6 / .4	1 / 2.3%
Column Total	1 / 2.3%	5 / 11.4%	12 / 27.3%	25 / 56.8%	44 / 100.0%

NEWCLAS by SHANXI — V-199

Cell contents: Count / Exp Val / Residual

NEWCLAS	SHANXI EXCELLEN 1	GOOD 2	FAIR 3	Row Total
DISAGREE 1	12 / 13.0 / -1.0	6 / 4.5 / 1.5	0 / .4 / -.4	18 / 45.0%
NEITHER 2	6 / 6.5 / -.5	3 / 2.3 / .8	0 / .2 / -.2	9 / 22.5%
AGREE 3	11 / 9.4 / 1.6	1 / 3.3 / -2.3	1 / .3 / .7	13 / 32.5%
Column Total	29 / 72.5%	10 / 25.0%	1 / 2.5%	40 / 100.0%

NEWCLAS by CRANE — V-200

Cell contents: Count / Exp Val / Residual

NEWCLAS	CRANE EXCELLEN 1	GOOD 2	FAIR 3	Row Total
DISAGREE 1	16 / 15.3 / .7	2 / 1.8 / .2	0 / .9 / -.9	18 / 45.0%
NEITHER 2	7 / 7.6 / -.6	2 / .9 / 1.1	0 / .4 / -.4	9 / 22.5%
AGREE 3	11 / 11.0 / .0	0 / 1.3 / -1.3	2 / .6 / 1.3	13 / 32.5%
Column Total	34 / 85.0%	4 / 10.0%	2 / 5.0%	40 / 100.0%

NEWCLAS by DRAGON — V-201

Cell contents: Count / Exp Val / Residual

NEWCLAS	DRAGON EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
DISAGREE 1	7 / 5.4 / 1.6	6 / 7.2 / -1.2	4 / 4.5 / -.5	1 / .9 / .1	18 / 45.0%
NEITHER 2	2 / 2.7 / -.7	5 / 3.6 / 1.4	1 / 2.3 / -1.3	1 / .4 / .6	9 / 22.5%
AGREE 3	3 / 3.9 / -.9	5 / 5.2 / -.2	5 / 3.3 / 1.8	0 / .6 / -.6	13 / 32.5%
Column Total	12 / 30.0%	16 / 40.0%	10 / 25.0%	2 / 5.0%	40 / 100.0%

NEWCLAS by MODERN — V-202

Cell contents: Count / Exp Val / Residual

NEWCLAS	MODERN EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
DISAGREE 1	3 / 2.3 / .8	5 / 5.4 / -.4	6 / 5.8 / .2	4 / 4.5 / -.5	18 / 45.0%
NEITHER 2	2 / 1.1 / .9	4 / 2.7 / 1.3	1 / 2.9 / -1.9	2 / 2.3 / -.3	9 / 22.5%
AGREE 3	0 / 1.6 / -1.6	3 / 3.9 / -.9	6 / 4.2 / 1.8	4 / 3.3 / .8	13 / 32.5%
Column Total	5 / 12.5%	12 / 30.0%	13 / 32.5%	10 / 25.0%	40 / 100.0%

NEWCLAS by HILL — V-203

Cell contents: Count / Exp Val / Residual

NEWCLAS	HILL EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
DISAGREE 1	7 / 6.8 / .3	8 / 8.5 / -.5	2 / 1.8 / .2	1 / .9 / .1	18 / 45.0%
NEITHER 2	5 / 3.4 / 1.6	3 / 4.3 / -1.3	1 / .9 / .1	0 / .4 / -.4	9 / 22.5%
AGREE 3	3 / 4.9 / -1.9	8 / 6.2 / 1.8	1 / 1.3 / -.3	1 / .6 / .4	13 / 32.5%
Column Total	15 / 37.5%	19 / 47.5%	4 / 10.0%	2 / 5.0%	40 / 100.0%

NEWCLAS by HIRISE — V-204

Cell contents: Count / Exp Val / Residual

NEWCLAS	HIRISE EXCELLEN 1	GOOD 2	FAIR 3	POOR 4	BAD 5	Row Total
DISAGREE 1	0 / .4 / -.4	1 / .4 / .6	3 / 2.3 / .8	5 / 4.9 / .1	9 / 9.9 / -.9	18 / 45.0%
NEITHER 2	1 / .2 / .8	0 / .2 / -.2	1 / 1.1 / -.1	1 / 2.5 / -1.5	6 / 4.9 / 1.1	9 / 22.5%
AGREE 3	0 / .3 / -.3	0 / .3 / -.3	1 / 1.6 / -.6	5 / 3.6 / 1.4	7 / 7.1 / -.1	13 / 32.5%
Column Total	1 / 2.5%	1 / 2.5%	5 / 12.5%	11 / 27.5%	22 / 55.0%	40 / 100.0%

CONCRETE by HILL

V-205 — CONCRETE by SHANXI

SHANXI Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	Row Total
CONCRETE DISAGREE (1)	24 / 25.7 / -1.7	9 / 7.5 / 1.5	1 / .8 / .2	34 / 82.9%
NEITHER (2)	3 / 2.3 / .7	0 / .7 / -.7	0 / .1 / -.1	3 / 7.3%
AGREE (3)	4 / 3.0 / 1.0	0 / .9 / -.9	0 / .1 / -.1	4 / 9.8%
Column Total	31 / 75.6%	9 / 22.0%	1 / 2.4%	41 / 100.0%

V-206 — CONCRETE by CRANE

CRANE Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	Row Total
CONCRETE DISAGREE (1)	30 / 29.9 / .1	3 / 2.5 / .5	1 / 1.7 / -.7	34 / 82.9%
NEITHER (2)	3 / 2.6 / .4	0 / .2 / -.2	0 / .1 / -.1	3 / 7.3%
AGREE (3)	3 / 3.5 / -.5	0 / .3 / -.3	1 / .2 / .8	4 / 9.8%
Column Total	36 / 87.8%	3 / 7.3%	2 / 4.9%	41 / 100.0%

V-207 — CONCRETE by HIRISE

HIRISE Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
CONCRETE DISAGREE (1)	8 / 9.1 / -1.1	15 / 14.1 / .9	9 / 9.1 / -.1	2 / 1.7 / .3	34 / 82.9%
NEITHER (2)	1 / .8 / .2	1 / 1.2 / -.2	1 / .8 / .2	0 / .1 / -.1	3 / 7.3%
AGREE (3)	2 / 1.1 / .9	1 / 1.7 / -.7	1 / 1.1 / -.1	0 / .2 / -.2	4 / 9.8%
Column Total	11 / 26.8%	17 / 41.5%	11 / 26.8%	2 / 4.9%	41 / 100.0%

V-208 — CONCRETE by HILL

HILL Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
CONCRETE DISAGREE (1)	13 / 11.6 / 1.4	15 / 16.6 / -1.6	4 / 3.3 / .7	2 / 2.5 / -.5	34 / 82.9%
NEITHER (2)	0 / 1.0 / -1.0	3 / 1.5 / 1.5	0 / .3 / -.3	0 / .2 / -.2	3 / 7.3%
AGREE (3)	1 / 1.4 / -.4	2 / 2.0 / .0	0 / .4 / -.4	1 / .3 / .7	4 / 9.8%
Column Total	14 / 34.1%	20 / 48.8%	4 / 9.8%	3 / 7.3%	41 / 100.0%

V-209 — CONCRETE by MODERN

MODERN Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	BAD 4	Row Total
CONCRETE DISAGREE (1)	5 / 4.1 / .9	8 / 9.1 / -1.1	10 / 10.8 / -.8	11 / 10.0 / 1.0	34 / 82.9%
NEITHER (2)	0 / .4 / -.4	2 / .8 / 1.2	0 / 1.0 / -1.0	1 / .9 / .1	3 / 7.3%
AGREE (3)	0 / .5 / -.5	1 / 1.1 / -.1	3 / 1.3 / 1.7	0 / 1.2 / -1.2	4 / 9.8%
Column Total	5 / 12.2%	11 / 26.8%	13 / 31.7%	12 / 29.3%	41 / 100.0%

V-210 — CONCRETE by HIRISE

HIRISE Count / Exp Val / Residual	EXCELLEN 1	GOOD 2	FAIR 3	POOR 4	BAD 5	Row Total
CONCRETE DISAGREE (1)	1 / .8 / .2	1 / .8 / .2	5 / 4.1 / .9	7 / 10.0 / -3.0	20 / 18.2 / 1.8	34 / 82.9%
NEITHER (2)	0 / .1 / -.1	0 / .1 / -.1	0 / .4 / -.4	2 / .9 / 1.1	1 / 1.6 / -.6	3 / 7.3%
AGREE (3)	0 / .1 / -.1	0 / .1 / -.1	0 / .5 / -.5	3 / 1.2 / 1.8	1 / 2.1 / -1.1	4 / 9.8%
Column Total	1 / 2.4%	1 / 2.4%	5 / 12.2%	12 / 29.3%	22 / 53.7%	41 / 100.0%

CONCRETE by SHANXI — V-205
CONCRETE by CRANE — V-206
CONCRETE by HIRISE — V-207
CONCRETE by MODERN — V-209
CONCRETE by HIRISE — V-210

Appendix-V   Vita

CHIAN Y. CHANG

EDUCATION

Doctor of Philosophy, Environmental Design and Planning, Virginia Polytechnic Institute and State University (VPI&SU), Blacksburg, Virginia, December, 1990.
Dissertation Title: *Towards a Culturally Identifiable Architecture.*

Master of Architecture, University of Illinois at Urbana-Champaign, Illinois, December, 1984.
Thesis Title: *In Search of New Expressions for Chinese Architecture.*

Bachelor of Architecture, Chinese Culture University, Taipei, Taiwan, June, 1979.
Design Thesis: *Design of Assembly Housing in Taipei.*

TEACHING

Teaching Assistant, Department of Architecture and Urban Studies, VPI&SU, Blacksburg, Virginia, September, 1988-May, 1989.

- Assisted in teaching Chinese Traditional Architecture. Responsibilities included lectures on China's socio/cultural background and construction details of classical buildings.

Exchange Scholar, November, 1987-March, 1988.

- Represented the College of Architecture and Urban Studies, VPI&SU, to visit the Department of Architecture and Urban Planning at Tongji University in Shanghai, Peoples Republic of China.
- Contributed to exchanging experience in architectural education through lectures and interviews with faculty members and students.

Teaching Assistant, Department of Architecture and Urban Studies, VPI&SU, Blacksburg, Virginia, January, 1985-March, 1987.

- Assisted in teaching of Chinese Traditional Architecture.
- Participated in developing and presenting the content of an educational video program on Chinese traditional architecture produced by the Department of Architecture.
- Participated in a funded research project on Architectural Design Education.
- Assisted in teaching of Human Factors in Environmental Design. Responsibilities included delivering lectures on research methods and the empirical approach to environmental studies, and developing a training program for students to apply the SPSSX package in term projects.

Instructor, Department of Architecture, Chinese Culture University, Taipei, Taiwan, September, 1981-July, 1982.

- Instructed and tutored entry level students on architectural design, construction techniques, strength of materials and perspective and working drawings.
- Supervised student organizations in publication and other academic activities.

PUBLICATION

"A Study of Cultural Identity in China's Contemporary Architecture" A paper presented in The Third International and Inter-disciplinary Forum of Built Form & Cultural Research held at Arizona State University, November, 1989.

RELATED PROJECTS	"Meaning of Arts and Crafts in Architecture," Winter, 1986. "Design Method," Winter, 1986. "Case Studies of Cultural Identity in Lesser Developed Countries," Fall, 1986. "Parameters Essential to Architectural Communication of Cultural Identity," Summer, 1986. "Meaning in Architecture," Spring, 1985. "Personal Space," Spring, 1985. "Post Occupancy Evaluation of the Skeleton Senior Citizen Housing," Fall, 1983.
RELATED COURSEWORK	Semiotic and Linguistic Analogy in Architectural Interpretation Social Research Method in The Built Environment Research Methodology Human Environmental Factors Design Theories Behavioral Response and Post Occupancy Evaluation of The Built Environment Quantitative Techniques in Environmental Studies Independent study: Chinese Culture and Architecture Independent study: Cultural Identity in Architecture

EXPERIENCE

Self-employed Architect, Taipei, Taiwan, June, 1981-June, 1982.

- Designed, drafted, and supervised the construction of two four-story apartments.

Combat Engineer, Chinese Nationalist Army, Taiwan, July, 1979-June, 1981.

- Responsible for design, drafting, cost-estimation, layout of electrical and plumbing systems, and supervision of construction of more than twenty defensive and utilitarian buildings during the two-year military service.

Chief Designer, Ta-Yu Architect's Office, Taipei, Taiwan, January, 1979-July, 1979.

- Chief designer of a national competition design project.

Draftsman, Sho-Fu Hsu Architect's Office, Taipei, Taiwan, December, 1975-February, 1976.

HONORS

Member of the Gargoyle Society of Academic Excellence.

First Prize in 1979 national design competition: The Second Vocational Training School of Taipei, Taiwan.

President, Chinese Student Painting Club, University of Illinois, February, 1983-February, 1984.

ACTIVITIES

Student member of American Collegiate School of Architecture.

Editor and graphic illustrator, *Chinese Student Association News,* University of Illinois, July, 1982-December, 1984.

Chief editor, *Chinese Student Association News,* VPI&SU, January, 1985-February. 1986.

Experience in operating IBM, Mainframe and Macintosh computers, and in using SPSSX statistical package, GML for programming.

Extensive travel in China, Hong Kong, Japan and Macao.

Chian Yang

1. 2. 1991