

Architecture in the Global Tension of Increasing Cultural Interaction

**An Anthropological Approach Towards Building in
Developing Countries Underlined by a Fieldstudy in Ladakh**

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***Man is the measure of all things,
of the existence of the things that are
and the non-existence of the things that are not***

(Protagoras, 481-411 BC, quoted in Platon's Theaitetos)



Abstract

In my dissertation project I contemplate architecture under anthropological perspectives in a world of rapid cultural transformation. I focus on the increasing demand to design for different cultural environments and the considerations necessary to meet these requirements. In this context I will introduce new approaches and guidelines that anthropology and cultural studies can supply to the design process.

Our world is changing ever faster and in the last decades the term "globalization" has entered almost every contemporary debate in a variety of fields. Although present in some form in earlier phases of history, globalization in current discussion has gained a considerably different meaning. Rapidly increasing worldwide interaction through phenomena such as the media, migration or tourism forces almost every discipline and profession to reconsider and to react. Dealing with an ever more interdependent world urges us to finally integrate developing countries into global considerations, stopping the long lasting construction of Western elites leaving important developing tasks out on the margins. This requires new thinking in broader terms – also in the discipline of architecture.

Contemporary architects have to face a world without certainties to base their work on. They are left in a terrain that is unknown to them and the results of their designs are as unsound as their orientation in a culturally unknown landscape. Long established design guidelines such as locality, place, climate and available building materials have to be reconsidered and placed into a wider context. So far the only reaction has been a worldwide confusion and the escape into an explosive variety of -isms and styles. I suggest that there is only one certainty left in architecture nowadays: Architecture is designed for the people who live in it, work in it, and are represented through it. But who are these people who suddenly do not act in a particular place anymore, whose cultural heritage loosens and whose horizons are influenced by images from the other side of the world? How does an architect deal with the demanding task to build for cultures s/he is not familiar with and new „transformed cultures“ that haven't even existed before?

Culture has never been static. It has always been a process of adaptation that happened throughout the evolution of mankind. It only changes faster now, more dramatic and under more pressured circumstances that don't leave time for "adaptation" but can

only be referred to as “transformation”. Architecture is a major tool to express culture, identity and the ideology of people. Architecture is a physical statement of anthropology. And it is the field of anthropology that has put more effort into cultural studies and the overall understanding of the human being than any other discipline. Throughout its existence, anthropology has developed research methodologies that have found useful application in a variety of subjects. Also architecture is too important to leave it to architects alone. Anthropological methodology can provide a most helpful tool to the architect, particularly in tracing the major wants and needs of the people the design is based on - and anthropology can thus provide a central theme to hold on to, no matter what style and expression the architect chooses.

Throughout a theoretical cross-cultural-study I point out in a holistic approach that failures and successes of building projects are strongly interwoven with anthropological issues. Based on this insight I worked out a scheme for an "anthropological pre-design study" (APD-Study) which is destined to be implemented especially in regions where a cultural approach is hard to capture, and which should be implemented prior to the start of a major building project.

Ladakh is one significant example representative for various regions, where recent developments have revolutionized the existing political, economic, social and spiritual structure of society – and therefore also the process of building. I argue that in developing regions planning strategies still put an overemphasis on the utilitarian dimension, namely, on economic and technological advances, whereas it is overdue to put fresh emphasis on the cultural, aesthetic and spiritual dimension to gain basic acceptance among the people. There will never be a customs control on the transfer of ideas and ideals. But more important than idealized superior visions is the strong need to trace the actual requirements and the needs of the people in the growing complexity of societies. Architects and planners need to go back to the people as the focal point of all activities. However, this is a dimension which is much harder to capture than technical certainties, and the simple "add-culture-and-stir"-approach has caused more trouble than good. The truth is that there is clearly a lack of theoretical precision and methodological consideration in the search for human demands on housing.

In the following chapters I will illustrate that the field of anthropology, which has long defined the human being and culture as the cornerstones of its subject, is the discipline that can provide the architect and planner with the necessary methodological toolkit to

survive in the complexity of this task. Highlighting this point through the example of Ladakh, I will demonstrate that with the help of anthropology it is possible to develop a scientific way to trace the manifold wants and needs people may have regarding their housing situation. The ambitious task to approach both disciplines, anthropology and architecture, imposes constraints as well as obligations. First of all it has to find a vocabulary which is available to all, and above this the work should address academics and practitioners alike. A common conceptual framework of the two disciplines is clearly important in order to gain more satisfactory results regarding the building process in developing countries.

A new phenomenon to deal with is the enormous speed of the current transformation process which creates unknown problems in all spheres of life, housing being one of them. While formerly the question was: "What is the attitude towards the built environment in this or that culture?" It now has to be: "How is the attitude towards the built environment changing in this culture due to increasing transnational interaction?" Although theoretically a mutual process, the unilateral character of this interaction – or intervention - in many less-informed countries is best expressed by the use of the term "westernization", which signifies the mechanical imitation of a particular way of life, as a synonym for "modernization". The creation of new needs is a fundamental requirement for reformation, social change, intellectual shift and alike and thus it is a phenomenon which – to state it in a simplified version - promotes both materialism and individualism. Along with this comes a transformation of attitudes towards the house. Because of the tension between cultural homogenization and cultural heterogenization, architecture also has gained a new meaning as a symbol of identification. However – there is a thin line between the mere copying of the Western approach and the potential for a creative transformation that could highly enrich the architectural landscape.

How should a planner and builder react to all these new expectations in architecture? Trying to trace the real wants and needs is not an easy task, since one will soon find out that there is considerable discrepancy in what people think, what they say and what the real issues are. It is not enough to find out what people want, but to understand, why they want it. During a two-month field research in Ladakh, I conducted an "anthropological pre-design study" (APD-study) prior to a major housing project called "Solar Town". The purpose of my study, which I conducted in one of the already existing housing colonies around the capital Leh, was to gain a profound grasp of the people's

views regarding their housing situation, actual as well as ideal, and - based on that - to suggest planning guidelines for the new project.

There is no global truth in how to approach the difficult task of dealing with the human being in its cultural, social, spiritual and ideological context. However, it is important to strongly enforce the attention paid to this matter in order to gain more adequate and sustainable planning results for building projects – for this seems certain: The amount of time invested is insignificant in comparison with the severe mistakes that can be prevented.

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Abbreviations

ADB	Asian Development Bank
APD-Study	Anthropological Pre-Design Study
BJP	Bharatiya Janata Party or Indian People's Party
CBO	Community Based Organization
GSS	Global Strategy for Shelter to the Year 2000
HIC	Habitat International Coalition
IALS	International Association for Ladakh Studies
J&K	Jammu and Kashmir
LAHDC	Ladakh Autonomous Hill Development Council
LEDeG	Ladakh Ecological Development Group
LEHO	Ladakh Environment and Health Organization
NC	National Conference
NGO	Non-Governmental Organization
PWD	Public Works Department
R&B Div.	Road and Building Division
UNCHS	United Nations Center for Human Settlements (Habitat)
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific and Cultural Organization
UT	Union Territory

Introduction

This dissertation is an interdisciplinary approach towards the subjects of anthropology and architecture. It is divided into two parts: Part I is dealing with a holistic cross-cultural theoretical approach whereas part II introduces the resulting theoretical arguments into a field study and proves their effectiveness in an empirical way. Part I summarizes research work that was carried out at the University of California/Berkeley (fall 1998), the following field study was carried out in Ladakh/North India (summer 2000).

Research Question

The main question of research is: Is it possible – with the help of anthropological research methodology - to trace the major wants and needs of the people involved in a building project in such a way that this information can be practically useful as a basic guideline for the design process?

The direct task of my work is to supply the architects or planners with the most essential toolkit resulting from an APD-Study (anthropological pre-design study) to support the planning and design process. In order to test the outcome of applied anthropological research methodology in relation to a building project, I developed outlines for an APD-Study and introduced it prior to a prospective building project, Solar Town, in Ladakh. It was astonishing how much insightful information could be gathered in a relatively short amount of time which to a large extent changed my first impressions on the building approaches in the region. The results of the study are now with the planners and will lighten their decision making process in various ways.

By setting up various hypotheses I reflect that there is an increasing relevance to introduce the issue of culture into the field of architecture and that anthropology is the most obvious discipline to deal with this topic:

Does the discipline of architecture contemporarily struggle with issues such as globalization and increasing cultural interaction? Are there difficulties and inabilities among architects/planners to deal with this situation? Is there a deficiency in the methodological approach regarding the issue of culture? Are there any cross-cultural examples of

development projects in the building sector that failed because the subject of culture was neglected? Can anthropological research methodology be useful in dealing with the people, with wants and needs, with expectations in the project etc.? Is the introduction of an APD-Study helpful in order to trace such expectations? Are there any general statements and guidelines that can be drawn from the APD-Study that can contribute to a successful design and planning process?

In their book *Culture, Cash and Housing* Maurice Mitchell and Andy Bevan (1992) compare various building projects in developing countries and come to the conclusion that the success of a project directly depends on the successful implementation of pre-feasibility studies. The same can be learned from various United-Nations-related reports. The current situation has to be carefully analyzed – but how? There are nowhere any suggestions for any methodological approach. In this work I will offer such a suggestion based on the example of Ladakh. I will abandon the long favored technological approach towards building projects in developing countries in favor of a more anthropological and socio-cultural focus.

I also integrate a fact that further complicates this approach by examining the global tensions resulting from increasing cultural interactions and the ever more complex relationships between the dichotomous worlds (East vs. West, North vs. South, First World vs. Third World, core vs. periphery etc.). The question that derives thereafter is how to find the best solutions regarding the ongoing clash of tradition and innovation. According to the famous Art Historian Sir Ernst Gombrich “progress derives from the continuously new to discuss relation between tradition and innovation. This includes both, social-psychological factors as well as technical advances” (Mittringer, *Der Standard*, 2001: 25, NB: translated by the author).

I want to point out that there is a strong danger and evidence of many examples that the discrepancies between these two parameters, if not handled properly, does not lead to progress but on the contrary to a setback and decay.

However, at the same time I want to highlight that enhanced communication and the transfer of information offers a great chance and a high potential for progress in the form of creative transformation. By making the cultural issue a topic – also and especially in the field of architecture - this creative transformation can provide a wide range

of new features that will be unique in their expressions and far away from the much discussed “ homogeneous global pulp”.

Aims and Objectives

There are several general aims that have long been a personal concern of mine during my work as an architect, and there are some more specific objectives I follow in order to achieve these aims. It is a conscious strategy of this dissertation to reach out far in order to contemplate perceptions from holistic contexts, and to further demonstrate their practicability through the application to a specific project (Solar Town Ladakh).

General Aims

- to examine the increasing cultural interrelations and their implications on the built environment
- to bring architecture (and the architect) back to the people
- to move the planning process away from the technical approach towards the more anthropological approach
- to encourage the cooperation between the disciplines of anthropology and architecture
- to explore the possibilities of increasing cultural interactions as a chance for a more productive and creative transformation of the built environment

Changes in this „globalizing“ world are occurring ever faster and since architecture, out of nature, is a rather slow, long term, quite inflexible subject it faces a variety of problems in this context. Is there such a thing like a “global architecture” for a “global village”? What is it like? It would be too simple to find one certain way to react to this complex task. The difficulty is that architects so far hardly reacted at all, seeming to be as slow and static as the buildings they create.

Under the new circumstances I claim that architects and builders have to a) be more flexible in their reaction to rapidly changing situations, b) be more open regarding the cultural variety which has to be reflected in buildings, c) depart from solely technical solutions and draw more attention to socio-cultural factors, d) abandon their narcissistic attitude to build for themselves in order to build for the people, or better, with the people.

Contrary to these requirements stands the reaction of the architect who wants to produce a monument to express his own geniality, who wants to plan every detail most perfectly in order to not let any inhabitant interfere with his *Gesamtkunstwerk*, who has to give reasons for each and every step he takes, which is easier when s/he sticks to technological solutions, and who sees him/herself in a certain position of power, since

people in most parts of the world have unlearned how to provide housing for themselves.

More than ever architects need to be reminded that in the first place they are service providers to the people who live in their houses. However – it often seems that architects have forgotten how to deal with their customers. Even more obvious is this situation in developing countries, where consultants and building experts of various organizations are sent around the world, often without much knowledge about a special region, and therefore unable to react to the specific requirements of the people. The results: New housing projects that have never been occupied, that were left abandoned after a few years or were rebuilt right after being populated.

What is urgently needed is a “translator” between the building expert and the future inhabitant and in my opinion anthropology is the discipline that can best perform this role. Already Vincent Tucker (1997) describes the difficulty to introduce the cultural perspective into development work and he points out the severe lack of methodology to perform specific studies in this direction. He sees the main task in devising suitable conceptual and methodological tools for cultural analysis. Especially in the case of housing environments, attempts in this direction have not been cumulative but rather counter-productive, and there is quite an amount of diverse and unintegrated work. The major problem is that so far no successful attempt has been undertaken to combine expertise from different disciplines to investigate in this specific concern. The combination of architecture and anthropology allows for a more integrated approach towards the issue of culture in building. Culture for long has been incorporated into the process of building by the house owners who where the builders at the same time. Now the engagement in building is a separate subject that involves a second party, a specialist in the subject. Thus the cultural issue becomes a much more complex one since its direct expression in the physical environment is interrupted.

It is the aim of this work to construct bridging elements between the disciplines of anthropology and architecture, between theoretical approaches and practical applications, between academic concepts and on-the-spot implementations, and to create a vocabulary understandable to both sides.

Objectives

- to examine the possibilities of introduction anthropological research methodology in the context of building projects
- to find a method to introduce the subject of culture efficiently into building projects in developing countries
- to introduce an anthropological pre-design study prior to a building project in a region that has undergone recent significant changes through enhanced intercultural relations
- to assess and determine the magnitude of prevailing problems besetting the current housing situation in this region
- to recommend proposals for the planning and design of the particular building project
- to introduce a body of anthropological guidelines for the planning and design of building projects in developing countries

However complex the parameters that influence the decision-making in the design process may be: As long as the inhabitants are comfortable and happy with their living situation, a building can never be classified as bad or not working. In this regard architects are somewhat captured in a schizophrenic world. On the one hand they consider buildings as major expressions and determinants of human culture, on the other hand they constantly see in the inhabitants of their buildings uncomfortable obstacles they have to overcome.

In my opinion architecture needs to be a reaction to the requirements of a user and not vice versa. To fulfill this requirement one needs to deal with the wants and needs of the future inhabitants. But since this communication is unfortunately still not part of the architectural curriculum, architects have to quest other disciplines to fill this gap. Anthropology is specialized in dealing with communication problems between “us” and “them” – in all kinds of contexts. It can provide solutions. And this on all different scales: On the city planning level as well as for housing projects or the single family home.

Methodology

In this dissertation I use the methodological toolkit of anthropology to approach an architectural theme.

The cross-cultural comparison and the field study are the main tools of the methodological variables that I used for this undertaking. For the cross-cultural study ethnographies and case studies from various parts of the world were examined for answers to specific questions. This comparison and the results drawn from it formed the bases for the development of the actual research question that was further examined in the field study.

For the field study I found it important to recognize, with Geertz in mind, that we don't study villages, but we study in villages, with a particular set of problems, aims and objectives to explore. For my field research this meant that I did not study the Housing Colony in Ladakh, but the specific problems that are related to the housing situation there.

It is the concept of culture that asks for an extended approach that includes also the cognitive dimension of the experience. This requires the analysis of how understanding, meaning and knowledge are constructed. Feelings, emotional and moral experiences are of major importance for an understanding of a more inclusive way. To meet with this complex requirements I headed for a multidimensional approach.

Since anthropologists as long-time specialists of the „local“, of qualitative research and face-to-face encounters, attempting to enter the world of meaning of the people they study, start to widen their perspectives towards a more holistic approach, in my field research it was especially necessary to adapt the methodological problems to the fact that now, even in very distant regions such as Ladakh, life is lived out globally (cf. Tucker 1997: 12ff). Also in this regard a preceding comparative study was seen as essential.

A major problem of this dissertation is that the range of material, which could be mentioned in this sort of project, is necessarily enormous. Rather than attempting a perfunctory overview in which each published work gets a sentence or two, or swamp each page with thousands of references, I have used a broad brush to indicate what I

consider as the most important features of different areas of works. Whereas these prerequisites required a long term approach it was essential that the field study could be implemented within a very narrow time frame:

Time is usually a crucial factor in undertakings such as building projects in developing regions, and therefore a methodology had to be developed that would allow a study to be carried out quickly and efficiently. This was possible only through a diversification of the methodological tool-kit that anthropology has to offer. Thus the result is a mixture of field research and a form of rapid appraisal. It is a truncation of a formal survey, combined with the useful aspects of narrative interviewing supported by participant observation.

Fieldstudy

Throughout the study, 50 interviews were conducted and 34 questionnaires filled in during the course of the interviews. The interviews were developed in an open and narrative way to give room for additional information. Interviews were conducted in English, most of the time with the help of a Ladakhi/English interpreter. The following practices were applied to collect data:

- a) Participant observation:** living with two families of different social backgrounds
- b) Survey combined with semi-formal interviews:** this was done in 34 households in the Housing Colony and surrounding colonies
- c) Semi-formal interviews:**
 - 11 interviews with people in official positions, scholars, engineers etc.
 - 5 interviews with tourists

The questionnaire was divided into three parts: a) statistical data about the respondent, the family and the household, b) data about the former and the current living situation, and c) data about the future expectations, wants and needs that people express regarding their housing situation.

Very important information could be drawn from the analysis of 34 floor-plan-sketches that I produced in the colonies.

Since there is no such thing as cultural data as distinct from economic or sociological data, the empirical material was augmented by secondary data from readings of publications and reports. Further information was gathered through the exploration of various villages and their gompas (dgon pas) along the Indus valley in order to be able to compare the rural situation with the urban one. Very valuable data could be gained from discussions with NGOs like LEDeG (Ladakh Ecological Development Group) or LEHO (Ladakh Environment and Health Organization).

The usefulness of the collected data could partly be tested during a student design project that was carried out at the Department of Architecture at the Vienna University of Technology right after the completion of the field study. The design studio was concerned with planning suggestions for a new colony in Ladakh, and the collected field data formed the basic information for the design work (see also chapter *Exemplary Application of Study Results*, p 329).

A more detailed description of the methodology applied during the field research in Leh is given in the chapter *The Anthropological Pre-Design Study* (part II, p 233).

Restrictions

A topic as far reaching as that indicated in my title clearly imposes certain restrictions and limitations. Since it addresses academics in anthropology and architecture, but also the concerns of a practitioner, it must be suitable for a broad audience. A vocabulary had to be found that could be understood by anthropologists and architects alike, and sometimes circumstances are explicated that would not need any explanation to anthropologists, since the context is clear for them, but not for architects. The same is true vice-versa. Since I argue that the field of anthropology can provide a variety of solutions for unsolved problems in architecture, it is the discipline of architecture and its representatives that I focus my critique on. This does not mean that I free the subject of anthropology from any criticism, however, it would exceed the volume of this work to examine all the problematic sidelines of anthropological research. I will much more concentrate on the positive effects it can have on architecture.

Another restriction was the limited time frame available for the field study. Time was too short to introduce full ethnographic research and a lot of data could not be traced within the given amount of time. On the other hand, this limited amount of time was an attempt to reflect a realistic situation since the time preceding a building project is usually a limited factor.

If the time frame of this thesis were longer it would be interesting to wait for the implementation of the study results into the actual planning process and eventually to observe the realization of the project. Only through the evaluation of the planning and building process it would be possible to exactly trace the input and the range of effectiveness that an anthropological pre-design study can achieve.

When going through the evaluations of the survey that was introduced in Ladakh, there is a relatively high amount of questions that were not answered. The reasons responsible for that are manifold: I started the survey by asking the more important questions and after an hour or so the respondents were sometimes running out of time or just did not have the patience to talk about such specific things any longer. Sometimes it was very obvious that the answers were not the truth but only an attempt to answer the questions – in this regard it was important to be aware that the phrase “I don’t know” is not very popular in Ladakh. Other informants were just too young to answer certain

questions since they for example could not remember their living situation in the villages anymore.

It was on purpose that no computerized data evaluation system was used, since the results of the anthropological pre-design study should be easily applicable in different situations within a short time frame. Therefore it is important that an evaluation can be done quickly, efficiently, and, if necessary, on the spot. One problem in Ladakh is that there is a lack of reliable statistical data. Even if data are available, the sources are dubious and a lot of information is based more on assumptions than on certainties.

The scientific spelling of Ladakhi words is added in parentheses where available, otherwise words are written phonetically.

Definitions

Throughout the following work I use a bundle of terminology that is rather general and can be interpreted in different directions. In order to clarify my own understanding of certain expressions I provide short definitions of the most important terms as an orientation for the reader.

Anthropology: I use the term “anthropology” as a short and general expression for the subject of social- and cultural anthropology.

Culture: There are hundreds of definitions of culture available. The following short definition expresses what is mainly reflected when the term “culture” is used here: Culture is a set of common values, beliefs, accomplishments, behavior patterns, and also material artifacts, created within a specific social context and transmitted from one generation to the next.

Cultural Change: Modification in the civilization of a people, i.e., in social institutions, living habits, the built environment, and many more, occurring inadvertently or by design.

Developing Country: For convenience, and arbitrarily so, the term “developing country” is used here to refer to countries which, according to the UN, are defined as LDC (less developed countries) and LLDC (least developed countries) with an annual per capita gross domestic product (GDP) of less than 500 U.S. Dollars. Such countries are identified by the United Nations on the basis of seven indicators, including per capita gross domestic product, energy consumption and annual income, literacy rate, and life expectancy at birth (UNCHS Habitat 1992b: 35). Although there is a constant debate going on about the term “developing country” I have not come across any better definition. Therefore the only reason I consciously use it here is a lack of better terms.

Globalization: The term “globalization”, increasingly used in the 1980s and 1990s in a number of fields, in fact first appeared in Webster’s Dictionary in 1961. In my definition I do not see globalization as process that is, physically speaking, creating a single society. Instead I see it as a process of growing significance regarding the worldwide interconnectedness of social events and relationships. Globalization has also to be

brought into relation with the exponential growth of speed and dynamic that has occurred in this regard in the second half of the 20th century.

Housing: Lodging, shelter for human habitation. The immediate physical environment, both within and outside of buildings, in which families and households live and which serves as shelter. Also, a government project to provide shelter to low-income groups (UNCHS Habitat 1992b: 61). In official terminology a house is not a house unless it is approved under existing laws, but in this study, a house refers to any dwelling structure/unit (e.g. in villages, in Leh or the new colonies).

NGO/CBO: Definition of NGOs and CBOs according to the Limuru Declaration, April 1987, HIC: A non-governmental organization can be distinguished from a community-based organization by the fact that its sphere of action goes beyond the local level. Many NGOs' work as technical advisors, linked closely to community-based organizations. NGOs actions are usually small-scale, based on a "step by step" approach, so as to respect and follow the slow consolidation process of community-based organizations (Turner 1988).

Settlement: Area and location of dwelling units and systems to maintain them (UNCHS Habitat 1992b: 120).

Slum and Squatter settlement: There is no general agreement on the definition of the terms "slum" and "squatter settlement". In certain analyses it may be useful to distinguish between these two terms. The latter would then comprise shelters erected illegally and in contravention of building standards. The former denotes permanent buildings that have become substandard by neglect and subdivision. Yet, the term "slum" is normally, as also in this work, used in a broad sense, encompassing squatter settlements. (UNCHS Habitat 1994a).

Sustainable Development: The need to realize "sustainable development" has recently been a major theme in most "development" writings. The Brundtland Report of the WCED, 1987, originally defined sustainable development as development "that meets the needs of the present without compromising the ability of future generations to meet their own needs". The meaning of "sustainable development" is generally that alleviation of poverty and improvements in health, education and other social, cultural

and political "rights" of the poor are to be achieved without negative consequences regarding the physical environment (UNCHS Habitat 1994a: 27).

Tradition: Tradition is an anonymous product of the unconscious collective process. It is an accumulated understanding of a cultural phenomenon. In dealing with its nature, it seems that the aspect of "transmission" is the essence of tradition since the transmissible parts of human action are the key-elements of their behavior that would be classified as traditional (see Mezughi, *TDS WPS*, 1994: 54).

Traditional Architecture: Architectural design that has been handed down or accepted from the past.

Architecture in the Global Context

This chapter reexamines the difficulties in defining the term “globalization”, since there are differences in the meaning of globalization as it is used nowadays and as it has been used in its historical context. Particular attention will be given to the way in which anthropology views the issue of globalization and, starting from that, I will introduce the global aspect into the field of architecture.

Relating to globalization I will further deal with a topic that will have a most revolutionary influence on future architecture: the new “placelessness”. Diaspora, transnational localities, the “third time space”, theories describing “imagined spaces”, and the global trend towards producing a new locality will be important issues. Together with the existing “technological miracle” that liberates architecture from most of its construction limits, the “loss of place” causes a vanishing of long established architectural certainties. Basing a design on external circumstances such as place, climate or the availability of materials alone does not provide satisfactory grounds anymore. At the same time the increasing confusion about the cultural context has led to a worldwide search for a new meaning in architecture, resulting in a variety of styles. In a world where existing boundaries are becoming blurred and new boundaries are constructed, architects do need to extend their view and consider their work in a global context. I will argue that in an ever increasing variety of approaches on a global playing field, the discipline of anthropology can provide solutions, since it deals with one important issue that will always be seen as a certainty - the human being in its cultural context.

About "Globalization"

Formerly the things which happened in the world had no connection among themselves ... But since then all events are united in a common bundle. (Polybius, 2nd century B.C., quoted in Robertson 1990: 18)

Already more than 2000 years ago the theme of “globalization” was an issue as can be seen for Polybius’ writing in his *Universal History*, where he takes reference to the rise of the roman empire. Practically all the major civilizations have been concerned with the idea of a relationship between the universal and the particular.

But it was not until the early 60s of the 20th century that the notion of the global entered popular imagination and Marshall McLuhan (1964) first spoke of a „global village“. Photos of the earth as a globe taken from space further reinforced this imaginary construction. The notion of the world as „one place“ became thinkable. In 1961 the term “globalization” first appeared in Webster’s Dictionary. This marked the beginnings of explicit recognition in the contemporary period of the growing significance of the worldwide interconnectedness of social events and relationships.

Different Approaches

However, it has not been until relatively recent times that some crucial considerations have appeared, regarding humanity as rapidly becoming a single society in physical terms (e.g. Featherstone 1990, Castells 1997). The constant discussion about the re-organization of the entire planet has created fear and even resistance to globality.

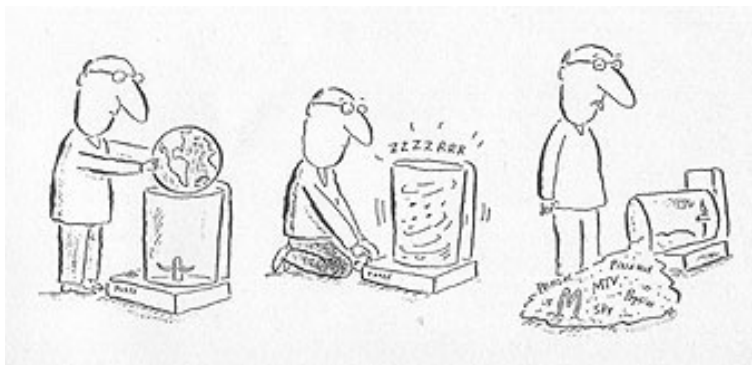


Fig. 1
The World in a Blender

In my perception of globalization the observation of the entire world being homogenized is a very unlikely scenario and throughout this work I will therefore concentrate on the aspects of creative transformations and the new challenges that are offered by this phenomenon. After all, housing is an important human universal, but globalization does not mean that there are universal rules.

In this context I refer to Arjun Appadurai (1997: 22-23) who works with the scenario of diasporic public spheres in an emergent postnational order which is not a system of homogeneous units, but a system based on relations between heterogeneous units.¹

During the second half of the 1980's "globalization" (and its problematic variant, "internationalization") became a commonly used term in intellectual, business, media and other circles - in the process acquiring a number of meanings, with varying degrees of precision (Robertson 1990: 19). One of the practical visionaries and futurists of our time, Willis Harman (1998), sees the current movement as one of the most fundamental shifts in history - a change in the actual belief structure of Western society. He argues that no economic, political, or military power can compare with the power of a change of mind. By deliberately changing their images of reality, people are changing the world. Manuel Castells (1997) describes a direct connection of globalization to new forms of identity – as conflicting trends. He explores this phenomenon along with the technological revolution, the transformation of capitalism, and the demise of statism that we have experienced in the last quarter of the century, and he interprets it as a cause of a new widespread surge of powerful expressions of collective identity. They include proactive movements, aiming at transforming human relationships at their most fundamental level, such as feminism and environmentalism, with the internet as the medium of a new network society. But they also include a whole array of reactive movements that build trenches of resistance on behalf of God, nation, ethnicity, family, locality etc. New threats of unknown dimensions are predicted, and intensely discussed books support the general concern and are the subjects of fear creation. The most classic example is Samuel Huntington's *The Clash of Civilizations* (1997), where he claims, with the help of dubious arguments and a lot of questionable assumptions, that „the cracks between the cultures will be the frontiers of the future... the next world war will be a war of cultures“.

Globalization as a topic is, in other words, a conceptual entry to the problem of world order in the most general sense - but, nevertheless, an entry which has no cognitive potential without considerable discussion of historical and comparative matters. It is, moreover, a phenomenon which clearly requires interdisciplinary treatment (cf. Robertson 1990: 18ff). Thus the discipline of architecture is as effected as any other discipline

¹ Heterogeneous units in the sense of Appadurai would be, for example, different interest groups, social movements, professional associations, NGOs etc. whereas he directly connects the homogenous units with the current system of the nation state.

and the share of experiences is imperative. There are several disciplines which can support architecture in its attempt to achieve better buildings: sociology, psychology or of course Western philosophy with its radically new approach to the understanding of culture and the human existence. If someone likes to explore this more holistic approach and asks the question: What is the role buildings play in people's lives? s/he will be best off with the phenomenological notations of Martin Heidegger's *Art and Space (Man and World)*, 1969: 3-8) or Hans-Georg Gadamer's *Truth and Methode* (1975). But I do argue that this literature will not offer any actual tools for the practicing architect to work with, whereas anthropology appears in many more shapes, a variety of them directly connected with human needs and expectations. To summarize in simplifying words: it is more "down to earth".

Anthropology Goes Global

The globalization issue has not stopped at the doorsteps of anthropology and new questions arouse, both theoretical and methodological, in ethnography. Arjun Appadurai (1997), *the anthropologist dealing with globalization*, can be distinguished from most others since he has a relatively positive approach towards future scenarios in a globalized world which is a respite in the swamp of apocalyptic predictions. Appadurai sees the modern world as an interactive system in a sense that is strikingly new. He points out media and migration as the two major interconnected diacritics and explores their joint effect on a constitutive feature of modern subjectivity that he calls "imagination". Although he states that in the short run our world is likely to be a place of incivility and violence, in the long run he sees an obsolescence of the nation form which will give way to cultural freedom and sustainable justice.

Everyday life is now lived out globally, even by those who never travel in the literal sense but who are nevertheless connected via tourism, internet, TV, newspapers etc. Times are gone were separate regions could be wrapped in handy ethnographic packages and a general portrait of „life out there“ could be drawn. Vincent Tucker describes in a very logic way in his *Cultural Perspectives on Development* (1997) the necessary reformation of studies which are situated in a particular place but are fully conscious of the powerful forces impinging on them, whether in the form of transnational corporations or the state. We have to abandon the stance of the objective outsider and realize with Clifford Geertz (1996: 23) that "cultural analysis today is a much more difficult task than at the times, when we knew, or better: thought to know, what goes together with

what and what doesn't". According to Andre Gingrich (1999: 92) every acceptable research carried out in a local society systematically has to build up relations with the outside world. Trans-local and international cultural factors are present and effective, but locally they are not distributed evenly.

Today there is no sound ethnography possible without trans-local interconnections. Highly specialized studies about the Javanese kinship structures, Nigerian pop music, Japanese working habits or German housing preferences cannot be seen as independent examinations anymore since out of the interrelated context they are not understandable. People in Ladakh spend their money on Western style greeting cards and posters, Australian aboriginal handicraft inspires US-American artists, youngsters in African and South American villages dance to the same disco music – occasionally they put on their local dresses and perform "culture", usually to entertain a group of tourists. With Geertz (1996a: 465) we can see us living in a cultural collage where one must above all be able to sort out the different elements, to determine what they are and how they relate to one another without blurring one's own sense of one's own identity in this whole agglomerate.

There is a strong need to examine things in a larger context with multiple linkages as parts of the research focus. We must be aware that participation in a larger social universe is a goal held out to people in the hinterland (Kottak and Colsen 1994). However, it would be a mistake to make global and transnational factors responsible for everything, since the local still has a very strong standing.

The Transnational House

The global nexus of our shrinking world has caused travel and movement between distant places to become extremely simple. This is especially true for big cities which have become familiar to numerous tourists and immigrants who frequently cross international frontiers. As a result these destinations are now perceived as being increasingly adaptable places - easy to reach, explore and settle down. Communal and ethnic ghettos of migrant communities and Chinatowns which had characterized concentrations of specific immigrant communities within the confines of the city, have gradually begun to assimilate into the larger urban environment, and have diversified in terms of land-use, population distribution, urban patterns and building types.

In addition, migrant populations have now caused cities to become increasingly international in spirit and appearance, giving them the appeal associated with the great cultural centers of the world (Sennet 1995, Mitchell 1995, Sobti, *TDS WPS*, 1996).

According to the architectural theorist Dietmar Steiner (1994: 272) the challenge in the cities is clear: There will be more and more cultural islands and enclaves within the cities. The task is to achieve actual intermingling, seen as an enrichment not as a threat. Only this can secure that cities become melting-pots, not places of war.

What does this mean for architecture? Is architecture “globalizing” as well? If one observes the ever more similar looking skyscrapers of New York, Frankfurt, Tokyo or Kuala Lumpur one might think that architecture is one of the main actors in an attempt to make our planet a uniform habitat – if only in the physical sense. But what might be true for office towers in an urban conglomerate cannot be taken as exemplary for the elaborateness of the built environment. The sheer fact of differences in climatic conditions and available materials will always make architecture a local matter, even though these parameters are strongly losing their significance, whereas the symbolic functions of expressing wealth and social status are gaining more and more importance. This fact is strongly related to the issue of consumption which has gained increasing interest also among anthropologists. Consumption has usually been seen as a mere function of a larger economic process rather than as an autonomous social phenomenon. The origin of the problem here is the expansion of the domestic consumer market in the late 17th and 18th centuries, a phenomenon that introduced the question of choice of commodities into the issue of consumption, an area that was previously a rather restricted domain determined by social position and economic necessity (see Friedman 1994). It is this new choice of commodities that strongly alters the attitude towards the house away from its pure function as shelter.²

² According to the architect and sociologist Anthony King (*TDSR* 1997: 59) there exists an ever more intense exchange of technologies, materials, work methods etc., leading to choices, which the “ordinary builder” is overtaxed with. Thus a development can be observed from the unself-conscious construction of the “ordinary builder” to the self-consciously professionally designed building.

James Duncan (1989: 230) argues that what is sometimes referred to as "modernization" or "westernization" can best be understood as an increase in the level of both individualism and materialism within the societies in question. He reasons that both of these bring about a transformation of attitudes toward the house - the house becomes thought of less as a mere container of family and goods and more as a symbol of social status.

All societies are dynamic and constantly undergoing change. Over the past three centuries we have witnessed an accelerating penetration of Western, individualistic cultures into more collectivistic cultures around the world. This process has been moving with such rapidity since the end of the Second World War that the pertinent research question may no longer be, "What are the attitudes toward housing in this or that country (treated as a self-contained cultural entity)?" but "How are attitudes in that country changing in response to the impact of these foreign cultures?" (ibid.: 1989).

When I take Ladakh as an example for such a region it is interesting to observe, that the attitude toward the house in urban regions, were much more intense foreign intrusion has occurred and a cash economy has been established practically overnight, housing has quickly become one of the preferred features to express personal wealth. Ever new wants and desires are created and the dissatisfaction is growing with every picture of a Western mansion that gets its place on the living room wall. There is a new form of segmentation, and a vast number of discontents that globalization brings with it (cf. Sassen 1998).

So what is the role of the architect, the urban planner, or any other design professional in this globalizing world? Anthony King (1990: 398), architect and sociologist, suggests that "architecture and planning, indeed, all the 'design professions', are potentially major influences in contributing to the transformation of culture on a global scale".³

³ In this context King sees architecture as a particular cultural industry which might be compared, for example, with other major spheres of cultural production such as the film, video, or music industries, the realms of television or advertising – in short, all these industries which contribute to the constitution, confirmation or reconstitution of human subjectivity and cultural identity.

The physical and spatial material reality of the built environment is an essential part in the conceptualization of culture, society and social organization. Whereas anthropologists and sociologists have long started to put emphasis on the complex interwoven phenomenon of global development, architects are still resting within the secure confines of their own discipline, concentrating ever more on their inner formation instead of trespassing borders and hooking up onto other disciplines for aid and information. Architects merely react to the new obstacles they are confronted with, although it is high time to take action and face the unknown challenges in an active and progressive way.

Placelessness

Place is not a ground, keeping faith with certain images; nor is it the strength of topography or of archeological memory. Place is, rather, a conjectural foundation, a ritual of and in time, capable of fixing a point of particular intensity in the universal chaos of our metropolitan civilization. (Ignasi de Solà-Morales 1996)

In his book *Place - Permanence or Production* the Spanish architect and theorist Ignasi de Solà-Morales clearly expresses the confusion about place that concerns, among other disciplines, especially the subject of architecture which has always been bound to the certainty of place.

In *Fortschritt und Bewahrung* Odo Maquard (1993), gives a vivid description of the change from place- to time society. Place is not the criterion anymore, that the actors share, but it is important that they participate at the same time. What new technologies and the objects they produce, like the cell phone or laptop, have in common is that participation is possible without being present. The absence of a particular place leaves us all to be “children of time”.

Arjun Appadurai (1997) goes even further with his definitions of new landscapes, which are not related to a certain place anymore but are rather building blocks of a so called “imagined world”. He defines five dimensions of global cultural interaction, which he terms as *ethnoscapes*, *mediascapes*, *technoscapes*, *financescapes*, and *ideoscapes*, derived from the term landscape. Such superior worlds do not have places anymore. Space is separated from place and reintegrated within the empty dimension of time (cf. Giddens 1994: XII).

This superior world, a world of “placelessness”, causes confusion and often a desperate search for criteria of orientation and for ones own roots. Catchwords like “identity” are gaining significance. Saskia Sassen (1998: XXXII) argues that “another radical form assumed today by the linkage of people to territory is the unmooring of identities from what have been traditional sources of identity, such as the nation or the village”. This unmooring in the process of identity formation engenders new notions of community, of membership, and of entitlement.

According to Sassen it is not only the transmigration of capital that takes place in this global grid, but also that of people, both rich and poor and it is a space for the transmigration of cultural forms, for the reterritorialization of „local“ subcultures.

The electronic revolution is one of the key players in this fundamental change of the relation to space. In the “global village” people do not have next door neighbors anymore, but “distant neighbors”. Euphoric predictions see future life going on in cyberspace, not bound to any physical ground any more but flip-flapping through a virtual scenery like William J. Mitchell (1995) in his *City of Bits*. Architecture and urbanism are contemplated in the context of the digital telecommunications revolution, changing under the growing domination of software over materialized forms.

Yet, in reality there is no such space as cyber, and there is no such place as the global. The closest approximation to global spaces are the lounges of airports and eventually of shopping malls, spaces which Marc Auge (1995) in his anthropological study of supermodernity refers to as “non-places”.

Anthropology Lost in Space?

In the social sciences, Pierre Bourdieu (1970/90) was among the first analysts to make the social organization of space and time into a central problematic. Building on earlier anthropological research on temporal and spatial aspects of premodern cultures, Bourdieu began by studying a traditional Algerian society, the Kabyle. Pierre Bourdieu’s work thus develops the dual roles of space and time in all social organization.

The relation between space and place is especially a problem in anthropological theory. What should a discipline do that had grounded most of its legitimacy and efficacy in the fact of “being there”, to use Clifford Geertz’ (1988) words. Being where? How can the anthropologist deal with his/her beloved “natives” other than artificially and academically constructing prison-like spaces and quarantining them within invented exotic boundaries? It needs a completely different approach that creates more of a distance between the ethnographer and the interlocutor. The old notion that there is an immutable link between cultures, peoples, or identities and specific places has fallen.

The discipline of anthropology played a significant role in the extraordinarily complex historical process by which the world came to be seen as divided into the world "here" (the West) and the world "out there" (the non-West), as well as in the process whereby the dominant US-Eurocenter was homogenized. Anthropology's unique function as an official discipline was to differentiate between self and other. The discipline therefore consistently denied the "coevalness" of the "native", whom it conceptualized as the inhabitant of a space (the "field") that was at once spatially and temporally distant and distinct. Anthropology's own self-conception depended on a notion that "they" were supposed to be "there" and "we" were supposed to be "here" - except, of course, when "we" showed up "there" as ethnographers, tourists, missionaries, or development experts. Today the "savage" is no longer out "there" but has invaded the "home" and vice versa (Lavie 1996: 1).¹ The fact that these categories, these spatial-cultural habits of mind, have seemed so natural and permanent is the reason why recent changes in the cultural organization of space have caused rather severe surprise and shock among those accustomed to thinking according to such dualities. In this version culture becomes a multicolored, free-floating mosaic, its pieces constantly in flux, its boundaries infinitely porous (ibid.: 1996: 2). It is the call for openness toward divergent cultural experiences, the willingness to engage with "the Other" that Ulf Hannerz (1990: 239) defines as the principal parameters when he discusses the phenomenon of "cosmopolitanism".

However, this notion of culture, a culture that is rooted in place, was not peculiar to anthropology, but reigned throughout the humanities and the social sciences as well as in the political institutions of the nation-state that shape public discourse. What about the built environment that bears a strong notion of identity and is hardly separable from place? The new approach toward place causes a fundamental change in the relation of the human being to the house – a change, that the architect is still struggling to define.

¹ Smadar Lavie gives a quite diverting example of change in the ethnographic approach when he asks the question of what would Margaret Mead have made of Samoan gangs in Los Angeles, e.g. of the L.A. - Samoan gangsta rap group the Boo-Yah Tribe, named after the Samoan term "boo-yah!" for a shotgun blast in a drive-by shooting?

Building on Unstable Grounds

What about architecture? How is the architectural notion of place effected by this loosening of grounds? What to do with all these transnational cultures of bureaucrats, politicians, and business people and of journalists and diplomats, and various others that do not live in a particular place anymore? These cultures become transnational both as the people involved make quick forays from a home base to many other places – for a few hours or days in a week, for a few weeks here and there in a year – and as they shift their bases for longer periods within their lives. Because of the transnational cultures, a large number of people are nowadays systematically and directly involved with more than one culture (cf. Hannerz 1990: 244ff). No wonder that by many representatives of the second modern movement in architecture the sense of constructing a family home is questioned as a whole – it is seen as a historic relict, a nostalgic enterprise. Is this the acceptance of nomadism? Has the human being no place to live anymore?

We are drawn out of our static position and forced to move. Architects like Zaha Hadid or Coop Himmelb(l)au paraphrase the unbelievable in their buildings by blasting them, tearing them apart... this is the loss of the certainty of place. Architects are condemned to react – it is not their task to proclaim a general paradigm.

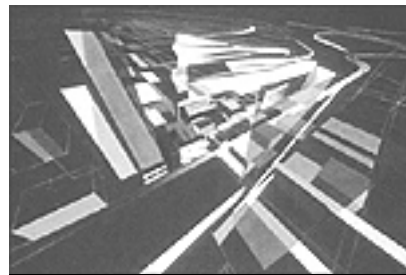


Fig. 2
Coop Himmelb(l)au, roof
construction in Vienna

Fig. 3
Zaha Hadid Design

Louis Sullivan (1963: 92-93), the great protagonist of the American skyscraper, reflected upon the question of form in relation to function:

The form, oak-tree, resembles and expresses the purpose or function, oak; the form, pine-tree, resembles and indicates the function, pine; the form, horse, resembles and is the logical output of the function, horse; the form, spider, resembles and is the tangible evidence of the function, spider. So the form, wave, looks like the function, wave; ... And so does the form, man, stand for the function, man;... And so the form, Roman architecture, means, if it means anything at all, the function Roman; the form American architecture, will mean, if it ever succeeds in meaning anything, American life; ...

But what would Sullivan suggest now that cultures exist far from their points of origin? If a major part of the inhabitants of Belize are US citizens, how do we build? Do we build for the region or do we build "American life"?

"Confronted with the possibility of building in Japan, a Western architect faces a dilemma," wrote Dutch architect Rem Koolhaas, referring to his housing project in Fukuoka, Japan. "Should this project be as Western as possible - is it just another export from Europe to Japan like Van Gogh's paintings, a Mercedes car, or a Louis Vuitton bag - or should it reflect the fact that it is built in Japan?" (Yatsuka, *Architecture California*, 1995: 35). Arata Isozaki, who acted as an advocator as well as a master planner for this international project called NEXUS once mentioned that there exists a group of architects whom one could call an international architectural Mafia, traveling through the world, being in constant jet lag, participating in major competitions, and sharing first prizes among themselves in turn (ibid.: 1995: 35).

Koolhaas found a solution for himself by neglecting the problem as a whole, concluding that in the 1990s it would not be that important anymore, to divide between Western and Japanese, but that a transcontinental culture would produce a montage of both elements. A conclusion that is certainly eligible, since a melting together of different architectonic elements that exactly produced this exiting whole, this creative transformation, still keeps a certain honesty without chumming up to anything. What I find missing again in this approach is the reference point, which is maybe too obvious to be recognized: the orientation on the human being – on the future inhabitant. I allow myself to doubt that Rem Koolhaas took the time to ask the people about their living habits, their needs or expectations – if he had, he might have gotten a clearer answer to his dilemma. Is it not simple the task of an architect to react to the circumstances? It is not the study of Japanese architecture that is the target in this case, it is the study of the future inhabitants. This already causes a transformation which excludes a non-reflective adoption of what is already there.

The reality is that we no longer have specific and inevitable ties with local tradition in this era of globalization, and the reality also is that local biases remain that will not and cannot be erased by this process of globalization. Hajime Yatsuka (1995: 35) underlines this argument by the example of the Museum of Contemporary Art (MOCA) in Los Angeles, designed by the Japanese architect Arata Isozaki. He thinks that due to dif-

ferent construction standards the MOCA is an American interpretation of the Japanese and that other Japanese architects like Tadao Ando or Fumihiko Maki are much more consequential in their translations. Is something wrong with that? Is the Japanese who insists on speaking only Japanese more faithful than one who enjoys speaking English, even if it is broken? We must accept that it is not true anymore that local issues can only be handled by local people – everything else would be a lack of imagination and understanding of contemporary culture.

Why is it even possible that a Japanese would build Japanese in the US? It is basically a consequence on worldwide available technologies, materials and work methods. I am not with Anthony King (cf. *TDSR* 1997) when he argues that increasing similarities in ideologies, increasingly similar economic, social and political formations and multinational consumerism are responsible for increasing similarities in architecture. I would rather argue that this increasing mixture of ideologies and social formations does not necessarily result in similarity, but that these different approaches either stand side by side or produce ever new, so far unknown, forms of organizations. It is the consequence of multicultural surroundings that allows for Turko-Iranian mosques to come up all over the US or Disneyland-like shopping malls spreading out in Dubai. This certainly produces more variety, but it has to be distinguished from similarity. What I very much agree with in King's arguments is that this variety is created on purpose, out of self-conscious architectural design as an element that expresses meaning, that has a symbolic function. In this regard the issue of culture, as also expressed in architecture, is slowly leaving its status as an unconscious system of self-identification toward being a consumer sign that is shown whenever someone wants to see it.

A very different issue, which is interesting to compare in this context, is the problem of tourism and the built environment in Austria. Here is an ever present gap between the traditional architectural expressions that are liked by the tourists and modernity, that has long penetrated into the deepest valley of the Tirol. Builders are accused of prostituting to the tourists by producing a trade mark of Alpine architecture, over-dimensional traditional farm houses that serve as hotels, restaurants or shops and are hard to distinguish in their function since they all look the same and produce a happy surrounding for tourist-friendly cows and people alike. Here it is not a duality between different expressions of cultural background that stand side by side, but it is the issue of a duality between the historic stereotype (what architects call Disney-architecture) and uncompromising modernity. Dietmar Steiner (1994: 272) sees the solution in the dilemma be-

tween tradition and modernity in a third way of beauty that can be collectively experienced, cherished by tourists and locals alike, and transferred through mass-media. I argue that such a third way of beauty is also possible when architectural expressions of different cultural backgrounds meet each other, when a Japanese builds in America or a German in China. It needs some courage to express this individual creative innovation and the necessary intelligence for the translation in unfamiliar surroundings.

Beyond Architectural Certainties

When everything has become possible through technology, it might be that nothing is possible anymore. (Raimund Abraham 1998: 16)

When the Austrian architect Raimund Abraham (1998: 16) read that the American architect Frank O. Gehry had been selected as one of the twenty-five most influential people in America he was confused and perplex: it was not Madonna, or Michael Jackson, or Mick Jagger; it was Frank Gehry. On the one hand, the profession of architects cheers on this event since, finally, it gives them the recognition they always longed for. On the other hand, it bears danger as well. Architecture as show business? The complete decline of any humanitarian task? Absorbed in the limelight of the world of commodities? There is a strong tendency in this direction, no doubt. And there is no doubt that star-cult is not what legitimates architecture to stand in the bright spot light. It is important to search for the roots of this development, to ask, why it is more and more often the case that architects base the whole meaning of a building on their personal self, their narcissistic notion of expressing form as a trade mark. Everything is possible – nothing is possible? What to do if there are no certainties to hold on to anymore other than one's own personal skills?

The Wobbling of Foundations

It is a primordial phenomenon that architecture identifies with the regional, and gains a large part of its power out of its cultural surroundings. Today the playing grounds of the architects are spread out on a global scale, and international competitions take their share of responsibility for the fact that building within a specific region creates a new challenge.

Dealing with ever more heterogeneous cultural surroundings requires a search for new reference points. One approach is that more and more architects see their work as a piece of art that stands above any other context and does not have to deal with irritating factors such as place or the people. Richard Meier scatters his cubic, white-tiled buildings all over the world, in Los Angeles, in London, Barcelona and many other cities – They do not care about surroundings or cultural background, they look “Meier”, and this is enough justification for him, and his followers, to not have to deal with any such problematic things as place and cultural considerations (see Fig. 4-7).



Fig. 4
*Meier: City Hall/Library,
The Hague, Netherlands*



Fig. 5
*Meier: Hypolux Bank,
Luxembourg*



Fig. 6
*Meier: Museum of Contemp. Art,
Barcelona, Spain*



Fig. 7
*Meier: Swiss Air
Long Island, US*

Another wide spread attempt to avoid this whole discussion is the faithful sticking to high-tech methods by placing the constructive thought above everything else. The value of such buildings grows out of their construction, thus they become universal structures that can be applied everywhere without change of course. The result is then signed with a famous name – voilà, there is the universal product. Norman Foster builds in London, as in New York, as in Hong Kong. He does not build British, he does not build American and surely not Chinese – he builds “Foster”. However- that high tech is not the last resort is generally acknowledged. Futurologist John Naisbitt (lecture, 1999) has long abandoned high tech in favor of “high touch”. He draws upon tendencies where the humane, the personal touch in our technocratic world, gains a completely new significance again. A hand-written letter, a personal voice on the phone instead of an answering system is not old fashioned anymore, but more en vogue than ever. It is the reintegration of the human personality which will – as long as the human being exists – never be obsolete.

The problem is that architects have not yet conceived the importance of this reintegration of the human personality – on the contrary: The reaction of the majority of architects upon the loss of a “definite place” is the retreat into ones own self. A superior self-concentration, which degrades architecture to a trade mark and in this way tries to give it a transnational justification.

Climate and Material

But “place” is only one of the certainties and reference points that become increasingly unstable and weak as a foundation for architects to build upon. There is a new, much more independent attitude towards climate, similar building materials are available world wide, and technologies are exchanged. Fifty years ago the people in Ladakh had mud bricks, a little wood, and a very specific and refined technology to work with this material. Today there is concrete, corrugated iron, cement finishing and more which

spread confusion and in some ways lead to a loss of the primordial natural reaction to the challenges of the environment.

Buildings have always related to nature in one way or the other. The movement of the sun, the direction of the rain and wind, the shadow of a mountain are just a few of a variety of natural parameters that influence a house. Houses relate to the site, the ground they are build on, and to the air that surrounds them and penetrates through different openings. Surrounding plants or the earth serve as building materials and animals sometimes live in them. Going back to their roots, all building materials derive from the earth although they are altered and refined in various ways. Completely natural materials are hardly ever used but the materials are processed and improved through human intervention before they are used for building purposes. The natural cave would be one of the few examples where material is not altered but only relocated to provide shelter. On the contrary there are technically most advanced materials such as glass, steel, concrete, plastics, and the like, where long, energy-intensive processes are necessary to give them their certain quality. The variety of building options from the stone cave to steel is an enormous one.

Not only a little but a lot more has become possible in architecture due to the matter of choice. It is true that “primitive” architecture, even if measured under the light of current technology, reveals a remarkably high level of performance in regard to the surrounding natural conditions. It reflects a knowledge of local climate and the use of local building materials which is precise and detailed. But still, such solutions must be seen as satisfactory only within the limits of the technology available at the time (cf. Santosa, *TDS WPS*, 1996).

Technology is a gift. Many problems regarding the environment can now be solved by using new, energy-efficient technologies. Environmental problems have to be faced with new solutions since development cannot be reversed anymore. Once a society is used to having electricity, for no price people would be ready to give up this achievement again. Thus new, environmentally sound, solutions have to be applied and in this regard developing countries offer a great chance to take a better direction than the US-Euro-centric world has done. It is a necessity that progress in developing countries has to go into an alternative direction, otherwise our environment won't be able to withstand for long anymore. The space station is the most perfect building regarding environmental control, since it makes its inhabitants independent from outside conditions.

The more advanced the servicing of buildings becomes, the more independent people become from the natural surroundings, and the more dependent they become on the building itself. The building therefore gains importance, but it leaves builders in confusion about the major criteria to refer to. Also in this regard the enforced orientation upon the people as the most basic, stable component is at hand.

Socio-Cultural Factors and Built Form

Social and cultural factors are usually still the least that are considered by architects and builders. If they are members of the society they are building for they usually have a natural feeling for the requirements. But it happens more and more often that we are confronted with the task of building in environments that are culturally unknown to us, which creates confusion and a desperate clinch to technological solutions.

It was Amos Rapaport (1969b: 72) who tried to argue in the 1960s that adaptations to changing climates, materials and technologies in dwellings were only changes on the surface and did not exert much influence on the spatial organization as a whole. When doing research among the Pueblo Indians Rapaport describes that the Hopis were open to accept change and new traits at the periphery of their culture. They accepted improved farming, the horse which gave them mobility, sheep which improved the economic base, and fruit trees. Yet they were very tenacious concerning intangible values and their way of life, which included their dwellings. The dwelling was not completely unchanged – iron roofs were introduced as early as the 1880s, windows, doors and chimneys were adopted. But according to Rapaport the basic form of dwelling stayed the same, since the distinctive organization of space is the key to their social and political organization.¹

¹ Rapaport divides socio-cultural influences into several categories: a) basic needs (like breathing, eating, sleeping, etc.), b) family, c) the position of women, d) the need for privacy, and e) social intercourse. He was doing intense studies by comparing the settlements of the Pueblo Indians (Zuni, Hopi etc.) with the ones of the Navaho Hogans. Pueblo culture is extremely integrated with religion, symbolism and mythology which in turn is closely linked to the social organization and everyday life. In his studies he describes how these parameters influence the organization of space and the built environment as a whole.

Already earlier Claude Levi-Strauss (1955/73) has made such observations among the Bororo in Central Brazil where the circular arrangement of the dwellings around the men's house is of particular importance for the social life and culture.²

All these clearly indicates the importance of spatial organization – however, I believe that the severe and extremely fast and intense changes that we are confronted with today do cause spatial changes also from within a society, as can be clearly seen in Ladakh. Throughout the existence of a built environment small changes have been matched by equally small building adaptations carried out by each subsequent generation. Recently things have proceeded not by gradual change and approximation, but much more abruptly and severely. Already in the 1970s Christopher Alexander (1977) has seen an arising mismatch between the built environment and the context, it no longer fits in. It can be seen quite clearly that this problematic situation has worsened over the last thirty years.

In the 1960s Amos Rapaport (1969b: 72) pointed out the importance of socio-cultural factors in the built environment: "... major changes of people's dwellings, when they do occur, only come with fundamental changes in the way of life and world view; technical and material changes alone rarely have that effect." It is interesting to compare this to a much more recent statement of Willis Harman (1998: VIII) who has a similar notion of this problem in a much more general sense and who sees in the most recent developments the factors and forces in motion, which bring about a global mind change: "Throughout history, the really fundamental changes in societies have come about not from dictates of governments and the results of battles but through vast numbers of people changing their minds - sometimes only a little bit". If the current incidents are indicators of a global mind change, new approaches are needed to meet with new expectations. Rapaport said that for any given situation, climate, site and constraints of materials and technology would modify, but not determine, the form of the dwelling and that form would primarily be the result of a choice among possible alternatives.

² Claude Lévi-Strauss also describes that the Salesianer-Missionaries used this knowledge as a tool to convert the Bororo to Christianity. They tried to convince the Bororo to exchange their village against another one with a linear structure. This led to confusion among the people about the cardinal points and quite quickly led to a loss of their knowledge and traditions, their social and religious life which was inseparably connected to the spatial organization of their settlement.

In his opinion the socio-cultural forces in the broadest sense are far more important than physical forces in the generation of form.

In a field report Mas Santosa (1996: 63) states that in Central Java the position of the sun is seriously considered before building a house, and that the house is oriented where the sun moves. This has nothing to do with climatic conditions – the house can be either oriented to the north or the south, but not the east or west, but the wrong orientation would bring all kinds of misfortune to the inhabitants. Santosa examined a similar example where traditions are more important than natural and climatic consideration upon the north or south orientation of Toraja houses which is based on the direction of the bed. People believe that if they sleep in a mountain-see (north-south) direction, they will die earlier. North, the directions of the mountains, is the place of God, whereas south, the direction of the sea is the place of demon. Thus houses were sited and oriented without any – or no direct - consideration of climatic problems.

In their book *Culture, Cash and Housing* (1992: 28) Maurice Mitchell and Andy Bevan refer in this regard also to the case of Feng Shui which offers quite strict rules for the determination of traditional form in China. They argue that if the cultural rules conflict with the climatic factors, the cultural rules predominate.

To see this in relation to the profound changes due to global interrelation and new information technology that determined every sphere of life during the second half of the 20th century, the consideration of climate, materials and technology is only the minor part in regard to the built environment that was effected by change. There were far more wide spread changes in socio-cultural forces, which are, to be with Rapaport, of much higher influence, and these changes have brought considerable challenges to the built environment. Architect Jean Nouvel (1998: 76) compares the chaos, with which architecture is confronted in these times, with that of contemporary science or philosophy. It is something which could not be controlled, and thus it took refuge in a metaphysical dimension. But this is no solution either for a sound and desirable future architectonic development. I principally agree with Jean Nouvel (ibid.: 83) that a solution must lie in progress, in technology and modernity especially concerning the ecological crisis and the problems of cities. But I find it most problematic, what he says about the improvement of housing in developing countries:

Third World housing problems can only be tackled if technical development takes the form of a number of ready-made solutions that can be dispatched for manufacturing in already inhabited localities to replace or to change the current deployment of material. This will be accomplished if these elements are utterly flexible and light, if they can be cut and shaped. Glenn Murcutt, for example, explores the versatility of corrugated iron to solve problems of cost, climate, energy, transport, design, and construction.

The answer to the loss of certainties and the growing complexity cannot be to ignore all the outer circumstances, including the human beings, in their entirety and constructing box-like solutions that can be distributed across a far range of different areas. If everything else would work, what I doubt, one thing will be for sure – such solutions will never be accepted by the people who live in them. What about traditions, what about identities? Technology and modernity? Yes – but not for the price of everything else. When Glenn Murcutt works with corrugated iron in a very aesthetic and promising way, he does so in Australia, a country that has the knowledge and the tools to work with this material and where the climate for using it is quite appropriate. Iron roofs are very advantageous in some regions, no doubt, however, it also has to be seen that in other regions they have caused great damage since the iron roof alone, without any knowledge how to work with it and how to use it efficiently, is no solution. These great overall solutions – mass produce millions of cheap houses and distribute them to these poor people – will never work. In principle I would say that the more individual a solution, the higher are the chances that it will be accepted.

Concerning the urbanization problem and cities surprisingly Nouvel (ibid.: 91) seems to have this feeling for the importance of individuality. Regarding the issue of integration he sees it not simply a question of similarity but as a question of responding intelligently to the situation. Here he backtracks from his holistic approach that he demands for developing countries, when he says: “I have often thought about architects who say they want to design new cities. I think it is like a writer saying I want to write a library.”

Culture and the Built Environment

In the last decades of the 20th century, cultural studies have gained increasing influence in a variety of fields and hundreds of definitions of the term "culture" fill the lines of elaborate text books. But *the* discipline which has always kept culture as its most treasured subject was, and still is, anthropology. The following chapter focuses on different theories and understandings of culture using an anthropological approach. It will expound the way that culture has always been a major issue in architectural considerations. To interrelate cultural issues with the current design debate it is important to deal with the term culture and its meaning in the fast changing contemporary context. The lively debate about culture in the globalization process covers topics reaching from transformation, the loss of cultural boundaries, homogeneity versus heterogeneity to futuristic visionaries introducing an "imagined culture". Highlighting some of these theories I will set them into relation with architectural issues. Both creating and expressing cultural identity is a major function of the architectural mission. Since the creation of identity is not tied down to a certain place or region anymore, new inventions of identity replace this loss, not seldom resulting in patriotism and, more worrying, a new nationalism. Architecture has to play its own role in the desperate search for a new cultural identity and architects need to be aware of their responsibility in that matter.

About "Culture"

The central problem of today's global interactions is the tension between cultural homogenization and cultural heterogenization.
(Arjun Appadurai 1990: 296)

What is culture? There is no single true definition of this term and there will never be. In addition, all the existing definitions allow for very different interpretations. However, there is one common feeling and notion of how people approach the term culture and thus, as an expression, it is important in its unifying character to deal with it in spite of its complexity. As a definition to work with here, I consider it as satisfactory to see culture in its broadest sense as an environment that encompasses common sets of beliefs, values, systems of thought and world view. In this regard culture is a set of problem-solving solutions generated in response to the pressures of the environment. In *The Cultural Turn* David Chaney (1994) argues that the focus of intellectual work in the human sciences in the second half of the twentieth century has been a theme of culture

and that culture as a conception has achieved a new important standing. Although culture has always been central to the concepts of the human sciences, today it gains increasing importance for the understanding of life in the modern world.

Culture is a form of continuity. Social institutions like family, religion, traditions have been a source of continuity, there to avoid chaos and to provide a guideline for stability. In recent times these institutions have continually lost their importance and their role as guarantors of perpetuation since this role has increasingly been taken over by cultural forms of communication and entertainment (see *ibid.*: 1994: 58).

Anthropology and Culture

Anthropology is a discipline that sees culture as its central theme. Changing approaches towards the notion of culture are spread all over the pavement of the bumpy street that leads towards the definition of the discipline itself.

Certainly one of the most influential figures who dedicated a large part of his work to design *A Scientific Theory of Culture* (1944/60) is Bronislaw Malinowski. As one of the most brilliant and influential anthropologists in the history of that field, he had dedicated followers and at the same time caused fierce controversy. Malinowski sees culture as an integral whole consisting of implements and consumer's goods, of constitutional charters for the various social groupings, of human ideas and crafts, beliefs and customs. He argues that a theory of culture must take its stand on biological facts, as human beings are an animal species. They are subject to elemental conditions which have to be fulfilled so that people may survive – in this regard culture is seen as a strategy of survival, in functional terms.¹

In addition to this there is a secondary environment which has to be permanently reproduced and maintained. It is the environment that creates artifacts and that enables the human being to produce such artifacts and to appreciate them.

¹ Malinowski sees the relation between a cultural performance and the human need as "functional", whereas he defines function as the satisfaction of a need by an activity, in which human beings cooperate, use artifacts and consume goods. This in turn calls for human organization and an agreement on a set of traditional values (Malinowski 1944/60: 38).

In contrast to Malinowski, for Clifford Geertz (1973; 1973a) culture has to be understood not as a set of rules or structures in people's minds but as the whole of what people do. The cockfight in Balinese culture is an eminent example of social action through which a culture is tangibly articulated.²

However the concept of culture is approached, one of the key factors in its definition is the transmission from one generation to the other. Malinowski points out the necessity to introduce the element of time, that is, of change. Change can happen as an act of diffusion, of intervention or a new technical device that causes a complete remolding of an institution. In relation to his functional analysis he manifests that no invention, no revolution, no social or intellectual change, ever occurs except when new needs are created (1944/60: 41).

I see this statement as one of the most topical issues of Malinowski's theory which gains a new popularity in our current globalizing environment. Especially when dealing with recent development issues, the creation of new needs is one of the major factors which causes far-reaching cultural and social reorganization that is difficult to capture and to react to. Many mistakes have been made in development work, also regarding the built environment, because the people in charge neglected dealing with these extremely fast changes or were not able to cope with them. Why try to make people live in traditional environments when through media, tourism, migration and a wide range of transnational interaction their needs are already somewhere else? Only because the physical environment is more of a long term intervention (is it still?), that does not mean that it lacks contemporary significance - more than that: because it is such a long term issue it has to look far ahead to meet the needs of its inhabitants over a long period of time.

Malinowski was still proceeding on the assumption that culture is the organization of human beings into permanent groups within a determined material setting. Contemporary anthropologists like Arjun Appadurai (1997) deny exactly this presence of any material boundaries in the future - culture will loosen from them and articulate itself in a far more imaginary, placeless environment.

² In this regard Geertz's own approach to anthropology is close to phenomenological hermeneutics. Culture can be seen as an interconnected conglomerate of different social practices such as philosophy, religion, the sciences, the arts - all the ways people interact with each other, with nature, with artifacts.

Architecture is among artifacts, consumers' goods etc. a very important part of this material culture, although it is very rarely closely looked at by anthropologists, and Malinowski too only mentions shelter as a tool to meet the need for bodily comfort. Is architecture captured in between? Where does architecture go, if culture becomes dematerialized? First of all there is a strong need for architects to deal with the perception of culture from various angles in order to be able to react to the current challenges.

Culture is somewhat tricky because it uses itself and its own presuppositions in order to become meaningful (Chaney 1994: 2). It is also used to describe a group's own very distinct understanding of their life-world that gives uniqueness to the people of a certain place, and there is always a process of refinement in its creation and evolution. This becomes increasingly difficult since "group" and "place" do not necessarily correlate anymore. Thus there are more and more calls to see culture as a process but still there are few suggestions of how to actually do that. Paul Bohannan (1995) argues that culture does not have a useful companionate verb, as e. g. life has its cognate, to live. He relates to Leslie White who tried to supply it, but what he did was turn the noun culture into the verb "to culture" which was never widely accepted as a construct to work with.

Culture in Architecture

Form follows culture? When Susan Kent was doing research on the spatial ordering of houses she came to the conclusion that "few researchers have actually looked at architecture and the use of space together, fewer have looked at them from a cross-cultural perspective, and even fewer have attempted to view them by examining a people's culture" (1990: 3). The remaining approaches to this topic can roughly be separated in two categories: the ones who see architecture as a structuring aspect of culture, and the others who see culture as structuring architecture. Culture is expressed in the human behavior, in the use of space and thus in architecture.

But there is a strong unbalance between the notion of culture and that of architecture, above all in scale: Culture is an elaborate domain, whereas built form is only a small aspect of it - like a sublet, embedded in culture. This fact does not make the relationship between both of them easier (see Rapaport 1990). Although the built environment is certainly influenced by its cultural surroundings, in my perception architecture in return is hardly ever that powerful to influence aspects of culture. However, the changing approach towards the architectural expression gives architecture much more power in

its relation to cultural issues. Today we have to consciously divide between indigenous buildings and buildings that were designed by a professional architect – both have to do with culture, both in a very different way. The architect can gain knowledge from the traditional approaches of the people, and the people in turn can be strongly influenced by conceptions of architects that are readily copied. Since the architect deals with the building in a more intellectual way, he tries to achieve progress and consciously works on a certain cultural expression. In this regard, and under the perspective of an increasing search for an own identity among the people, architecture comes closer to a state where it could actually effect culture.³

On the other hand it is not any easier to link the built form to culture as a holistic concept, but it can quite easily be related to family structure, religious institutions, status hierarchies, sex roles and the like. In its generality it is almost impossible to grasp, and Rapaport (1990: 10) already observed that to “design for culture” is an impossible task. He finally saw a solution in determining “lifestyle groups” as the most useful since most other criteria for group membership can be expressed in parts of lifestyle.⁴

But the system of “lifestyle groups” is often a problematic one in today’s development work. More and more often the task of implementing a building project goes hand in hand with a fundamental change of lifestyle of the effected people. In Ladakh, people who migrate to the urban center and seek housing there do not have a certain lifestyle to refer to, since they are in a process of leaving one lifestyle in exchange for a completely different one. This leaves the builder/architect with no other reference point in relation to their culture than trying to find out about the people’s most fundamental needs, their desires and their expectations into the future. At the same time, it is important to identify the elements that are substantial to the cultural background and to take

³ Rapaport sees architecture as shaped by culture in the indirect way of activity systems. This is based on the idea that built environments are created to support desired behavior. Thus architecture encloses behavior and in turn activities will tend to shape architecture. This is then important for architects regarding design since inappropriate decisions may distort activities, may make them more difficult or, in extreme cases, may make desired activities impossible (1990: 11).

⁴ In a cross-cultural study Susan Kent tried to prove that there is a connection between culture and built form in every cultural surrounding. She states that culture, behavior, and cultural material are intimately interrelated and that how people segment their culture will directly influence how they segment their behavior in terms of their use of space and how they segment their cultural material in terms of their built environment. She proves in her study that as groups become socially and politically more segmented (complex), their use of space and architecture also becomes more segmented (1990).

care that these values are properly transitioned in order to insure a continuity in development.

Architecture is, after all, a surface to express people's thinking, it is a visible world shaped by ideas and imagination. Thinking is not just an internal process within people but is manifested on facades, on consumer products and computer monitors as well as in festivals, language, music etc. Richard Wilk (1990: 35) sees in the house not much more than a consumer good, whereas culture does not shape houses in some abstract or direct fashion, but people shape houses.

Culture in Development

Almost two decades ago Peter Worsley (1984) introduced culture as the „missing concept“ in development thinking and provided a useful but preliminary assessment of the various ways in which the concept was used. Theories of post-modernism, post-colonialism and globalization are all manifestations of the cultural turn, challenging both conventional and radical development paradigms and, in some cases, threatening to dissolve the terrain of development studies further. In any case, the international approval for such an approach is displayed by the presence of a special UN agency, UNESCO, that has the responsibility for the cultural dimension of development.

Arjun Appadurai has contributed a lot to UNESCO's leading position in revitalizing the dialogue between culture and development. He has continuously criticized the ongoing measurement and definition of development through standards that are primarily material: schools, hospitals, dams, etc. Appadurai argues that such material goals are only achievable through knowledge, vision, commitment and training, but that these "intangible dimensions of development" have not yet been adequately linked to cultural capacities and cultural diversity. According to Appadurai cultural diversity and sustainable development cannot be addressed in isolation from one another. By mixing these two ingredients under the term "sustainable diversity" he calls for dialogue and diversity on a global basis since the challenges of global governance, cultural diversity and democratic development cannot be addressed in a piecemeal manner, but only in a single framework.

A key argument that Appadurai uses to underline the indivisibility of culture and development is the “capacity to aspire”⁵. The reduction of cultural diversity is a direct hazard to the building of this capacity to aspire – and without aspiration, development projects will never be successful (Appadurai, *Concept Note for UNESCO*, 2002).

Culture as used in development may be as unclear and imprecise as in its overall appearance but one approach can at least be excluded: culture in its appearance as the “icing on the cake” meaning a residual notion referring to arts, crafts, music, and literature which add „local color“ to an otherwise global process. In this one-sided articulation culture is only worthy of attention when people have been fed, housed, clothed and integrated into modern social and political institutions (Tucker 1997).

One of the major confusions about culture as a new paradigm in development studies, which is also pointed out by Vincent Tucker in his *Cultural Perspectives on Development*, is the great risk to get caught in a skein of theoretical confusion. Since culture is hard to capture in its wholeness, it is an extremely difficult undertaking to search for an appropriate set of analytical tools to trace the essence of cultural processes. Besides that there is the question of relevance of such an approach in comparison with economic or political concerns. What is the actual potential of culture in development? How can we make sure not to get caught in the simple “add culture and stir” approach (see Nederveen 1995: 184)?

I see the minimization of this risk in the use of the right methodology and in this regard anthropology has a variety of aids to offer, since it emphasizes the voices and perspectives of those who are usually considered to be the „recipients“ of development.⁶ In this regard the potential of anthropological studies far outweighs the risks connected with them, especially with regard to housing projects – above all, an anthropological pre-design study, which is not implemented well, might deliver an incomplete and maybe confusing result, but it can rarely do more harm than if no such study would have been implemented at all.

⁵ Aspiration, as a collective resource, requires culturally diverse forms of creativity, imagination, tolerance, flexibility and living tradition. According to UNESCO, the human or social capital, which is expressed through culture, may strengthen the capacity to aspire.

⁶ Recent efforts to introduce culture into development theory and practice are motivated by the attempt to move away from the ethnocentrism which characterizes much development thinking. This goes hand in hand with the recent anthropological tendency to stop seeing culture as a whole which is linked to place and brings up notions such as „African culture“, „Western culture“ or „indigenous culture“.

On the contrary, there might still be at least some useful aspects drawn out of it, even if they are far from giving a complete picture of the situation.

A further challenge today is the introduction of the “global” into the “local” without clinging to a US-Eurocentric approach and without adopting a missionary position. Nederveen Pietersen puts it this way: „What is needed“, he argues „is a fine sense of balance that does not yield to futures mapped from above nor to nostalgia for the rear exit, but a new sense of balance between universalism and localism“ (1995: 190).

Cultural Aspects in a Globalizing World

When in Rome do as you done in Milledgeville.
(Flannery O'Connor quoted in Geertz 1996a: 456)

Through the expediency of communication, cultures themselves become increasingly fluid and undefined, less constrained by either geography or ethnicity. Cultures in the contemporary world are syncretistic by necessity, they cross traditionally accepted boundaries and participate in global economics and political systems. And there is one aspect that makes this occurrence even more dubious: the extraordinary speed of its spreading. Babu and Kalpana (*TDS WPS*, 1996: 19) express their concern connected with this: "The most threatening aspect of globalization is the destruction of 'the process of cultural evolution' which operates within a value system." Globalization trends, massive urbanization, informational revolution, and the spread of consumerism do not allow the time for adaptation but are overwhelming especially in regions that are still in a process of closing an economic backlog. "Change and recurrence are the sense of being alive - things gone by, death to come, and present awareness," says Kevin Lynch in *What Time is This Place* (1972). But one has to differentiate between slow change that leaves time for adaptation and over-night transformations as they happen now.

Globalization operates beyond the very specific subtleties that distinguish one culture from another. The underlying nature of universality that is brought about by globalization can by no means include the innumerable factors of culture, factors such as attitudes, beliefs, values, etc. Societies and cultures worldwide are undergoing dramatic changes - nobody would doubt that - but there are hot debates on the direction of this development. Still, these debates have rarely entered such disciplines as architecture, where they have rather caused confusion without any potential resolution. Again, architects need to draw on other disciplines for support and, because of its holistic approach, anthropology can serve as a model for dealing with complex cultural phenomena. Because of its commitment to help improve people's lives, it can play a significant role in assessing global issues, in the design and implementation of changes that will be required to resolve them.

Towards a “Global Culture”?

The question arises: Is there such a thing as a “global culture”? Like in all matters connected to culture, there are a variety of approaches towards this question. Mike Featherstone (1990) divides the question into two different possibilities to deal with. If by a global culture we mean something akin to the culture of the nation-state writ large, then his answer is patently a negative one. The formation of a “world state” is a highly unlikely perspective, on the contrary the culture of a nation-state is one which generally emphasizes cultural homogeneity and integration. However, the existence of a global culture is undoubtedly connected to the definition of the term culture in general. Featherstone indicates that if we depart from the strongly static polarity towards a broader definition of culture and think more in terms of processes, it might be possible to refer to the globalization of culture. He introduces the notion of sets of “third cultures”, which themselves are conduits for all sorts of diverse cultural flows which cannot be merely understood as the product of bilateral exchanges between nation-states. It is therefore misleading to conceive of a global culture as necessarily entailing a weakening of the sovereignty of nation-states which, under the impetus of some form of teleological evolutionism or other master logic, will necessarily become absorbed into larger units and eventually a world state.

In his *Towards a Global Culture?* Anthony D. Smith (1990) does see the question as a notional dilemma¹ on the one hand, while on the other hand it offers a chance for an expansive “unity in diversity”. Smith also points out the problem of the political creation of culture, as has been the case e.g. in the Soviet Union, where the political creation of a new “Soviet” man should produce loyalty and ideological identification with the political community rather than an emotional solidarity with the own ethnic grouping. The objective was to fuse these ethnic communities together to produce a truly “Soviet Culture”. On the other side there was the American way of liberty and capitalism, held up as an exemplar of assimilation in a “melting pot” which was later lessened to the demand of producing integration through diversity.

¹ In Smith’s (1990: 172) perception the initial problem with the concept of a “global culture” is one of the meaning of terms. Can we speak of “culture” in the singular? If by “culture” is meant a collective mode of life, or a repertoire of beliefs, styles, values and symbols, then we can only speak of cultures, never just culture; for a collective mode of life, or a repertoire of beliefs, etc., presupposes different modes and repertoires in a universe of modes and repertoires. Hence, the idea of a “global culture” is a practical impossibility, except in interplanetary terms.

The comparatively quite new formulation of the European Union created the fashionable notion of “unity in diversity”, a possibility of cultural imperialism coexisting with vital cultural identities. But is this already a “global culture”? In any case it is true that for the first time we are acting on a global playing field and in this regard Peter Worsley’s (1984:1) striking words “until our day, human society has never existed” for the first time seem acceptable.²

This development has had an extensive influence on anthropology’s conception of the “local” and the “global”. New cultures develop without a clear anchorage in any one territory and thus they become sub-cultures within the wider whole. Such cultures can be better understood in the context of their cultural surroundings than in isolation (Hannerz 1990: 237ff).³ Regarding the more practical access in a field study this creates a need for a very different approach. As a result of the global changes in society in the last decades Manfred Kremser (1998: 141ff), for example identifies three profoundly different socio-cultural and spatial contexts for the anthropological field research which are in short defined as follows:

- Indigenous local cultures (*full-time-face-to-face-communities*): human communities and individuals which still live, in spite of the modern developments in society around them, in relatively clearly defined geographic territories
- Diaspora cultures (*part-time-face-to-face-communities*): Due to increasing transport and worldwide communication new diaspora situations develop, where not all members of an ethnic group share the same territory anymore since through migration, refugee streams, tourism etc. societies are more intermingled in all continents. As a result “cultural landscapes” are transformed into “ethnoscapes” (see Appadurai 1997).
- Digital diasporas (*no-more-face-to-face-communities*): The variety of places that can be examined in an anthropological sense has multiplied. In addition to the territorial field there are new socio-cultural fields, whose actors belong to different communication groups that are engaged at the same time. New discursive field study strategies are gaining importance.

² Stephen Mennell (1990: 359ff) argues that the potential for a single global human society has always existed, but that the occasion has not arisen until now. He compares the evolution of the *Homo Sapiens* with the one of plants, insects, fish and other animals who are divided into a great number of species and, other than the human being, are no longer able to interbreed whereas each has adapted to a particular environment. In contrast, the human species is the single one that lives in a wide variety of conditions on earth with a differentiation that is not biological but cultural.

³ The distinction of cosmopolitan-local has first been examined more than half a century ago, when during the Second World War Robert Merton (1957: 387ff) developed it out of a study of “patterns of influence” in a small town on the eastern seaboard of the US.

All these three contexts are intermingled and exist beside each other. They require different strategies in the approach of the researcher. Thus, if one attempts to study the housing situation of a certain community of society today, a researcher must first of all specify in which kind of cultural surrounding s/he is acting. Indigenous local cultures will hardly be found anymore, whereas acting in diaspora or digital diaspora cultures will require a different, much more far-sighted, discursive method of data collection.

Homogeneity versus Heterogeneity

In the second half of the last century the world has continued to shrink in terms of the time necessary to travel or communicate and it certainly became more interdependent – but has it therefore become more homogeneous? Activities, life-styles, needs and problems become increasingly identical and people tend to react in quite similar ways – does that mean that the world is shrinking culturally? There are very divergent opinions on this subject:

When Roger M. Keesing (1994) arrived in New Guinea to do research on personhood or cultural constructions of time and space, he found people listening to transistor radios, watching videos, planting cash crops or working for wages, going to church and attending schools instead of conducting rituals in men's houses. What else could he do than see this as outward, superficial changes in the people's lives that do not disturb the essential culturalness, which lives on? What else is there to do than deal with this new form of diversity? Larry L. Naylor (1996) thinks that, while the great diversity of cultures, that so characterized the world's peoples for a very long time, is quickly disappearing, another kind of diversity is taking its place. Naylor is convinced that cultures can adapt, have adapted, and will adapt to the modern world without losing their identity and all or most of their cultural background, if they are left alone to do so. Because of this a global culture will never evolve, for as the world's complexity increases, the diversity of groups sharing beliefs and behaviors will actually increase and the world will become more diverse.

In general this is also the notion of the debate that I ensue, that is pointed out throughout this work and that I encourage architects to work with. In my opinion the current development offers new forms of heterogeneity, a never-seen diversity, a melange of global and local discourses that increases richness and at the same time allows for a basic resistance in particularities. I cannot see a world as a homogenized hodge-podge

with all different cultural ingredients stirred together thus that every single one loses its special taste. I do not fear that the surface of the world will be strewn with ever the same neutral looking, incredibly boring buildings.

Admittedly, since there seems to be no limit of what modern builders can do, the world-wide spreading of the latest building-practices is accompanied by the danger of increasing uniformity of built structures. But so far this danger is restricted to certain effected areas: The problem is occurring primarily in urban surroundings and to a large extent it concerns a specific section of the building business such as office towers, tourist developments, industrial plants and the like. There will always be neutral architecture that is industrially produced, that can be shipped wherever it is needed, that exists for purely functional reasons and does not present even the slightest attempt to transport any other message than that. People's homes, or buildings they identify with, only partly fall into this category, and where they do, a reverse movement back to more individualistic expression can increasingly be observed. It is a movement that can be equally problematic since more and more buildings are superficially decorated in order to give them a "local flavor".

It is fascinating to observe the traditional elements and forms that have long been rooted in a certain geographic environment migrating in connection with specific groups and spreading out all over the globe. For example: Just as the lure of high technology has diluted the traditional environmental equilibrium in Muslim countries, a reverse trend is seen in the USA. With the growing Muslim community, mosques can now be found everywhere in the States. How can a Muslim community best represent itself while maintaining its identity and at the same time blend with local architectural styles and trends? Although the trend goes now more into the direction of giving mosques a very strict Muslim appearance again, there are chances to build bridges with other communities and to express these in the built structure – this is, under current political circumstances, of higher importance than ever. And the potential is there, since one of the aspects of the spirit of Islam is to allow for different, new and innovative solutions to evolve with time and place and not to prescribe or limit to one specific formula (Pirani, *TDS WPS*, 1996). In this case it is very important to refer to what Kenneth Frampton (1998: 94) describes as a complex balancing act in which both similarities and differences must be maintained and developed simultaneously.

In the context of extreme generality, meaning is created by differentiation, by introducing vital nuances within the patterns defining relationships between things. Because all cultures exist in a dynamic state, meaning must constantly be created to avoid degeneration toward either chaos or triviality. However, as Western society is increasingly dominated by the homogenizing effects of mass production and mass media as a result of global capitalism, the balance between the general and the particular is jeopardized.⁴

This distinction between the particular and the general is essential to avoid a synthesizing of any reigning style by a vast, exploding cornucopia, an Esperanto, that nobody really could want. But it is most necessary that we have to obtain a global perspective and that architects as well need to play the role of cosmopolitans. There are differences and conglomerates everywhere, even within frameworks that we would surround with the term culture. Claude Lévi-Strauss (1994: 424) puts it this way:

Who can deny that, even taking internal differences into account, there is a Japanese culture, an American culture? There is no country more the product of a mixture than the United States, and nonetheless there exists an 'American way of life' that all inhabitants of the country are attached to, no matter what their ethnic origin.

On the other hand architecture theorist Charles Jencks (1988: 330ff) criticizes his colleagues if still writing about “American” or “French” or any national architecture, which he finds as simply being pragmatic. The field is limited to convenient fiction, to the optimistically naive notion that architectural ideas and materials have to travel through a national censor and customs control. Jencks talks of architects in Tokyo, Berlin, Vienna, London, and Los Angeles who constitute an elite and have some sophisticated followers, but at the same time he states that it is an elite formed more and more democratically all the time by world competition. While I agree with Jencks that communication expands through architectural magazines, international meetings and competitions there is not much room for worldwide democracy. What about cities that do not fit into the privileged circle mentioned above? What about Calcutta, Sao Paulo or Nairobi?

⁴ Frampton sees one of the important domains where a culture defines itself in the sphere of interaction between the general and the particular, an interaction which establishes associations that allow us to make sense of both. The two extremes, to which any culture tends, may be defined as follows: a condition of extreme particularity, where everything is different and a condition of extreme generality, where everything is the same. Whereas the first may be recognized for its predisposition to chaos, the second may veer toward a trivial or meaningless order.

None of them takes active part in the international architectural discussion but in spite of this they are effected, take every information, every new material, every technology they can get but with not much chance to reflect about it and to get the international recognition they deserve in this “democratic” process. Cosmopolitan, transnational, global... in our Western notion the interpretation of these terms still seems to be limited to a censured world where only a few participate – everything else still seems to be beyond Western architects horizons of perception.

A good approach to gain an understanding for the complexities of our composite cultural mix is to explore examples of architecture (or music, handicraft etc.), that have developed in an unselfconscious way. All these are products of a cultural evolution with constant migration and settlement processes leaving traces in the lives and practices of both those arriving and those receiving the immigrants. The result is new architecture, new music, new handicraft, that is not actually new but transformed, a result of different influences that undergo a creative process and create something that has not existed before.

How does a new immigrant cook her national dish on an important holiday when all of the ingredients are not available? She does not, she "invents" something new! How does the immigrant react when he does not like the national dish of his new home? He either completely rejects it or he modifies it to suit his taste (McClean, *TDS WPS*, 1996: 2). Isn't this a legitimate approach for architecture? An Indian migrant living in Austria will probably retain some of his old living habits, maybe he still prefers to sit on carpets rather than chairs, but there will certainly be some building features he will adapt from his new cultural surroundings. The result can be exiting and thus could find followers within his own community or also from outside. It can preserve the essential qualities of each culture but go beyond and create a symbiotic architecture which benefits from its diverse cultural components and at the same time nurtures them. The same is true if outside influence on a large scale changes the building habit of a whole country. Various examples can be given for that:

One significant feature is the alteration of the *patio* in the Algerian single family home. Throughout one century of French colonial power the organization of the single family home was reorganized. The house was opened up towards a small front porch, which altered the whole appearance of the cities.

Throughout the last 30 years this representation towards the street became extremely important and expensive materials and elaborate facades replaced the formerly homogenous and unobtrusive appearance of the streets. With the disappearing of the extended family and the tendency towards small, nuclear family structures the *west-ed-dar*, the patio as heart of the house, vanished almost completely.⁵ However, today the Algerian single family home is far from being a mere copy of the Western family home. The newly-created typology still reflects the social, cultural and political peculiarity of the Algerian life-style and represents a unique mixture between the patio-house and the house according to Western samples (see Kassab, *Trialog*, 1997).

Similar observations can be made in Mexico, where the influence of the US-American single family home and a growing dependency on the car as a means of transport have caused major alterations in the architectural landscape. John Reynolds observed, measured and photographed the development of patios in Colima/Mexico over a period of 15 years, 1981 – 1996 (*TDS WPS*, 1996). Within this period many patios were demolished, others were covered and a wide variety were converted into parking lots due to the lack of parking spaces in the narrow streets. It was striking that many patios that still existed were deprived of their vegetation, whereas trees, by providing shadow, used to be the center of a courtyard. The North-American model allows for a decrease in density and for a more airy, cross ventilated environment (see also Ribbeck, *Trialog*, 1997: 37-41; Becker et al., *Trialog*, 1997: 42-48). In this regard it is interesting to compare a study conducted in Iran by Hanna and Simpson (*TDS WPS*, 1996: 76-91) concerning the upcoming of a design stereotype that they call “the courtyard paradigm”.

Hanna and Simpson argue that although it is an old stereotype of architects that they hold pleas for courtyard houses in hot, dry climates this does not necessarily correlate with the satisfaction of their users. The new “Western” house in Iran is usually a modified version of the traditional house where the courtyard is covered and becomes a central hall, housing all the circulation between the rooms.

⁵ The patios that still exist today are mostly covered with a glass structure as shelter against the rain. This has the positive side effect that it conserves the heat in winter providing energy-efficient warmth in winter, whereas in summer most glass roofs can be removed.

In contrast the compact courtyard of the new type of house has a rectangular form with front and back gardens. A case study conducted in two housing estates in Baghdad/Iraq during the extreme hot months of July and August brought a result that was quite stunning since it showed that the overall satisfaction in modern houses was much higher in all examined parameters such as availability of daylight, privacy, use of rooms etc. than in the traditional courtyard buildings.⁶ The study showed that modernized forms of building did not cause a change for the worse. Especially the traditional element of the patio offers possibilities for new improved solutions that do not automatically result in a decline of the patio idea as a whole.

But it is not always the Western penetration into traditional environments that creates such examples of symbiotic architecture. It has also long been the case that, vice versa, influences and transformations occurred in the West – let's just think of the development of China Towns all over the US and Europe as one example out of many: The China Towns of California were created through a process of adaptation to existing North American building types.

They created hybrid physical communities by transforming common North American building types and environments rather than by importing their own native vernacular types from China. Although Chinese American settlements made use of the common building types in California, the conditions of daily life generated a separate settlement reality. In this respect the China Towns of California were neither direct importations from Asia nor standard building types left unchanged. Rather, they represented the transformation of existing United States building types to the particular requirements of the Chinese American community (see Yip, *TDS WPS*, 1996: 24-37).

It is most fascinating to observe that this idea of China Town is now re-imported into the strongly "Americanized" old town of Beijing. Architecture is constructed that is more oriented along the American China Town model than on the traditional architecture of China itself. Now people even speak of a "Chinatownization" of Beijing!

⁶ The following parameters were empirically studied in both courtyard and modern housing (inhabitants of forty traditional and forty new houses were questioned):

- air temperature in both traditional and new settlements as a measure of thermal performance
- thermal comfort of occupants in both house types
- the relationship between thermal comfort and the user's overall satisfaction with the house form
- noise levels in both houses

Already Paul Ricoeur (quoted in McClean 1996: 11) states that "a cultural tradition stays alive only if it constantly creates itself anew... a culture dies as soon as it is no longer renewed and recreated." The same can be said for architecture. It only stays alive if it is constantly renewed and in a state of progress. Erich Lehner summarizes in a plain but very convincing way: "This capacity for development, this constant change, is the prerequisite for a living architecture. As the drastic break with all traditions would not create any architecture capable of surviving, thus also a stagnation of its development – a paralysis, as a result of a dogmatic clinging to the traditional – would mean the beginning of its decline" (1998: 519, NB: translated by the author).

Since this creative process of change is now performed faster than ever through communication among cultures it is in the power of the architects to play a productive role and make use of the rich sources instead of being overtaxed by them. This is the only way to avoid the acceptance of an ever more uniform expression of styles.

There is traditional music, telling us about our roots and history, and there is contemporary music, giving us an impression of our current social and cultural situation. Usually the new is a fusion of rhythms and instruments of various influences and adaptations, as Jazz and Blues for example rose in the US under very particular circumstances by fusing cultural backgrounds. Reggae and Calypso in the Caribbean were created under comparable conditions but still the result is a completely different one. These comparisons can be used to understand such processes and it helps to gain a perception of what happens to built forms (McClean 1996: 3).

Cyber Culture

But what, following this development, happens to architecture within the new, strongly discussed, supra-territory "cyber cultures"? The word "cyber" is strongly connected with the spread of information technology which has entered all spheres of contemporary life. It is an abstract notion of space that has lost concretion and is therefore hard to capture. New players act in a computer generated "cyber community" or "digital community" in a self-contained space with succinctly developed membership and participants. Software and programs create a new language, there are new characteristics of custom, ideology and tradition – all of these abstracts that are commonly used to define culture.

According to William Mitchell (1995) the capital of the twenty-first century will be a *City of Bits*. Therefore the future of design in architecture, as "digital culture" becomes a global culture, will also become a member of a global system of information exchange. This "global village" connected by the "infobahn" (ibid. 1995: 65) has already profoundly influenced the profession of architecture. With the rapid development of a global economy, the marketplace of architecture has become international. We observe the formulation of international syndicates of architectural practices and the development of information systems in support of a global architectural creation.

As design technology in architecture shifts from a "project based" focus to a "information based" focus, the thought processes and activities required are completely different from a tradition that is rooted in the days of modernism and the industrial revolution. What Mitchell does not include in his elaborate virtual scenarios is that this form of communication, not only but also in the building sector, is restricted to very certain parts of the world, excluding completely a vast majority from any participation and letting others only participate on the margins. How can we talk of a holistic, global approach when more than half of the world's population is not involved? Arjun Appadurai (1990: 296ff) in turn includes every region of the world in his "imagined world"⁷ scenario which derives from new information technology as a whole and is not necessarily restricted to the presence of the computer – however, it is characterized by the lack of a definite territory. Appadurai sees five dimensions of global cultural flow: *ethnoscapes*, *mediascapes*, *technoscapes*, *finanscapes*, and *ideoscapes*. The suffix *scape* is meant to point to the fluid, irregular shapes of these landscapes, shapes which characterize international capital as deeply as they do international clothing styles.

These formations effect "informed" as well as "non-informed" or "less-informed" regions. Especially less-informed countries, like for example Ladakh, are in a problematic stage since participation tools such as phone, fax or internet access is still restricted to tourists, hotel owners and some other privileged groups. In this sense information technology is first of all creating new desires whereas it is long overdue to use the potential of this same information technology to meet with new desires and solve problems as.

⁷ Appadurai very consciously uses the term "imagined world" as contrary to a notion that was formed by Benedict Anderson (1983) who talked about an "imagined community".

Even if the region, in which the builder/architect is acting, is not “connected” yet, there will be a strong need to include this form of communication and its future potential into planning strategies.

Westernization Versus Globalization

The diffusion of “globalization” and “westernization” creates a dilemma that irritates the dialog between developing- and industrialized countries. There are approaches that do not differentiate between globalization and westernization at all but regard them as one and the same process (e.g. Sardar 1997), whereas others see only a strong involvement of the West in the globalization procedure and expect the future perspective to end up in a general process of “deterritorialization” (e.g. Tomlinson 1997). It cannot be denied that every society has circles within circles of dominance and dependence reaching from the most powerful down to the least powerful. It is therefore only natural that regarding the complexities of such relationships there are similar dichotomies and polarities on a global scale as well. However, a major problematic arises if one culture tries to intervene in another culture and tries to distract it from the subjective way it wants to go. This is what we generally term a process of “acculturation”.

When talking about westernization there are two notions to distinguish: “transculturation” and “acculturation”⁸. Whereas acculturation assumes a certain pressure of a presenting culture on a receiving culture, transculturation is a reciprocal condition of both cultures⁹. Transculturation implies a process of transformation occurring as a result of contacts and mutual influence of all participating cultures. This also includes the creation of new cultural phenomena (Wernhart and Zips 1998: 50).

In this context the concept of “center and periphery” is important since westernization indicates that the West, most of the time meaning Europe or the USA, is the focal point of all global spreading.

⁸ The notion and the concept of “transculturation” was introduced by the Cuban political scientist and cultural anthropologist Fernando Ortiz in 1940 as a counter-position to the theory of “acculturation” formed by Herskovits in 1938.

⁹ Here the prefix *trans* (as crossways) expresses clearly the impermanent character that includes both the adoption of particular cultural elements and the changes of the affected cultures in their entirety.

The old models of center-periphery relations do not provide adequate understanding in an increasingly intermingled world where the *self* is relocated from one environment to the other.

The old fears of Americanization or McDonaldization are outdated already and different peoples have more immediate concerns since e.g. for Koreans Japanization might be much more of a topic, as Indinization for Sri Lankans or Vietnamization for the Cambodians. Above all, when American influences are brought to India they will become indigenized in one way or the other. This is true for cooking, fashion, music or housing styles and the like. As Appadurai (1990) suggests, we need to move towards something like a human version of chaos theory rather than the old images of order, stability and systematics.

Like Appadurai, Maurice Godelier (1991) does not see the danger of westernization in all spheres of cultural formation either. As an example he refers to Japan as one of the most dynamic capitalist nations which has not lost its political sovereignty nor its cultural identity on its way. Godelier points out the many negative aspects of the West which we often don't want to see. But they exist and there is no reason why we should accept their presence – this is not the end of history and we are certainly not living in the best of all worlds.

In my opinion this statement is one of the key factors that also architects and builders in developing countries have to realize, since the aim to introduce Western technical and material solutions in a non-reflected way is still one of the most severe misapproaches throughout development work. It has to be understood that development work, also and especially in the building sector, is a mutual process where we should not be too eager to deliver Western know-how alone but we should first of all be able to observe and learn.

Developing Countries and Change

Change, above all, is a cultural process. It allows humans to adapt to changing conditions that otherwise could threaten their survival. The human ability to survive is thus directly interwoven with the ability to change. Since changes in all spheres of life have occurred extremely rapidly throughout the last half of the 20th century, a new understanding of the process of change needs to be developed.

Therefore, it is once more essential to make reference to the human being, to the interactions of the participants in this process of change, which will be the key towards understanding it. No culture is impervious to change. No culture has been yesterday what it is today or it will be tomorrow. There is a variety of reasons for cultures to change continually and inevitably. With more and more contacts among different socio-cultural environments change will continually occur as a byproduct of adjusting and accommodating to each other. Ever new needs are created, new ideas and aspirations are introduced and, as people are always longing for improvements, more efficient and satisfactory ways will be introduced which cause – change.

Change has changed itself, since in most regions it has nothing to do anymore with the slight, gradual and almost imperceptible transformation that is typical for subsistence economies and pastoral societies of the past. Change in such environments was natural and not consciously influenced. Today people increasingly rely on designing, planning, and implementing change. Through planned culture change, groupings attempt to take control of their own destiny or that of others (Naylor 1996: X). At the same time change comes faster, more severe, and more obvious. Tribal groups are suddenly brought into the mainstream of the modern world, they become part of the technological/informational revolution and must, all of a sudden, respond in a much larger context.

This is a challenging process since people generally feel threatened by the expectation of impending change in their lives. They have believed in their self-created truths for a long time, and thus the realization that their knowledge might be superseded by some other beliefs is naturally threatening (Harman 1998). Conservatism is a basic characteristic of all cultures since individuals and groups require some measure of continuity. Through culture, people are taught how to get from one day to the next. If change becomes too severe there is a tendency to fight back and actively oppose the change in an active way.¹⁰

¹⁰ Sociological and historical research shows that during similar revolutionary changes there are, typically, increases in frequency of mental illnesses, social disruptions and use of police to quell the disruptions, violent crimes, terrorism, religious cultism, and acceptance of sexual hedonism. These signs are, of course, visible today, and they may well intensify before they return to more normal levels. Basically, they are all responses to the underlying anxiety and uncertainty due to the unconscious threat of change (Harman 1998: IX).

In developing countries people are often caught between the desire for progress and the fear of change – circumstances that are clearly expressed in the appearance of the built environment. Whereas traditional environments tend to be culture-specific and change comes slowly, contemporary environments change very rapidly. On the other hand, turning again to the built environment, the building process used to be much more open-ended in traditional environments, where only frameworks were designed which allowed for frequent change and adaptation to different circumstances. Now that change occurs with increasing speed, architecture has become inflexible in comparison. Every little detail of a building is planned very carefully and the final result hardly allows for any interference other than occasional renovation. This is even more fatal since architecture is long-lasting by nature, which means that it cannot keep up with a constantly changing environment. We will never be able to design complete environments that are up to date. In Europe a twenty year old building is quite old, whereas in Ladakh twenty years of time might not even be enough to finish a house. But a building process that long has the potential for the house to react to the wants and needs of the people and to adapt over the years. It is a potential that has been lost in most spheres of the Western world, although a variety of useful planning strategies could be drawn from that insight.

Designers of buildings participate in the process of communicating ideas, expressing cultural patterns and producing expectations. If the designer is a member of the particular culture or even the future inhabitant of the structure he is likely to create a setting considered to be appropriate for a group of people in a certain situation (cf. Robinson 1989: 253). But since even in developing countries it is more and more common to rely on outside expertise, implemented through development work, this natural guarantee is not given anymore. While the term “development” by definition means moving people towards something better than what they have (Naylor 1996), it is becoming less able to fulfill its promise. On the contrary, in many respects development in connection with the built environment has systematically undermined the self-maintenance abilities of small-scale societies.

There are various goals of improvement in development work to achieve a sustainable result as for example defined by Billie DeWalt (1988): a better nature-culture balance in local regions and ecosystems, the recognition of basic human needs, less centralization and more local autonomy, maintaining local cultural integrity, more justice and equity, the reduction of resource competition, gradual change, and diversity.

The goals are there, but, wisely, DeWalt has avoided the question of how to implement them. What are the strategies to find out about the cultural circumstances in order to conserve their diversity? Using anthropological knowledge and methodology could be a big step into the right direction (as will be demonstrated in an APD-study in part II of this volume).

Building Identity

Identity always means inclusion and exclusion at the same time.
(Anton Pelinka, 1994: 361, NB: translated by the author)

From the days of colonization until the current globalization process, contacts between local and global forces have resulted in the hybridization of collective identities and struggles over representation.

According to the Encyclopedia of Social and Cultural Anthropology (Byron, 1996: 294) the term “identity” was brought into general use by the psychoanalytic theorist Erik H. Erikson in 1959.¹ Anthropology refers to the term “identity” in two ways: In one sense, the term is an expression of “self-identity”, making a person distinct from all others and unique as an individual. In another sense, the term refers to “ethnic identity” based on common features that persons may associate themselves with, or be associated with by others.

Similarly, there is a differentiation between individual and collective identity. Whereas individual identity is a source of meaning, based on a set of cultural attributes, constructed through a process of individuation, a collective identity is a definition that is constantly redefined and reworked by different groups to serve their own interests. Social roles can be quite close to identity (e.g. being a father, teacher, sports-man ...), but they rather organize the functions whereas identities organize the meaning (Castells 1997: 6). Architecture is a physical expression of identity. In a time of increasing crises and ever more bizarre creations and constructs of identity it becomes a relevant element for the designer to look deeper into this matter.

¹ For Ericson, personal identity was a durable and persistent sense of sameness of the self which was rooted deeply in the unconscious.

Identity - Prefabricated

In the age of globalization collective identity is never fixed in time. The desire to search for a new identity in many cases does not come from the grassroots, but from above. There are several forces that attempt to threaten the hegemony through conscious changes in the geography of social relations.

Perhaps the most difficult groupings to deal with are complex nation-states², since they tend to obscure many actual cultural groupings that have been brought together in their creation. They are ideally presented as primary cultures and there might actually be a general consensus, but there is not necessarily any kind of homogeneity or common patterns of behaviors and beliefs (Naylor 1996).³

In my opinion the recreation of identity for local cultures does not necessarily need a political or nationalist response. There could also be a willingness from within the people to create a new identity as a response to strong intrusions from outside or extremely rapid changes. There is no doubt that in the age of globalization nationalist re-surgences occur, expressed both in the challenge to established nation-states and in the widespread (re)construction of identity on the basis of nationality, usually affirmed against the alien. There is a common problem that Eley and Suny (1996: 9) summarize as follows:

Most successful nationalisms presume some prior community of territory, language, or culture, which provide the raw material for the intellectual project of nationality. Yet, those prior communities should not be 'naturalized', as if they had always existed in some essential way, or have simply prefigured a history yet to come ... Culture is more often not what people share, but what they choose to fight over.

² There is a wide-spread agreement that the term "nation-state" evolved in the 19th century as a consequence of the French revolution and was transferred into the developing world after the de-colonization in the middle of the 20th century.

³ Critical voices like that of Larry Naylor (1996: 163) point out that international bodies such as the United Nations and the World Bank are involved in the design and implementation of cultural change worldwide in the name of development, human rights, and humanitarian aid. However, there is no willingness of the member states to lay aside their individual interests, but they see such organizations as forums to exchange ideas and reduce conflict.

Political power-brokers abuse culture by using it as a unifying instrument, while at the same time culture as an artificial construct creates borders that have never been there before. Contemporary nationalism may or may not be oriented toward the construction of a sovereign nation-state, and thus nations are, historically and analytically, entities independent from the state. According to Castells (1997: 31) nations are cultural communes constructed in people's minds and in collective memory by the sharing of history and political projects. In this regard a cultural nationalist sees the nation as a product of its unique history and culture, and as a collective solidarity endowed with unique attributes. The essence of a nation thus is the distinctiveness of the cultural community.⁴

When introducing globalization into the subject of identity and nationalism, it can produce a defensive reaction since collective meaning and solidarity are threatened and new cultural codes constructed out of historical materials are implemented. The formation of a actual virtuality of space is opposed by clinging to fundamental certainties such as religion, family and community. The exponential growth of the world's population, political struggles, economic challenges etc. lead to migration and to a mingling of various social and cultural groups. While on the one hand there is the scenario of world-culture and assimilation, on the other hand there is a unique tendency towards the formation of new identities and social expressions. In this regard especially the dialog between informed and less-informed countries obtains an important position.

Integration is another key-word which stands, other than nationalism, in a somewhat logical tension towards identity, since identity is rather a result of cleavages that run through society. Identity by nature forms antagonistic contrasts between inclusion and exclusion whereas integration is the attempt to overcome these contrasts on a higher level. Separation, the result of identity-formation, should be reduced or completely abolished through integration. Thus integration is basically opposing identity-formation – a process that of course has a high potential to create new identities.

⁴ One out of many examples where this is visible in practice would be Catalonia, a nation with a common language, culture, identification, within a state, but without a state of its own.

Tourism, Development and Invented Identity

One factor that influences changing identities, not only but especially so in less developed regions, is tourism. Tourism, often in combination with development cooperation, transfers images, signs, power and money. International tourism is an exchange system of vast proportions, with little respect for national boundaries. For ethnographers this means that there are few areas left that have not been in one way or the other become commercialized and marketed. Wherever the ethnographer goes, the tourist has been there already. There is a touristic thirst for the exotic and the unpolluted and in response travel literature promises untouched paradises with happy primitives leading a static, harmonious and well integrated life – a scenario that does not exist and has never existed in reality. This creates a paradox situation. While tourists are searching for the “honest” and “unspoiled” society, the locals see tourism as a tool for development, progress and access to a modern life. At the same time they pretend to preserve themselves and their culture to meet with the tourist image (Bruner 1994: 157ff).

Interesting examples for such, mainly tourism-motivated, revivals of historic-cultural values can be found in the architecture and city planning strategies of South-East-Asia. After decolonization the extreme ethnic, religious and linguistic plurality was bundled in Nation Building processes with the aim to install a higher construct of identity. Whereas economic modernization has long been the primary guideline of state policies, over the last years the focus shifted towards a stronger emphasis on cultural issues. These are economically rooted in the utilization of existing cultural monuments – and in the creation of new cultural monuments - for touristic purposes (see Böhme et al., *Dialog*, 1998: 4-7).

It is a schizophrenic development resulting in the establishment of “cultural whole sale stores” and in the prostitution of culture and identity in reverence of the cash-loaded tourism industry. Tourists are eager to experience the “Asian touch” within the architectural landscape, without demanding any authenticity. Today, Beijing for example is dominated by a series of international-style high-rise structures and multistory apartment buildings, almost uniformly topped with so-called “Chinese roofs”. Since the mid-1980s this neo-traditional architectural style has conquered the capital, and even Beijingers joke about these buildings which are said to be wearing “a Western dress with a Chinese hat”. At the same time the demolition of the traditional inner city and its famous narrow alleys continues and tourists are urged to visit the Old Beijing Panorama

Theme Park instead, a US-China joint venture outside Beijing, a replica of the Ming dynasty old city on a reduced scale. This reinvention of “tradition” is deprived of any symbolic power. It is reduced to mere visual components, expressing in no way the distinct spatial or technological principles of the former Chinese way of building. Does such an architecture still embody a Chinese identity? I would say that here we can speak more of a global identity spiced with a Chinese flavor (see also Broudehoux, *TDS WPS*, 1996).

Similar examples can be found in Malaysia. After independence in 1965, modernization was the focal point and the pre-colonial heritage was erased systematically. In May 1993 Kampong Wak Selat was the last indigenous settlement on the main island, was demolished. Erasure of memory on the one hand, invention of tradition on the other. In 1990 the Housing and Development Board designed a “typical” Malay Village in Geylang Serai, an idealized recreation of an indigenous kampong, without any inhabitants but with masses of tourists visiting daily. Reality is lost whereas the absolute fake is embraced – an irony that can only be explained with the hunger for modernization, for progress instead of maintenance, mixed with a certain nostalgia to the past (see also Powell, *TDS WPS*, 1996).

This situation is mirrored in the built environment. While locals are longing for concrete walls, tin roofs and “real” doors, tourists remain in a nostalgic desire for bamboo huts, thatched roofs, woven mats – while still demanding all the comfort they would have in their home country.

These expectations lead to a schizophrenic expression of architecture for both locals and tourists. Whereas it is true that tourists in some way contribute to the preservation of building technologies and materials, this has nothing to do with the preservation of culture. Even technologies and materials are most of the time not actually transformed, but altered in a way that is not much more than mere show – a painted facade with no structural honesty underneath. However, most tourists are more than willing to accept these illusions in order to remain in a state of narcotic dreaming with no necessity to face the many troubles that are in fact surrounding them.

As intellectuals, anthropologists and architects alike tend to denigrate tourism as commercial, inauthentic, and tacky. Both professions still face problems with their attitude towards tourism and tourist culture. Many anthropologists are involved in the tourist

business in one way or the other, but only a few mention it: too popular, too commercial, and not worthy of serious scholarship. To become involved in the tourist enterprise is considered as unprofessional in a certain sense. Ed Brunner (1994) is one of the few anthropologists who acted as a tour guide in Bali. He studied the expectations of tourists but also the reaction of the locals to tourism.⁵ He mentions the Balinese frog-fight as a cultural event that was invented for tourists and has only afterwards been integrated into the life of the locals. Now performed for example at weddings, it has become part of Balinese ritual.

Architects have similar problems than anthropologists regarding their relationship with tourists. Architects are constantly looking for the authentic, separating it from the faked structures tourists are perfectly happy with. Thus they like to keep their distance from regular tourist routes either in search for the genuine traditional or for new contemporary inventions that most tourists manage to ignore since this is not what they came for. During interviews among several tourists in Ladakh I was asking them about how they would like to house themselves if they lived in this region. The general undertone was that the house should “look” traditional Ladakhi, but that it should offer every comfort and all the hygiene facilities tourists are used to. There was no desire to experience the way Ladakhis live but a nostalgic romanticism for a superficial expression for what tourists think is Ladakhiness.

There is no way to ignore tourism as part of the cultural environment. Tourism not only shapes culture but is now often part of a culture. Balinese born since the 1930s have lived their entire lives as tourist objects, and in some areas, such as Batuan, any adequate ethnographic account of the Balinese economy or ritual would have integrate tourism (ibid.: 1994). It is time to realize that the touristy border-zone is a site of creative cultural production and invention of new identities worthy to investigate.

Directly interwoven with the tourist industry is outside intervention through development. People who are already in a stage of an identity-crisis, since they are constantly confronted with the image of the overwhelmingly rich and superior tourist, are further denounced by advisors and experts from self-proclaimed advanced civilizations. The sheer fact that their societies are portrayed as subjects to urgent development initia-

⁵ Brunner also recounts his meeting with Hildred Geertz - t h e Balinese ethnographer – who was quite dismayed to find him surrounded by tourists, a situation, most ethnographers would rather want to avoid.

tives loosens the ground for self-determination. In the name of economic and political progress it is argued that development is inevitable and compulsory. A philosophy expressed quite clearly in the words of former Vice-President Ali of The Sudan, who announced that „we will drive them to paradise with a stick if necessary!“ (quoted in Tucker 1997: 6).

For our Western world it seems to be extremely difficult to conceive of other, different world views as equally worthy of consideration, or of other ways of life as having equal value in providing fulfillment or satisfaction. Fundamental questions about the meaning of development, about the production of knowledge, about the dangers of intrusion on a broad scale, and about the influences on the cultural conglomerate and the self-proclaimed identity are usually ignored as a whole.

Development projects, in addition to tourism, open horizons which create new desires among the indigenous population. The longing for fulfillment of these desires is often expressed in status symbols and buildings offer a favorite facade for the expression of prestigious elements. This creation of new needs and desires is perpetuated within the region by the formation of new elites as the winners of the cash-economy. Through the increased exposure to a cash-oriented society traditional hierarchical family structures loosen up and family members are encouraged to make ties outside the immediate kinship group. In architecture and in society the facade, as a surface for the expression of status and self, gains more importance. Whereas a house is always a combination of an intimate interior and a public exterior, the exterior is what C. G. Jung would call the “persona” or “mask”. In a society where cash and belongings are major factors the facade is an expression to fulfil the needs of self-esteem and self-actualization. Paradoxically it is also a result of the cash-economy and the urbanization process that high-rise residential buildings occur, with their exteriors rather representing a “symbol of stereotype” than a “symbol of self”. During his field research in the Kandyan Highlands (Sri Lanka) James Dunkan (1989: 247) came to the conclusion that there is a logic to the link between individualism and materialism in general and in particular between individualism and the use of the home as a status object.⁶

⁶ Dunkan conducted his study of eighty city dwellers and sixty villagers in the Kandyan Highlands. He recognized a strong relationship between individualism and materialism, whereas the village sample was less individualistic and materialistic than the urban sample, and the lower classes were less so than the higher classes. He argues that there are different degrees of individualism or materialism related to urbanization and/or social class.

The logic is based on a common cross-cultural need to display one's identity to both oneself and others. Privacy, spatial orientation, and individuality obtain an importance that is clearly expressed in built structures. Ladakhi households now have different rooms for different activities, every household member wants an own, private room, while a separate room for receiving guests now is almost mandatory for a reasonable house. Mitchell and Bevan (1992: 51) tell about a similar development in Jordan where outside interaction has led to a clearly defined spatial separation. When the Jordanian government introduced a new settlement policy and relocated Bedouin nomads in newly-constructed villages, a changing approach of privacy could be observed, where high walls and separate entrances were constructed. In particular, many of the traditions of hospitality associated with the black tent were loosened.

This clearly expresses the importance of the role of housing projects, especially in connection with development aid, and the risks in terms of cultural circumstances and identity formation that are connected with such undertakings.

Identity Poured in Concrete

There is a dialectic relationship between built forms and collective identity. Architecture expresses how a culture conceives itself, it embodies its ideals and the way they should be perceived by others. On the one hand, because we all live in them, we hardly recognize and understand the symbolic meaning of houses, but on the other hand, due to their permanence and wide-spread presence, houses contribute to the formation of human subjectivity and cultural identity. In this function architecture takes on an active role which overcomes its image of a mere representation of social order or a mere environment in which social relations and actions take place. The relationship between the ethnic group and the dwelling is a very ambiguous one. Although the house acts like a particularly powerful sign of identity, it is also true that different populations can share the same settlement type or that one finds several types of domestic architecture within the same ethnic group. Such differences can be associated with social status or caste, and this expression of status is gaining new importance in a consumerist and cash-oriented world (see Toffin, *TDRS*, 1994).

The speed of change is causing a crisis of identity and architecture, regionally and internationally, has both enhanced this change and largely failed to help cultures redefine their identities. As an underlying reason I see the inability of the profession of architects

to deal with the progressively complex situation regarding the definition of individual and collective identity. But identity, as an increasingly important construct in an era of globalization, cannot be ignored in the study of traditional dwellings and settlements and in the design of new ones. Therefore, it is no longer enough to analyze the historic and regional specificity of a culture, but factors such as former colonization, the emergence as a nation state, and reinforced transnational contacts have to be considered. Identity-constructing elements such as language, history, religion and family have been handed down in a process that is normally referred to as “tradition” (see next chapter). Tradition therefore is a definer of identity, but dealing with tradition, especially in an architect’s environment, is seen as dangerously close to backwardness and lack of innovation. This deeply rooted fear drives architects into a direction that ignores tradition as a whole (Al Sayyad, *TDSR*, 1995: 14).

Nevertheless, if architecture is to play a role in the discussion about identity, architects need to develop a richer understanding of whom architecture represents.

Architecture under Anthropological Perspectives

The term “tradition” is frequently associated with an old-fashioned, backward looking stance and it is also confused with nostalgia. This misinterpretation also affects architects who put their emphasis on the study of so-called vernacular, indigenous or traditional designs. At the same time, it is this „architecture without architects“ which is most interesting for anthropologists since it expresses a lot about the cultural background of the people who built it. Myth, ritual and symbolism have always played and still play an important role in architecture. Dealing with these circumstances has nothing to do with the neglect of new forms of building, using contemporary materials or high-tech methods where appropriate. On the contrary, it is now more important than ever to find out about the wants and needs of people. Alongside the rising mutual influence of cultures it is essential to make adaptations to new and more advanced conditions of life as favorable and successful as possible, so that they become a positive experience for the people who have to face them. In this respect I find it important to depart from the notion of “traditional architecture” as a point of reference, since tradition is but one process out of the manifold conglomerate that shaping a cultural environment. I suggest to approach the notion of a “cultural architecture” in a contemporary sense, meaning that the current cultural interrelation of the inhabitants with their environment should be incorporated into the planning and design process.

In this chapter I will deal with the difficult task of the internationally working architect to get to know the people s/he is supposed to design for. I find it important to place the human being into the center of every design process by examining the cultural, social, spiritual, and ideological backgrounds - which is best done through an anthropological point of view. Here, the paths of architecture and anthropology cross at various levels and can contribute to a mutual understanding. A short review will reflect the way architectural theory has dealt with the human being throughout its history. Considering the importance of the human body in architecture, from Vitruv to Le Corbusier, I will argue that it is important to place the actual biological human body within its more abstract cultural surroundings.

A global world needs a holistic approach which at the same time does not restrict variety. Above all it has to be an approach without separation into a developed and a developing world. Architecture nowadays means diversity based on a common ground.

That common ground is formed by the people, who will always be the focal point of every design. Anthropology can contribute a lot in understanding the need for this common ground and it can offer solutions to build on.

About “Tradition”

*"All is as it should be", says one of the beings. "Nothing is complete", returns the other; "look at those creatures below this mountain, whom we see assembling, then disbursing, looking about, and betaking themselves to shelter" (from the Prologue to *The Habitation of Man in All Ages* by Viollet-le-Duc, translated by Benjamin Bucknall, 1876)*

Tradition is an unconscious collective process. It is an accumulated understanding of a cultural phenomenon. One important factor in dealing with tradition is the aspect of “transmission”. The transmissible parts of the people’s action are the key-elements of the behavior that would be classified as traditional.

Tradition is rooted in culture. Culture has been rooted in place. Whereas the connection of tradition with culture is obvious, the connection of culture to place is not anymore so. In the 1940s Malinowski (1944/60) talked about human beings who share traditional values and who stand in definite relation to one another and to a specific physical part of the environment, natural and artificial. This relation to the physical part of the environment has long gotten loose. How to react to this unprecedented overlay of traditions in a discipline like anthropology? In the eyes of Marilyn Strathern (1994: 213) intensive ethnography must be an ethnography of conjunctures, moving between cultures, a cosmopolitan practice participating in a general hybridization. This hybridization causes an emergence of indifference towards traditional customs and values leading also to a rapid transformation of the physical built environment. In architecture, traditional solutions are often confused with the term “backward”, the “ignorance of progress”. I do not go agree with this silent agreement among young architects. Of course, traditional solutions must be seen as satisfactory only within the limits of the technology available at the time. But there is no way to completely ignore the past. This impossibility can best be expressed with Carlos Fuente’s words: "If we are ignorant of the past, we will be obliged to declare that everything durable in our societies was constructed by ghosts; and consequently we ourselves are nothing more than the souls of the departed. Without the culture of tradition we would not have the tradition of culture. We would be orphans of the imagination" (quoted in Jencks 1993: 120).

In architecture the titles given to all kinds of architectural forms related to tradition and culture in one way or the other are numerous: Vernacular architecture, traditional architecture, indigenous architecture, primitive architecture, anonymous architecture However, not much has changed until Bernard Rudofsky stated in his famous *Architecture without Architects* that "... the philosophy and know-how of the anonymous builder is the greatest untouched source of architectonic stimulus for the industrial Man" (1964/93; NB: translated by the author). Although the book has stimulated a renewed interest in the topic which has since become somewhat popularized, the direct benefit that Rudofsky proclaimed to be drawn from it in relation to contemporary built form has not yet materialized.

Authors such as Rapaport (1969) and Oliver (1969) have defined various factors dealing with traditional housing forms and have contributed to a better understanding of the changes that occurred in the built environment. Especially during recent times, which are marked by much more rapid and disjointed processes compared to the slow evolution of form characteristic for traditional housing, the relevance of tradition is questioned. The fortunes of empires and cultures have risen and fallen and abrupt changes have occurred throughout history. Following this line of reasoning builders like Mitchell and Bevan (1992: 12) doubt the role of tradition as a reliable repository of essential knowledge. It is much more a fact that "traditional dwellings and settlements" are still being interpreted by many as belonging to "the other", typically associated with the non-Western world.

According to Webster's Unabridged Third International Dictionary (Chicago 1966: 2544) "vernacular" means "home made" or "home born" in Latin. According to Rudofsky, "vernacular architecture does not go through fashion cycles. It is nearly immutable, indeed unimprovable since it serves its purpose to perfection" (1964/93; NB: translated by the author). Vernacular houses are usually seen as houses without architects, and without qualified labor. However, this statement is not true even in its narrow sense: most so-called traditional societies prepare competent professionals and the building process is a well-prepared one.¹

¹ In India and Nepal religious ideas and models drawn from the normative texts of classical Indian architecture, that was more concerned with explaining of how to build on a specific site rather than in explaining the construction process, reached even the most remote villages. Carpenters and joiners from the towns came to the villages to train craftsmen and erected some of the most important buildings themselves (Toffin, *TDSR*, 1994: 17).

Today vernacular architecture in many parts of the world cannot be referred to as indigenous, since it relies on imported materials to achieve local styles. Thus, the study of those dwellings and settlements whose form originated out of cultural processes rather than out of specialized aesthetic judgments is an open and irrevocably interdisciplinary arena (see Boudier and Al Sayyad 1989).

Tradition versus Progress

Change is ubiquitous as a matter of progress, whereas tradition is the safeguard for a certain continuity among change. Under this perspective architecture is part of this safeguard that guarantees an identifiable environment, since tradition, as a socio-cultural aspect, is key to the question of identity. Strong disruptions in tradition have serious implications on architecture. New polarities occur between art and craft, form and function, aesthetics and utility. In traditional societies there was no clear distinction between art and architecture or art and craft. Now, together with the obsession with the modern Western paradigm of science and progress, new definitions and separations of once unified entities are more common and create the danger of the loss of cultural identity (Helmy, *TDSR WPS*, 1994: 39).

It is clear that architects must be aware of the cultural traits of a society and its significant role in the built environment. However, the ego of the architect often goes into an other direction, placing the desire for “novelty” above everything else. The sheer appearance of the architect on the building scene seems paradoxical in relation to tradition. According to Paul Ricoeur (1988) traditionalism is no longer truly traditionalism as soon as it becomes self-conscious.

Architects are dreaming of the “construction of progress” in order to come ever closer to the solving of all (technical) problems and provide for a long-time happy and carefree future. But maybe the many architects, who place progress above everything else, should sometimes think of Nestroy who satirically stated that it was characteristic for progress that it looks bigger first than it actually is afterwards ... (Guggenberger 1993: 43). There is a gulf between the designing architect’s notion of creating an “art object” and the client’s notion of “self-expression”.

However strong the desire for an individualistic statement among the designer might be - the design has to be based on a careful process of analysis that relates the result to a particular society and allows the architect a realistic interpretation of the society's needs. Otherwise there will be continuous conflict between alienation and identity.

Odo Marquard (1993) claims that someone who wants to talk about progress also has to talk about preservation. At the same time he argues that in our modern world preservation is placed mainly outside the borders of this modern world. Only the worlds outside of those experiencing progress are traditional worlds, whereas the modern world is exclusively a world of progress and innovation. Marquard dates the beginning of the occurrence of a more and more progress-oriented society back to the middle of the 18th century. Proponents of progress won't see that in this modern world preservation is needed as well, whereas the enemies of progress won't see that even in this modern world preservation is present. Progress has to be preserved, otherwise we would have constantly to start from the beginning and would never achieve progress: therefore, progress needs preservation.²

Today, more than ever, we live in a throw-away society, but at the same time old things are respectfully kept and preserved. The era of garbage-dumps is also the era of preservation-dumps, museums, natural preserves, cultural heritage areas, listed buildings, ecology, etc. (ibid.: 1993: 31). These forms of preservation tend to go into an odd direction since it is the old look that sometimes overtakes the actual antiquity. Preserving the old look paradoxically wrests the artifact and even architecture from the dynamics of aging, of having been young and being able to get old. It freezes the animation of time in a set of arbitrary, individualized frames. It is even more paradoxical to create an image of oldness and to cut out the identity shaping tribulations of birth, infancy, adolescence and maturity to adulthood. There seems to be no time anymore for something to assume its identity, its place and its significance in a community (Knights, *TDSR WPS*, 1996: 34). But this is exactly what tradition is made of: a slow process of adaptation. As a compromise for observing tradition under contemporary perspectives the idea of "transformation" can offer a solution as an alternative to the double-edged constricting influence of preservation.

² Marquard (1993: 29) talks about a certain continuity that is important for children and adults alike. Children will like to own a teddy-bear in their first years, as their parents and grandparents had a teddy-bear when they were in their age, some adults will always like to be accompanied by some classic literature, Goethe, Habermas, that they trust and believe in etc.

After all we are historical beings, and, as Gadamer (1975) suggests, understanding the past cannot be divorced from the project of understanding the present.

We are heirs and innovators at the same time. This is a fact that no architect can deny. The difficulty is that architects/planners are sometimes heirs of a completely different history than the clients they build for. If this is the case, there is a tendency to ignore the past as a whole – which is a severe mistake, since no real progress within continuity will be possible. The past is a non-ignorable participant in the present, or, as Paul Ricoeur (1988: 220) puts it: “ ... The past is revealed to us through the projection of an historical horizon that is both detached from the horizon of the present and taken up into and fused with it”.

Change, Confusion and Conservation

The contemporary approach towards tradition and its integration into the built form is somewhat problematic since it easily leads towards pseudo-traditional and –cultural outgrowth, artificial constructs that cause more damage than good.

According to Helmy (*TDRS WPS*, 1994: 38) there are three major attitudes to recapture tradition and lost identity in buildings: first, the imitative attitude, which produces expensive marble and concrete imitations of several historical traditions; second, vaguely known as vernacular, which uses local material and traditional craftsmanship; and third, formal eclecticism, which chooses from the past according to contemporary visual interpretations of the past. In order to demonstrate the wide-spread confusion in the discipline of architecture in its approach towards tradition I will discuss a few significant examples from neighboring countries of Ladakh:

The architectural discourse in China, for example, exhibits a very strong dependence on stylistic features which are in many ways comparable to 19th-century European eclectic models. Each building type is assigned an appropriate style - Russian classical for government buildings, Chinese classical for cultural institutions and gardens, Chinese vernacular for tourist facilities, traditional building styles of national minorities for projects in areas of those minorities, 1930s modern for mass housing and utilitarian buildings, and current Western fashions (e.g. postmodernism and deconstructivism) for buildings with "modern" functions or locations, such as high-rise commercial buildings in non-historical locations (Miao, *Architecture California*, 1995: 29).

The reason for this phenomenon is clearly rooted in Chinese history, the communist take-over in 1949 and the Cultural Revolution 1966-77. Unity and cultural identification needed to be constructed anew and due to a sudden lack of continuity in the natural traditional development, various architectural traditions were “borrowed” and abused.

A similar process can be observed in Lhasa (Tibet) where only very little of the Tibetan building tradition is left. Lhasa is one very significant example where political changes and accompanying conscious changes in identity-formation caused a complete reformation of the physical environment. Whereas a few symbolic buildings, e.g. the Potala Palace, Norbulinka Palace, the La Khang and a few monasteries have been preserved or to a large part built up anew, mainly for tourism purpose, most living quarters have been completely destroyed, new broad streets and elaborate squares have taken their place and extremely monotonous concrete structures such as shops and multi-family homes have come up everywhere. The example of Lhasa clearly shows how the physical environment can be a tool for identity destruction and a new identity is shaped by the changing physical environment.

Fig.8
*Lhasa: river regulation
and new shop
construction*

Fig.9
*Lhasa: view from
potala palace*



In contrast to the example of Lhasa, maybe the most radical traditionalistic policy regarding the built environment that is in action today is the one of Buthan. The building regulations in Buthan actually stipulates that a built structure has “to look traditional Buthanese style” (Bruskland Amundsen, *TDS WPS*, 1994) – whereby the focus should be placed on the word “look”. There is no requirement for real authenticity and thus the policy is leading to some very curious imitations of what is perceived as “tradition”, with both functional, technical and formal absurdities. So what is actually achieved? Most people in Buthan say that they would rather like to live in a “modern” house.³

³ The expectations of the people regarding housing were analyzed in a field study by the Norwegian architect Ingun Bruskland Amundsen.

Would they thereby lose their culture? Does it make sense to preserve beautiful artefacts when while killing the process that lies behind them? Can consistency and preservation ever be seen as creative, living culture? With new building materials entering the country the beautiful, rammed earth buildings are now seen as “backward” and “primitive” by the population. It is therefore certainly no solution to completely work against progress. However, it might be a possibility to slow down the development process in order to avoid the severe damages and confusions that overnight changes have caused in neighboring countries like Nepal or Tibet.



Fig. 10
*Bhutan: Townscape
of Ura Village*

Lhasa and Timpu (Bhutan) can be seen as two extremes: whereas in Lhasa the complete destruction of traditional settlement patterns destroyed large parts of the Tibetan cultural heritage and traditions, in Timpu the desperate clinging to traditional forms as a means to preserve the cultural heritage disrupts the natural process of cultural development and places it into an exhibition box. In Lhasa, the traditional environment is still in the minds of the builders – but it has been forcibly destroyed. In Timpu, the traditional environment is still there, at least up to a certain degree, but such an environment is not in the minds of the builders anymore.

Whereas I consider the continuity of cultural development as extremely important for the well-being of a people one has to distinguish between nostalgic glances into the past and modern, scientific, ecological and economic advantages and progress, which leads to a new sense of meaning. It has to be recognized that the processes that lie behind the evolution of the built environment are most important – more important than the actual results. A policy of conservation and holding on to past or existing structures interrupts and kills such processes and forces a living culture to stagnate. A painter will admire an impressionistic painting, he might even copy it to learn its technique – but he will always aim to benefit from it, to go into a new direction, to proceed. It is the task of the architect to keep this inner dynamic alive and not to work against it (ibid.: 1994: 12).

Although the Buthanese government tries to avoid the strong influence from the outside world by all means, through restrictions and decrees, precisely this notion of preservation is an imported concept of its own. Preservation does not at all go conform with the Buddhist philosophy that can be sensed in every part of Buthanese life. In the Buddhist tradition life is a constant circle of production and decay, a permanent cycle with no beginning and no end, an infinite process that continues long after ones life has ended. This is also manifested in the built environment, where materials like mud or wood are finite by nature and cause a permanent process of decay and renewal. The desire to preserve things is a purely Western construct and has nothing to do with Buddhist tradition. There is a strong tension between traditionalism and conservation. Our fast-changing Western life-style has paradoxically caused an almost desperate desire to conserve things, to create antiquarian settings of important monuments and freeze them in a particular historical period. Such buildings are no living structures anymore but static sculptures, dead artefacts, kept eternally alive by wealthy people's donations. In Buthan, only spirituality has been eternal so far, not buildings (see *ibid.*: 1994: 14).

I think that with the introduction of new materials and techniques architecture changes automatically, this being a very logical and natural process. Every material has its own nature and is therefore used in a different way. But there is a good chance that architecture can change in a very positive way, being more comfortable and more stable while still making a very satisfactory aesthetic impression. In my consideration there are two possible solutions for problems that cause tensions between the traditional and the new as they occur in Buthan: One can renovate a monastery according to its original looks using the traditional building methods and materials. The monastery would become a historic monument which would preserve the skills of certain times for future generations. The second approach, which is at least as legitimate as the first, is to use modern construction methods and new materials as well, with the objective to optimize the quality of the building for the user. The newly built monastery of the Dalai Lama in Dharamsala can be cited as a fairly good example of that approach. With almost no decoration the spaces are much more open than in traditional structures, creating a more luminous and inviting prayer hall. Floor-to-ceiling windows allow the audience to take part in the ceremony from the outside and sheltered outdoor spaces promote the assembling of a large crowd of worshippers. The building is made out of concrete which was processed in a sufficiently qualitative way, new techniques allowing for large covered spaces without blocking the sight through structural elements. Still the complex was laid out according to Buddhist principals and its function as a Buddhist build-

ing can clearly be seen. It is an honest structure using modern material for a modern building with many benefits in terms of comfort.

If this form of “transformation” were to be further suppressed, there is a great danger that the lively and rich Tibetan building tradition would be limited to a pure “style” and would have no chance of surviving as an evolving vernacular tradition. Combining building traditions with progressive building methods is a sensitive task. The recent tendency to give the structure the shape of a *mandala* in plan (see e.g. description of a school in Shey, p 292 in this volume) does far not at all mean that it has been built according to Buddhist traditions. While most monasteries used to show a highly developed relationship between the pragmatic and the symbolic, new copies often try to achieve the same result with purely decorative elements which cannot at all cope with the original meaning and intention. In the end such buildings hardly seem to be more than a caricature of the old structures.



Fig. 11
Delhi: Chattarpur Temple



Fig. 12
Santa Fe/NM: the concrete structure of this administrative building imitates the appearance of a traditional adobe house



Fig. 13
Leh/Ladakh: residential home with window decoration of prefabricated concrete elements

One phenomenon that can be observed all over the world is the “building of tradition” with contemporary building materials. Traditional forms are imitated as precisely as possible using new materials and technologies. This is true for religious buildings (Fig. 11), public buildings (Fig. 12) as well as for residential homes (Fig. 13). The architect freely chooses the form from whatever period seems suitable to him/her, pre-colonial, pre-modern, pre-Western etc., and sometimes images of different periods are conjured up in a pastiche of architectural elements. Like in a Lego set forms are freely played around with – no trouble, since everything is poured into concrete and there are no restrictions imposed by the material. There is a strong tendency, especially but not only, in developing countries, to adopt any modern building material but at the same time these materials are filled with pre-modern authenticity.

In my opinion everything that is built new, because a new structure or an addition to the old structure is needed, has to work with the possibilities available at the particular time. If new materials and building techniques have been introduced it does not make sense to ignore them – on the other hand it does not make sense to adopt them in a non-reflective manner. One very good contribution to this debate which seems to offer a satisfying solution is the Patan Museum in Nepal which was reconstructed by the Austrian architect Götz Hagmüller (Fig. 14). Instead of attempting a historical reconstruction of this important cultural element, a former palace, Hagmüller boldly strode into the project questioning the very basis of historical reconstruction in a manner that hid the modern interventions. He designed the replacement of the collapsed wing as a contemporary act of architecture using concrete and steel.

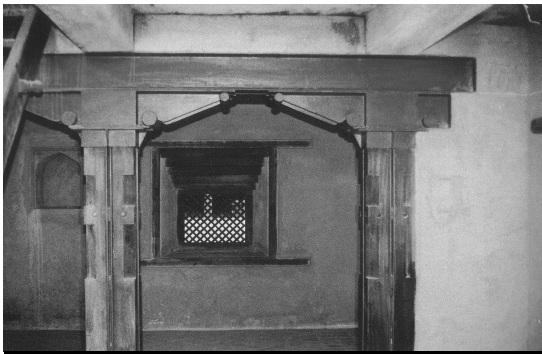


Fig. 14
*Patan Museum, Nepal. Architect: Götz Hagmüller.
Columns and beams designed in steel and wood*

While his would be nothing new in the Western notion of restoration, Hagmülle, however, did not do it in the aesthetic of modernism: He unified the aesthetic of the past and the present creating steel columns in the form of the traditional timber ones. Modern technology is clearly expressed but one can still feel the aesthetic of a Patan historical building (see Koshla 1997: 64 ff). It is a way of harmonizing the benefits and disadvantages that innovations hold in stock and only skillful balancing will bring about a successful result.

Architects beyond Tradition

A lot has been written about Western architects interfering in developing countries and the excitement that is created by buildings bearing the promise of leading into an advanced and better future. Such intrusions can be very problematic, often initiated out of a purely economic interest without any commitment to the particular country in question. However, there are some foreign architects who very much engage in the affairs of the country they build in and who at least try to gain an understanding of it. In this

case an unbiased view from outside has the potential to recognize problematic developments and to contribute to a positive change. Certainly, copies of foreign architectural models do occur more often than not, but copying is no *tabu* for creative professions – it is one legitimate way to search for solutions as long as it is critically reflected. In order to demonstrate the complex and manifold ways of how designing architects deal with tradition in modern society and how they are influenced by their own cultural background, I would like to refer to some examples of

- a) Western educated architects from developing countries who build in developing countries
- b) Architects from Western countries who build in developing countries

ad a): A country with numerous high-quality architects dealing in more or less traditional environments is India. The transformation from the traditional to the modern can best be expressed by the works of Charles Correa.⁴ Although Correa never imitates the past, it is essential to understand the traditional architecture of India in order to understand his work. As an Indian architect trained in the U.S., he has rarely been tempted to import Western ideas to India.

Rather he uses new technologies to reinterpret traditional Indian elements, like the *chhatra* (umbrella), an overhead canopy extensively used in Indian buildings. The Gandhi Memorial Museum, a box-like structure with a veranda, a courtyard, pergola and trees, is a deeply traditional architecture which wears its past as easily as a woman drapes her *sari*. Correa himself states that “the old architecture - especially the vernacular - has much to teach us as it always develops a typology of fundamental common sense” (quoted in Khan 1987: 172).

⁴ Charles Correa was born 1930 in Goa but lived most of his life in Bombay where he still runs an office today. During his Master studies at MIT (1953-55) he was taught by Buckminster Fuller, who is still a close friend. Correa was engaged as a consultant to the U.N. Secretary-General for UNCHS-Habitat.



Fig. 15 _____
Charles Correa: *Jawahar Kala Kendra, Jaipur*

Fig. 16 _____
Charles Correa: *Incremental Housing at Belapur, New Bombay*

Ahmedabad-based Indian architect Balkrishna Doshi does not have a line which is that clear. Although inspired by traditional forms of buildings, sometimes it is the experiment with the completely new that challenges him. Doshi's proposal for Vidyadhar Nagar, an extension to the city of Jaipur, is clearly inspired by the old Jaipur which was founded two hundred years ago, with the plan based on the *Vastu Purusha Mandala* (Fig. 17). At the same time he adopts modern planning principles, such as those put forth by Le Corbusier and develops forms that can only be seen as purely experimental (Fig. 18).



Fig. 17 _____
Balkrishna Doshi: *Vidyadhar Nagar, Jaipur, model*

Fig. 18 _____
Balkrishna Doshi: *Husain-Doshi Gufa, Ahmedabad, office of the architect*

Raj Rewal, one of the intellectuals of Indian architects, has drawn on the traditional morphology of Rajasthan's cities for his housing scheme. In his Asian Games Village of five hundred housing units in New Delhi he tried to avoid the sterile patterns of housing based on endless repetition, favored by contemporary engineers, and to produce a sense of movement, respecting the identity of spaces as characteristics for North-Indian towns. A similar approach on a smaller scale is visible at the National Institute of Immunology, New Delhi, which is clearly influenced by the *havelis*. Although there are some traditional planning principles the inspiration from the past is reinterpreted in

terms of rational structures, modern techniques, and new building materials, to meet practical realities (Rewal 1995: 52 ff).



Fig. 19
Raj Rewal, Asian Games Village, New Delhi

Fig. 20
Raj Rewal, National Institute of Immunology housing units, New Delhi

Egyptian architect Hassan Fathy has the aura of a guru for architects who build in developing countries, even though his most popular project, New Gournia (1948), a sort of modern rural village in Egypt, has never been a success in the opinion of its inhabitants. Rather, the success story has been an invention of Western architects who, once more, were much more concerned with style and form than the satisfaction of the people who live in the village. However, Fathy has brought up the issue of tradition in connection with identity and in this regard he has influenced many of his colleagues in a positive way.



Fig. 21
Hassan Fathy, New Gournia, near Luxor, Egypt, 1948

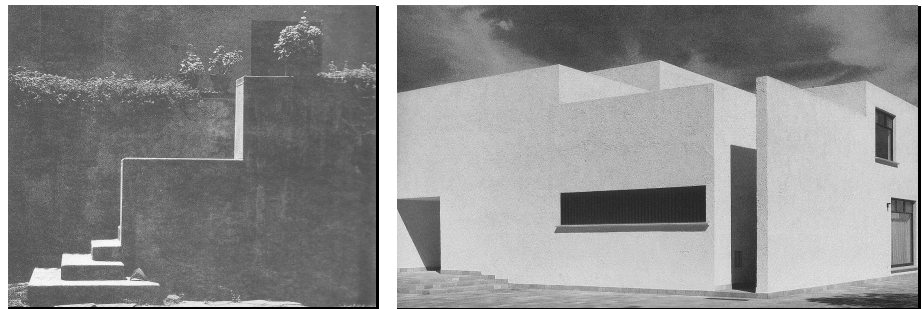
On the other side of the world I would like to draw attention to Luis Barragán's work in Mexico. Luis Barragán (1902-1988), a Mexican architect, lived in Paris for quite some time where he also met Le Corbusier, and then practiced in Mexico until his death. Barragán has had a profound influence not only on three generations of Mexican architects, but on many more throughout the world. Barragán's architecture is very much connected to culture and myth and the religious experience is important in his works. He considers the irrational logic harbored in the myths and in all true religious experiences as the foundation of all artistic projects. When he talks of beauty he compares it to mystery or to an oracle that speaks in a number of ways.

The choice of a seashell necklace, the use of tatoos or even the ornamentation of everyday tools – beauty is surrounding us and has always been present.

Barragan's work is deeply rooted in the rural Mexican way of live. He was born and raised on a ranch, and, although he always strived to adapt to the needs of modern living, the magic of these elements of Mexican life can clearly be felt. The lessons that he learned from the unassuming architecture of the villages and provincial towns of his country have been a permanent source of inspiration: The whitewashed walls, the peace to be found in patios and orchards, the colorful streets, the humble majesty of the village squares surrounded by shady open corridors (e.g. Rispa 1995).

Fig. 22
*Luis Barragan,
stair detail*

Fig. 23
*Luis Barragan,
Casa Folke E-
gerstrom, Los
Clubes, 1967/68*



ad b): The architecture created by Western architects in developing countries has a strong emphasis on representative buildings, public houses, and other rather monumental structures. Interesting examples of Western architects involved in projects of every scale, from city planning to public buildings and residential homes, are Louis Kahn and also Le Corbusier, with his allies Pierre Jeanerette, Jane Drew, and Maxwell Fry. Le Corbusier's and Louis Kahn's work in India is seen as *the* example of Western intervention in an unknown cultural background. It has been a source of inspiration for a generation of architects.

Whereas Kahn very much sticks to the archetypes of basic forms which enable him to understand the deep fundamentals of local tradition, speculations of how familiar Le Corbusier was with the living situation and cultural circumstances in India are a never ending source of discussion. It is clear that Le Corbusier extracted many ideas from traditional Indian buildings with their loggias, pavilions, airy halls, verandahs etc., and also from the overwhelming temples and mosques. His approach was not to mimic, but rather to absorb and to re-create in a different context. However, in the case of Le Corbusier, this can be seen as an input to his personal development as an architect as

a whole, since he did not implement such features in the Indian cultural context alone. If one compares his Millowners Association Building in Ahmedabad of 1954 and the Carpenter Center for the Arts in Cambridge/Massachusetts of 1965 these two public buildings are clearly interrelated in their spatial order, their formal expression, and in their construction, although they were erected in completely different cultural environments. This similarity raises doubts if what he built in India has a demand of relating to the “Indian” or if it is just an interpretation of new ideas that influenced a genius’ work. Although Le Corbusier probably never knew the circumstances of living in India well enough to build for the people who would live in his houses, in their appearance they very clearly express the influence of the environment.

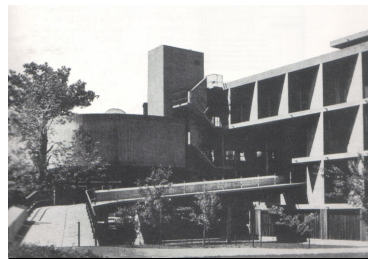
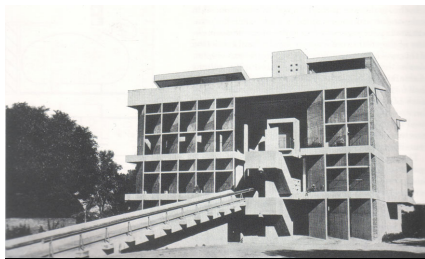


Fig. 24
Le Corbusier, *Millowners Association Building*, Ahmedabad, 1954

Fig. 25
Le Corbusier, *Carpenter Center*, Massachusetts, 1965

The situation in India today is problematic, since the lack of a wide-spread qualitative leadership in architecture has given rise to a breed of professionals whose main interest revolves around the estate developer’s needs. This has led to the concentration on building for an elite group which responds to an alien kind of modernity. The dynamic design process is lost and the physical character of modernist design has been repeated without hesitation as seemingly the only solution (see Doshi 1997: 18).

What happens when a Western architecture-tycoon like Renzo Piano builds in New Caledonia? The circumstances are somewhat bizarre: On the way to independence from the colonial presence of France, local administrations insisted on the construction of a Cultural Center dedicated to the Kanak people. In the course of an international competition in 1991 it seemed paradoxical that the large Paris-based architectural office of Piano was chosen to build such a center. The spectacular Centre Culturel J.M. Tjibaou⁵ now dominates a peninsula about ten kilometers north of the capital Nouméa.

⁵ The center is called after the charismatic Kanak independent fighter Jean-Marie Tjibaou who was murdered in 1989.

The center developed in the tension between the longing for (cultural) independence and the reality of the presence of the European colonial power on the one hand, and the tension between the vocabulary of tradition and progress on the other hand.

It is interesting to note that in this project the anthropologist Alban Bensa had the function as a translator between the cultures, respectively the architect and the people.⁶ The architect's solution for the dilemma of combining the perfection of high-tech methods with the indigenous hut is quite intriguing: He gives the buildings the impression of being unfinished – as a metaphor for the living, active and progressing culture of the Kanaks. The natural system of wind circulation in Kanak architecture was transformed into a high-tech ventilation system which was calculated by computer models and tested in the wind channel. Piano was not only influenced by the construction methods of traditional huts but tried to go beyond this by creating a similar atmosphere to Kanak villages. For example the sound, that is created by the circulation of air through the louvers, is very typical in New Caledonian villages (Leeb, *architektur*, 1998: 25).

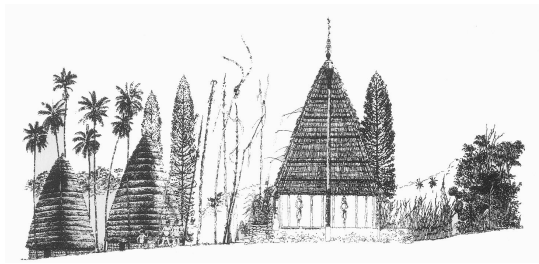


Fig. 26
Traditional architectural forms in New Caledonia

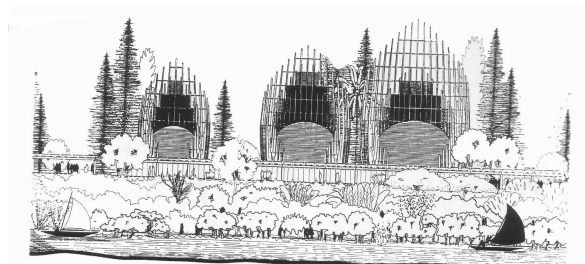


Fig. 27
Renzo Piano, Centre Culturel J.M. Tjibaou (CCT) in Nouméa, New Caledonia, finished in 1998

The whole project is a clear invasion from outside and, although it relates to indigenous building traditions, it does in no way try to hide it. This is what in my conception makes this project a remarkable one.

Having provided several, albeit rather condensed, insight in the problematic of building in cultures different from our US-European one I only want to mention one impressive example of the converse process: the Institute du Monde Arab of Jean Nouvel in Paris. This building shows that there is an equally complex procedure going on if a group of

⁶ Renzo Piano calls his structures “huts”, ostentatively showing the connection with the indigenous buildings by choosing this term, although his “huts” - neither in size nor in their whole significance - do have nothing in common with what someone would imagine when talking of a hut.

people from another cultural background wants to express its identity through a building in the heart of Europe.

Confronted with the task to build a center for the Arab world, Nouvel draws on the “other” but reduces it in such a strong way that it tends to become the “same”. He makes explicit reference to the traditional *mushrabiyya* in the high-tech screen wall on the south end of the Arab Institute, and he reproduces something like an Arabian enclosed court at the deepest point in the plan (Biln 1997: 29). But instead of naively constructing something more literally “Arab” and “other”, Nouvel produces a dichotomy that is at once an inscription of the same and a knowing critique of that same inscription.

These few examples should project a notion for the complexity of dealing with tradition and culture in architecture. Today I see the role of tradition in the process of design rooted in the strong need to develop a more sophisticated understanding of the relationship between cultural values and people’s well being, where religion, ritual and world view play a central role in this relationship. Architecture still, and especially today, needs to be a physical manifestation of these cultural rituals. Spiritual space seems to retain importance in a society that becomes more and more information based and where actual place is substituted by virtual space. It is a spiritual space that calls for authentic visible symbols which will always have their roots in some sort of tradition. In this respect relating architecture to tradition tells us something about the extent to which architecture satisfies or disappoints an array of cultural expectations.

It is not true that tradition restricts the freedom of creativity for the architect. The involvement of the people’s traditions, which are often arrogantly seen as an unnecessary burden and restriction, can make the decision making process far more rich and more diverse. It is hazardous to constantly separate architecture from the history and values of the community it is built for. In this way architecture becomes marginalized and at the same time the role of the architect is not a satisfactory one anymore. As architects who are engaged in building processes in countries with a rich cultural heritage (this can of course also be Western countries) we have not only the responsibility to act as modern building professionals. We are playing the role of a master builder who has to understand the values and importance of the traditional, including the rituals and the symbolic meaning, not only of the building itself but also of the whole process. Dealing with tradition offers a base in the search for solutions of how to respond to a given situation.

In this current era, sudden changes tend to disrupt the passing on of traditions, leading to cultural confusion and sometimes to the complete destruction of social orders. It can be compared to the situation of our natural environment, where the massive intrusion of the human being does not give nature enough time to adapt to the changing situation. Devastative environmental damages occur which are in many ways irreversible. In this case it does not make sense looking backwards and trying to find solutions in the past. Solutions can only be found by looking ahead and by trying to find ways for a sustainable future. Nostalgia will not offer any way out. But progress also means sacrifice and there is no use to bark up an old tree. It makes much more sense to plant new ones that are of the same branch.

Anthropology and Architecture

The people who make things look down on those who think - and, of course, those who think look down on those who make.

(Stanley Tigerman, *Architecture*, 1996: 91)

This statement of Stanley Tigerman expresses in a few words the difficulty to interrelate disciplines like architecture and anthropology. Architecture is precariously balanced somewhere between art and science, whereas anthropology is placed much more on an intellectual and humanistic level. There is, as yet, no clear concept of bridging the two, but linking architecture and anthropology has great potential to create a mutual in-depth view. Architects should become engaged in the cultural aspects of society whereas anthropologists would do well to consider the attention paid by architects to the technical aspects of dwellings. One reason for the lack of cooperation might be the difficulty of a common terminology. Architects have a rather different approach towards the house than anthropologists. Above all, architects are practitioners whereas anthropologists are mainly intellectual theorists. As the sociologist Anthony King (1990: 397) once stated: "Architects and urban designers have to design buildings and cities (or parts of them) in a way that sociologists do not have to design societies". The same could be said for anthropologists.

However, dwellings give an immediate insight into the way cultures distinguish themselves, organize their systems of hierarchy, and express their identity and innermost way of thinking. The extremely varied conceptions of space are mirrored in the dwelling and must be understood in their relationship to other aspects of social life. The built world is not only a matter of shapes, volumes, tools and know-how, but also of sociological and symbolic content. The ideal is interconnected with the material, the symbolic with the technical. From this perspective it should not be unusual to examine dwellings and settlements under the double scrutiny of the anthropologist and the architect. While so far there has not been much engagement from either side, the interest in trespassing disciplines seems to be more popular among architects than among anthropological researchers. When we look at universities worldwide there is no leading chair in the human sciences that deals with this combination. It is only in the fields of city planners and urban studies that some exchange with social scientists has been established recently.

Besides their function as shelter and place of living, built structures have to provide a variety of social, religious and economic services that must be of equal concern for the architect. On the other hand, for the anthropologist the built environment is certainly *the* one part of the material culture which is most interrelated with social life, since it provides the spatial organization for a community which can divide or connect social groups. Living habits, religion and myths all are mirrored in the physical form of a building. Or as Christian Norberg-Schultz expresses it: "Existential meanings are derived from natural, human and spiritual phenomena, and are experienced as order and character. Architecture translates these meanings into spatial form" (1975: 5).

Anthropology? What is it?

When I started relating architecture to anthropology I was often asked by colleagues: What exactly is anthropology? Can you really make any relation between the two disciplines? Therefore the following problems have to be approached: How can anthropology be described? How can its useful relationship with architecture be explained? If we want architects to start dealing with anthropology, the discipline first of all has to be defined – which is not an easy task since the most intriguing characteristic of this field is its diversity. Clifford Geertz observed very pointedly that "One of the advantages of anthropology as a scholarly enterprise is that no one, including its practitioners, quite knows exactly what it is" (quoted in Borofsky 1994: 1). But this diversity has the advantage that anthropology can be of use in many circumstances not only, but also, in connection with other disciplines. Thus there exists medical anthropology, economic anthropology, legal anthropology, psychological anthropology... why not architectural anthropology? Anthropology has always had an interdisciplinary orientation, a field for which Boas stated almost a century ago that certain "knowledge is required (in the discipline) which cannot be supplied by general anthropology" (ibid.: 1994: 10). In this regard also architecture, as part of the material culture, has been of some interest for anthropology, though it never really gained sufficient attention. On the other hand the usefulness of anthropology for the architectural design process has never been seriously tested in practice and there is a potential which has not at all been exhausted. Most interesting for architects should be the major sub-fields of cultural- and social anthropology.

Architects constantly have to deal with man as a social being, and with the similarities and differences in behavior among human groups.¹

Culture is a central concept of anthropology, perhaps its cornerstone. It appraises cultural differences and offers a wide variety of tools for problem solving that go far beyond the limited horizon of a single social entity. Through anthropology we can make use of the cultural richness for self-reflection and self-growth. All of this is an offer to various other disciplines to make use of the wide range of knowledge and methodologies that have been accumulated by anthropologists and to use them as a tool for analysis and the design problem solving strategies.²

In his *Ethnizität für die Praxis* Andre Gingrich (1998: 99-111) points out that currently no other academic term is as widely used and interpreted as “ethnicity”, in both scientific and popular contexts. The non-specialized use in every day life, taken out of its scientific context, reflects popular needs and requirements of public life and causes a further hybridization of the terminus. In this de-contextualization and popularization Gingrich sees an altruistic chance for the discipline of anthropology to transport and introduce some basic knowledge and general interrelations that anthropologists deal with into public life.

Placing the discipline of anthropology in a broader forum of discussion is a chance to raise its popularity not only among the public but also among other scientific branches and to increase its potential for practical application. Here again I see extremely valuable opportunities of support that anthropology can offer to the professions of architects, planners and designers.

¹ Marvin Harris divides the discipline into four major branches: cultural anthropology, archaeology, physical (or biological) anthropology, and linguistics. The expression cultural anthropology is mainly used in the United States and defines man as a social being with learned rather than genetically transmitted forms of behavior (Borofsky 1994: 1-3).

² The methodological idea of anthropology is deeply rooted in cross-cultural comparison. Only by studying many different cultural backgrounds and out of this context it is possible to make general statements about the behavior of men. According to Thomas Schweizer (1983/92) anthropology knows three methods of examination: field research, historical reconstruction, and cross-cultural comparison.

Architects and Culture

The task of enticing architects to leave the very strict and narrow track of their ancient discipline and to gain a broader vision of their field is not an easy one. Only during the last thirty to forty years a handful of architects started questioning the tenet, that architectural history is based on monumental structures alone. Today, small traditional structures have at least become a subject of investigation, non-Western countries receive some of the attention and for the first time anthropology is considered as a possible conceptual tool.

Gérard Toffin (*TDSR*, 1994) describes, with examples from rural France and Nepal, that domestic dwellings are as “preconceived” as the masterpieces of architecture and that they rely on just as elaborate a definition of categories of space as erudite buildings. Cardinal points play an important role and the internal arrangement of rooms, their orientation, their external appearance etc. are conditioned by them. There are “architectural concepts”, based on religion, ritual and symbolic meaning, that provide the builder with construction guidelines. There exists a vision of the ideal.

In various cultures a much more intense relationship of people and architecture can be observed than in our European/US-centered world. A New Zealand Maori orator, for example, does not only speak in a *marae* (meeting house), addressing the assembled people, but he also addresses the structure of the house itself, which is seen as an ancestor. Whereas European/US-educated ways of thinking allow people to talk *about* architecture, a Maori actually talks *with* architecture, this indicating that the presence of meaning in architecture was, and still is, a very strong one (Jackson, *lecture*, 5th Nov. 01).

The environment, and buildings as a major part of our environment, certainly have a strong influence on behavior, as environmental anthropology (and its related discipline of environmental psychology) has shown. It is an interactive process, where the environment does not entirely determine the behavior, but has significant influence, and where, vice versa, behavior influences the environment. This creates a dynamic mutual process. Once architects recognize this dynamic process of mutual influence of behavior and environment it should become quite clear that before starting a design process studies of the habits and behavior of the people should be a routine procedure. However, the study of individuals and their experiences is hardly sufficient. Generalizations

can only be made by investigating groups. Thus, culture is the key to deal with this extraordinary variety of settings and, in addition to isolated cultural settings, there is a crucial need for comparative approaches such as cross-cultural studies in housing.

One such study, which is exemplary, was done by Robert Bechtel (1989). He compared households in Alaska, Saudi Arabia and Iran in terms of their spatial arrangements, drawing conclusions for the planning. In Alaska children's play and watching TV are major occupations within a house, therefore play space obtains a special role. In Iran TV is also important, but in addition many visitors are received, especially women, and most of the time they gather in the kitchen. An expanded kitchen is therefore necessary to accommodate all guests. In Saudi Arabia the main occupations in the house are cooking, entertaining and reading or relaxing. Nutrition and therefore the kitchen is very important it still does not have to be large, since guests are received in the dining room which, in turn, should be of sufficient size. A quiet room for relaxation is of great importance. This study gives a simple, but powerful, example that indicates that the different usage of space requires different reactions in the planning of housing structures.

Anthropologists and the Dwelling

Not only can anthropology be of help for architects, but, in turn, physical structures can be a source of most interesting information for studies in culture. The importance of residential ties in the study of pre-industrial societies has never been a big issue in anthropology and it must be stressed again that the physical environment has a largely unexplored potential of shedding light on modes of social organizations that have until now been little or poorly studied. Humphrey (*Anthropology Today*, 1988: 16) observed that "architecture has been curiously neglected by academic anthropology." Rather it was architects or art historians who showed interest in the comparative and theoretical work of anthropology in architecture.

One reason for this neglect is that houses are taken for granted. They are present everywhere, they are so familiar, so much part of the way things are, that we hardly seem to notice them. However, very often it is the house, that anthropologists first enter when they try to engage with another culture. When they step through the door into another world of unfamiliar people they first have to deal with the spatial arrangements of rooms, of different objects and of their own defined place as outsiders within this arrangement. Who is who? Who lives where? Who sleeps where? Which space do peo-

ple occupy within a house? – seemingly fundamental questions, but they are usually quickly set aside after the first orientation. They become merely the context and environment for the increasingly abstract and wordy conversation of ethnographic research. In time, for both anthropologists and their hosts, much of what houses are and imply becomes something that goes without saying (see Bloch 1993).

The dwelling is a result of multiple determinants, a result of various types of interactions between man and the environment, between the different familial, political, and religious elements which constitute society. It is exactly this multidimensional approach that makes the house an interesting object to study in conformance with the multiple facets of collective life. It is very clear that social structures play an important role in the form and internal arrangements of dwellings, and the different social ranks or castes are often expressed in housing. This is true for the overall spatial arrangement of a village as for the appearance of the dwelling itself and even for the internal usage of space. This can be easily demonstrated by examples from the South Pacific. A Samoan village is centered by the meeting houses (*fale tele*), surrounded by the guest houses (*fale afólau*) which are the focus for clusters of kin who live and sleep in the houses (*fale o’o*) behind them. Still further behind these are the cook-houses, and on an outer perimeter toilets and pig-pens.



Fig. 28
Fale tele, Fasitoouta village, Upolu, Samoa: traditionally curved roof, sugar cane thatching, high platform

Fig. 29
Fale o’o, Faga village Savaii, Samoa

The house of the village chief will always be the tallest and the height of the house platform, made out of rock or earth, indicates the rank of a family within the social system of the village. In Samoa the introverted, narcissistic and self-contained person rarely exists such as private and interiorized architectural space is unknown. The Samoan *fale* does not have any external walls, except some permeable screens that are lowered rather for weather protection than for privacy, and there are no internal walls to divide specific places. However, there are still defined areas that have different functions

and this distribution of space is very clear to the inhabitant.³ Thus the notions of privacy, rank and social organization are clearly expressed in the buildings and in this regard valuable insights can be gained from the physical structures (cf. Lehner 1995).⁴

In Nepal, where the Tamang villages are arranged on the steep hills of the highlands, starting from the highest point of the area, lineages and local clan descent lines can be classified according to the arrangement of the houses on the hillside. Thus, the village structure becomes a genealogical book projected onto space. It becomes a crucial tool for studying the mechanisms of affiliation, alliance and residence and preserves the memory of ancestral descent and the expansion of clans (Toffin, *TDSR*, 1994: 18). In connection with the dwelling itself there are again social barriers, for example allowing not a member of a lower cast approaching a house of a higher cast to enter the house at all, or alternatively to come as close as to the stairs, or to even enter the kitchen but not to participate in any meal.⁵

Also, variations in age or gender produce different dwelling types. For example, in Ladakh the parents move from the main house (*khang chen*) to the small house (*khang chung*) upon reaching a certain age which has a considerably different spatial structure and appearance. In South America or Oceania certain houses, which can be clearly distinguished from the others by their shape, are exclusively reserved for males or youths. Among the Kanaks in the center of Grande Terre the main dwelling of a household is named *wâão*, which actually means "lineage". All members of a certain lineage, or *wâão*, descend from the same ancestors who built the very first dwelling. Thus the origin of every lineage derives directly from this first dwelling. In this sense the society, its story and history derives from the habitat and its dwellings, which continue to be a reminder of a collective identity (Coudart, *TDS WPS*, 1994).

³ For example during village councils that exert substantial local power, and are held in guest houses, the posts in the end sections of the house are reserved for titled chiefs whereas the positions on the sides are for the lesser-ranked chiefs. There is a very specific distribution of space according to hierarchy and rank

⁴ The information about the social organization in relation to the physical environment was collected by the author through building surveys and various interviews during a one-month field research in Fiji and Samoa, a joint expedition of the Institute for the History of Architecture and Building Survey (Technical University Vienna) and the Institute for Social- and Cultural Anthropology (University of Vienna).

⁵ Observations in this regard were made by the author in Dolonka village in Nepal in August 1997.

There exists a vast number of examples that show the deeply rooted connection between the house, as a physical structure, and society. However, as it has only been in recent times that the discipline of anthropology has started to overcome the fascination with the exotic, with the pre-modern environment, the little interest that is given to architecture and housing still centers to a large extent around the recovery of lost archetypes. Recent architectural developments are still opposed, even seen as inhuman and rootless, and not worthy of much consideration. On the contrary I would like to argue that especially today, with increasingly complex, interrelated cultural constructs more and more detached from defined territories, the physical environment has great potential to reveal to us, in a very clear and visible way, the heterogeneous conglomerate of social interrelations.

Dealing with the House

Although the interest in the built environment has always been somewhat on the margins of anthropology, there are anthropologists who recognized the dwelling as an important subject of study, as part of the entirety of a civilization. Among the pioneers in anthropology who invested in this subject Lewis Morgan with his *Houses and House-life of the American Aborigines*, 1881, and André Leroi-Gourhan with his two-volume *Milieu et technique*, 1945 (Toffin, *TDSR*, 1994: 10) can be mentioned.

The exemplary works of Claude Lévi-Strauss on Bororo villages (1955/73) and of Pierre Bourdieu on the Kabyle house (1970/1990) raised considerable interest. However, although Claude Lévi-Strauss is often considered as *the* anthropologist who paid attention to the house, I am not tempted to join this euphoria since Lévi-Strauss' notion of the "housing society" – while certainly being of great influence - has little, or rather nothing, to do with the physical structure of the house itself. The only time he actually pays attention to spatial arrangements and village structures is in his field reports on the Bororo.

There is no way to deny that Lévi-Strauss brought the notion of "*maison*" back onto stage in anthropology. His own definition of *maison*: "A corporate body holding an estate made up of both material and immaterial wealth, which perpetuates itself through the transmission of its name, its goods and its titles down a real or imaginary line, considered legitimate as long as this continuity can express itself in the language of kinship or of affinity and, most often, of both" (Levi-Strauss 1983: 174). Lévi-Strauss talks of

the house as a social form and links its transitional quality to the claim that the house can act as a vehicle for the naturalization of rank differences and kinship.⁶

Of course, elaboration is seen as an issue as well, since the correlation between rank and the elaboration of a house is often striking. This issue comes up not only in the contrast between ranked and egalitarian societies but also within hierarchical societies when the buildings of high-ranking groups are compared to those of commoners. The contrast between the flimsy, impermanent dwellings of the egalitarian Buid and those of Toraja or Nias nobles and chiefs provides a vivid Southeast Asian example of the association between high rank and prestigious architecture (Carsten and Hugh-Jones 1995).⁷

In Lévi-Strauss' writings the striking omission of attention to the physical appearance of the house is noticeable. Although the elaboration of a house is of high importance to him, the architectural features are usually ignored and are given no consideration in association with rank. Instead, the house is solely seen as a social type, a new construct to deal with societies which are neither lineage-based nor organized around clearly defined marriage rules. However, when he applied this model to societies which *are* organized around such rules, he made it clear that these also could be fruitfully analyzed in terms of their houses (ibid.: 1995: 18).

⁶ Roxane Waterson's (1995: 47) description of system of kinship among the Sa'san Toraja of highland South Sulawesi has amazed many anthropologists with its complexity. She notes that already the impressive vernacular architecture provided an obvious clue to the importance of houses in this region and that she found it impossible to grasp the workings of the cognatic kinship system without an understanding of houses as the focal points of the system.

⁷ Lévi-Strauss' writings on the house take their inspiration principally from the Kwakiutl *nu-mayma*, from the noble houses of medieval Europe, from eleventh-century Japan and certain Indonesian societies. The house as a grouping endures through time, with continuity assured not simply through succession and replacement of its human resources but also through holding on to fixed or moveable property and through the transmission of names, titles and prerogatives, integral to its existence and identity. It marks a transitional society between kinship and class structures whereas the dialectic of filiation and residence is a common feature of house-based societies.

The prominence of the house as kinship group, ritual entity and political unit in Austronesian societies emerges clearly in a number of recent ethnographic monographs, several of which draw explicitly on Lévi Strauss' model of house societies.⁸

While paying great respect to Lévi Strauss' concept of the housing society, I claim that he has never fully explored the potential of his own argument. A house has two key aspects: The one, in Lévi Strauss' sense, is the house conceived as a social grouping, a largely ritual construct which is related to ancestors, embodied in names, heirlooms and titles brought out and displayed in ritual contexts. But there is another side of the house that is still largely unexplored: In the house lives an ordinary group of people concerned with their day-to-day affairs, sharing the same space and the same consumption. The house is a cover, like a body, inscribing boundaries and hierarchies and giving the inhabitants an aura of naturalness. The emphasis needs to be placed on everyday life, to balance those studies of ritual and ideology (Jackson, *lecture*, 5th Nov. 2001). In this regard the language of the house cannot only be referred to kinship, it is also about common spaces, or buildings as a whole in their different functions as temples, palaces, houses or shelters. After all, a house is a social place where people are living together, eating, sleeping and dying. It is an extension of the person, therefore also an extension of the self, where the space is inhabited not just in daily life but also in the imagination.⁹ Going beyond Lévi-Strauss would therefore include houses and the inhabitants as part of one process of living.

Janet Carsten and Stephen Hugh-Jones were the first anthropologists who managed to collect a broad range of studies on the house, from a variety of their colleagues, in their volume *About the House – Lévi-Strauss and Beyond* (1995). Again, the title indicates a strong relation to Lévi-Strauss as a figurehead for the notion of house in anthropology. Nevertheless, the book provides a selection of approaches in ethnographic case studies that give a high-quality overview of the current perspective of anthropology in its relation to the house.

⁸ Pioneering contributions that stress the role of houses as vehicles for rank are the works of Morgan (1965), Hodder (1990) and Wilson (1989).

⁹ Western children usually draw houses with two windows and a door - two eyes and a mouth - and thereby underline the projection of the self into the house but there are surprisingly few anthropological explorations of this identity between house and self in non-Western societies (Carsten and Hugh-Jones, 1995: 3).

It is time that anthropologists see houses as both physical structures and dynamic entities which are even thought to be born, mature, grow and die. A bridge between the disciplines of anthropology and architecture would be a step towards a new understanding of the relation between material culture and society.

There are a few attempts made in recent literature to find a new approach regarding the interrelation of house and inhabitants. Forth (1981) notes in his field study among the Rindi in Eastern Sumba that parts of the house are associated with parts of the body. Roxane Waterson (1990: 115 ff) explores how the vitality of houses is bound up with their spiritual essence or *semangat*¹⁰ which derives from several sources - from the trees used in buildings, from rituals which accompany construction, and from the occupants. Thomas Gibson (1995: 129 ff) paid the main attention during his field study in South Sulawesi on the relation of houses and siblings and the rituals of house construction in connection with rituals of birth, marriage and death. Here, the architectural features of the house are linked both with notions of siblingship and with parts of the body.

Most interesting are the observations that Pierre Bourdieu (1970/90) made in his study of the Kabyle house. He indicates that among the Kabyles the dwelling is integrated into an essentially bipolar system of indigenous conceptions of society and the world, in which summer and winter, male and female, dry and humid, culture and nature, etc. are opposed. He also notes that when Berbers cross the threshold and move from the outside to the inside of the house, their whole world is reversed. The external world and the internal one are associated with men and women respectively, and they are in a hierarchical relation. The house is defined as it were from the outside, by men; women, on the inside, are subordinate to them. Movement inwards is intrinsically female movement; movement outwards, intrinsically male.

Maurice Bloch (1995: 69 ff) examined the role of the house in relation to marriage among the Zafimaniry of Madagascar. Zafimaniry marriage and house creation are both very long-drawn-out procedures, not surprisingly since the two are merely two sides of the same thing. Marriage without a house is a contradiction in terms, simply because the Zafimaniry notion of "marriage" is distinguished from other forms of sexual union

¹⁰ *Semangat* is the "life-essence" or "vital force", a key notion in Southeast Asian societies. It can be described as a pervasive life-force common to living things - plants, animals and humans - but also present in certain other kinds of material entities, including houses, mountains, boats and heirlooms.

union precisely by the existence of a house. Bloch further describes that the way of asking the question that would correspond to our "are you married?" is phrased, literally, to mean "Have you obtained a house with a hearth?" Within the life-circle of the Zafimaniry the house is transformed, also in a physical sense, again and again.

Thomas Gibson (1995: 129 ff) is one of the few anthropologists who concentrate on the ceremonies and rituals that are interwoven with the construction of a house. He describes how in a Makassarese village in South Sulawesi houses are constructed under the supervision of an *oragi*, a ritual specialist. The *oragi* does not only have to be an expert in ritual, but also in building material, respectively wood, since he determines which trees are used and when they are cut.¹¹ Every human construction like a house or a boat has a spirit of its own, called a *balapati*. While only male *oragi* have both the technical and ritual knowledge required to create a new house, many female *sanro* know how to look after the spirits of established houses.¹²

Peter Rivière (1995: 189 ff) also directs his attention to the spiritual processes connected with the house. Among the Ye'cuana, who live in the northeast corner of South America, the house is not just a shelter but the spatial organization reflects certain fundamental social and cosmic distinctions. More or less explicitly the house is a microcosm. The roots for this symbolic orientation go back to the first house that was built by Wanadi, who is seen as the creator of the Ye'cuana people and their particular culture. He built his house as an exact replica of the universe.¹³ At ground level the *annaka* is equated with the "sea" (*dama*) at the centre of the world while the *asa* is the inhabited earth (*nono*). The conical roof is the sky, also divided into an upper and lower part, physically represented by two different types of thatch of which the more valuable and durable covers the upper section and the part occupied by the *annaka* at ground level. The outer circle of the house, the *asa*, is covered by a more perishable thatch. The main transverse roof beams run north/south and represent the Milky Way, and the other main roof beams are referred to as "sky trees". All these beams are fixed at their

¹¹ Before cutting the trees the *oragi* talks to the spirits to make sure they are willing to be made into a house. He also determines which posts should go in which part of the house. The end of the post or beam which was closest to the earth when it was growing in the tree must be closest to the earth, to the front, and to the "foot" of the house.

¹² There is a variety of other rituals connected with building a house, e.g. red, white, black and yellow uncooked rice is buried together with a raw egg, a cooked egg, a bamboo shoot, coconuts, bananas etc. are hung on the posts. After several weeks, these are taken down and cooked into cakes, to be eaten by the household members.

¹³ The house he built is still visible today in the form of a conical mountain located at Ku-shamakari in the centre of the Ye'cuana homeland.

lower ends to a ring of twelve outer posts called "star supports". The central house-post connects earth to sky and the visible to the invisible world. However, even if the Ye'cuana house symbolism is exceptionally elaborate (or well reported) by the standards of the region, it is not different in kind from that found among other people. Similar symbolic meanings of parts of the structure can be found in most forms of indigenous architecture.

Whereas some cultures have an extremely wide variety of "building styles" and decorative features, others, like the ones of the Mebengokre of Central Brazil, are very similar to one another and are regularly spaced around the village circle. Their only distinctive external architectural feature is their size. (Lea 1995: 206 ff).

A very important feature that can provide much information about the cultural surrounding is the permanence/impermanence of housing structures. During her field research on the Tanimbar Islands of Eastern Indonesia Susan McKinnon (1995: 175) found out that the Tanimbarese distinguish between houses (*rahan*) that bear a "name" (*naran*) and those that have "no name" (*wol naran*). Whereas *rahan* usually are surrounded by land as well as tree plantations, unnamed houses come in combination with trees only. Thus, the permanence of named houses is marked by their enduring relation to land whereas unnamed houses are related to "impermanent" forests, that grow only temporarily and endure, at best, a few generations.

This example clearly shows that a house must be seen as a living structure, a dynamic entity, that gains vitality from various sources. Janet Carsten (1995: 105 ff) describes one of the most extreme examples of impermanent structures: the "walking house" in parts of Southeast Asia such as Langkawi, which is lifted up by a group of men so that it actually seems to acquire legs and to walk or run to a new site. Houses only walk or run when their occupants change or require a larger site, perhaps as a result of a marriage or the birth of more children. Such an *usung rumah* requires the co-operation of neighbors and kin and is a festive occasion. Thus, the house is a flexible, moveable structure that can be easily enlarged. A village therefore is under permanent reconstruction, and while there is very little involvement in the construction of new houses, the old ones are changed, enlarged, repaired or improved instead. The house design permits mobility and flexibility in the residence patterns of their occupants. The process of kinship and the process of the house are so thoroughly interrelated as to be one

process. This emphasizes the need for a unitary analysis of the house and the people who inhabit it.

Carsten also shows clearly how the house is related to status and wealth. Among the Langkawi the marked variation in style and quality of housing is one of the clearest indicators of wealth. Fashion is changing fast. Usually the small houses are also the more simple ones. The new houses reflect the latest trends in house design where upon urban life has great influence. Often a house is a mixture of both, where one part is the more traditional one built from wood, while the new part has concrete walls with metal roofs and glazed windows. And however large the extensions will be – there will never be more than one hearth in a house. Co-residence requires the sharing of the hearth.¹⁴

Carsten's example clearly shows that the desire for permanence of a structure, that is so dominant in our contemporary Western world, is completely alien in some other cultures – although with increasing "Westernization" these systems generally tend to change. The example also shows that expression of rank and status through the house is nothing new in some cultures, whereas in other cultures, like for example in Ladakh, it was no issue before the coming up of the cash-economy and Western consumerism.

In *The Living House* Roxana Waterson (1990) also refers to the expression of status, hierarchy and aristocracy through the house in stratified societies on islands in South-east Asia. The house offers an opportunity for the aristocracy to differentiate themselves from commoners. Large houses with more decoration express their wealth, status and power (often, too, their ritual superiority, by the addition of emblems signifying that certain great feasts have been held). It is therefore no surprise to find baroque elaborations of the "house" in societies like the Toraja - where the towering, richly carved houses of ruling nobles are a dominating presence in each community - nor to discover that aristocrats are the ones who cultivate long genealogical memories. In some Indonesian societies, like the Nias, Torajas or Sumba, there is evidence that the aristocracy was in the process of expanding their power at the time of Dutch intervention, and that they were using the house to promote this endeavor.

¹⁴ The place of the hearth is also strongly related to the mother of the house (*ibu rumah*). The whole building process of a house indicates a strong association between the house and the woman. Thus, the mother of the house must hold the central pillar (*tiang seri*) when it is erected.

Recently, it could be observed in many regions of the developing world that the house again gains in meaning and that it is used as a medium to overcome the identity struggles caused by Western intervention. The use of new, usually imported, building materials is the favorite measurements of wealth and power.

The number of anthropological studies relating to the house is very limited while the number of studies relating to the physical structure of the house is even smaller. However, the examples cited clearly emphasize the strong interrelation between the house and the people and show the vast knowledge that can be drawn from such integrated analysis.

Architectural Theory and the Human Being

Major changes of people's dwellings, when they do occur, only come with fundamental changes in the way of life and world view; technical and material changes alone rarely have that effect (Amos Rapaport 1969b: 72)

Throughout the evolution of architecture changes have occurred not only through a moderate and slow process of adaptation but also in a much more fundamental way through processes that Rapaport speaks of as “fundamental changes in the way of life and world view”. His statement points to the elementary importance that the orientation towards the human being has in architecture. Climate, material constraints, new technologies and the many aspects of the physical environment will modify, but never determine, the form of the dwelling since the resulting form will always be primarily the result of a choice among possible alternatives. And it is this choice, that Rapaport speaks about, which contains the whole complexity of the architectural discussion and which makes it such an elusive topic for architectural historians, theorists, critiques and, hopefully even more so in future, philosophers, sociologists, psychologists, anthropologists and the like.

Our understanding of the cosmos has changed throughout the centuries and the notion of architecture has developed in strong interrelation with these changes. In the 14th century we could observe the shift from a theocentric world view towards an anthropocentric conception. In the 19th century these anthropocentric interpretation turned into a techocentric conception, a rather mechanic understanding of the world, a scientific, mathematic and rational world order. Shortly after World War II the vision of the world started to drift away from this technocentric, mechanistic view towards an informative vision, a world determined by electronics and media. All these different phases had their reflections in architecture as they demanded new expressions. Today architecture needs to respond to the emergence of in a globalizing world of networks.

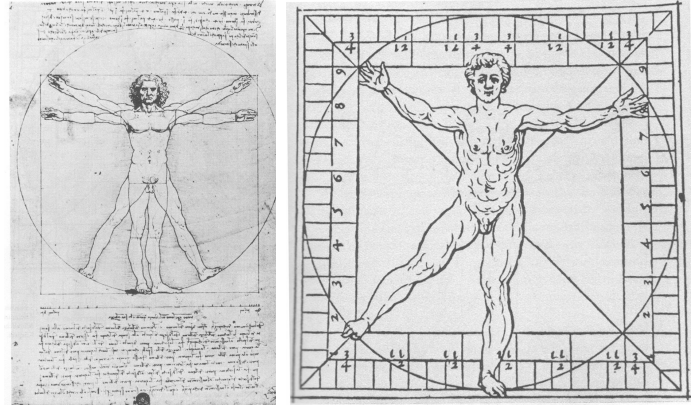
Vitruv and Beyond

Throughout the history of architecture the human being played very different roles in his/her relation to buildings, sometimes gaining more importance, and sometimes drifting almost out of sight. The human being in the physical form of the body has always been a major point of reference for architectural proportions.

In his famous drawing Leonardo da Vinci captures the geometry of the human body by placing a circle and a square around a man's body with legs and arms stretched out (Fig. 30). The center of the circle is the navel, the corners of the square are the tips of the fingers and toes. His drawing is an interpretation of the body of Vitruv.

Fig. 30
Leonardo da Vinci: human figure in a circle, illustration of proportions, 1485-1490

Fig. 31
Sebastian Serlio: drawing of a male body



In the third volume of his *Ten Books on Architecture* (1486/1991) about the symmetry in temples and the human body, Vitruv¹ relates the proportions of the human body directly to the proportions that the architecture of a temple should have. Nature has developed the human body in a way that the limbs are proportioned according to the body as a whole, and this is what architects should bear in mind in regard to the square and circle.² During the Renaissance Vitruv's scriptures were the most dominant sources of influence for all architects, especially for Alberti and Francesco di Giorgio, who studied the scriptures in detail and once again oriented their buildings towards the human body.

With the emergence of Christianity the suffering body, the passion of Christ, became a central symbol for the anthropometric floor plans of churches.

¹ Vitruv (Vitruvius Pollio, born about 84 BC) was an architect and engineer who wrote ten books about architecture as well as *De Architectura*, a holistic description of antique architecture. Vitruv's work is the only complete treatise on architecture in classical antiquity. It developed into a vademecum for all Renaissance architects and the first printed version of the manuscript was published in 1486 in Rome. Vitruv's *Ten Books on Architecture* are still standard literature for architects and theorists today.

² If nature designed the human body in a way that the limbs correspond to the proportions of the whole figure, the ancestors seem to be right that regarding the realization of buildings they should have an exactly symmetrical proportion of the single limbs to the whole appearance. (Vitruv 1991: 73; NB: translated by the author).

However, it was not before the abandoning of the theocentric world view towards a more anthropocentric one that the human being obtained its place in architecture apart from the physical, bodily constitution but rather in an immaterial and spiritual way. Rudolf Steiner's (1861-1925) anthroposophic architecture was a projection of the visual awareness of the observer, away from the rational point of view towards a conscious and intellectual perception of the people.

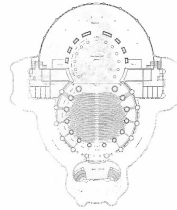
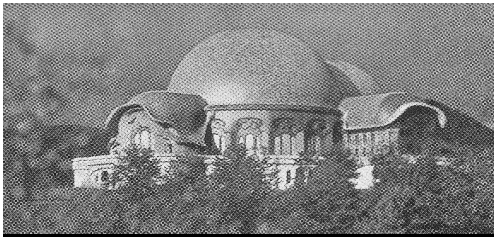


Fig. 32 / Fig. 33
First Goetheanum, Dornach, built after a model of Steiner, 1913-22

From Body to Culture?

A protagonist of paying attention to the issue of culture, as in so many other regards, was the Viennese architect Adolf Loos. Although anchored in the theories of functionalism, Loos was one of the first major architects, who considered the question of the cultural embeddedness as an issue in architecture.

His house for Josephine Baker, an Afro-American dancer in Paris, not only raised the question of the role of feminism in architecture but above all it raised the theoretical question of how to deal with exotic cultural elements that provoked lively discussions in the architectural world of the 1930's (Fig. 33).³ Among the variety of outstanding buildings of Loos the Josephine Baker House is somewhat unique, since with this house it becomes apparent that authorial origin is not always a satisfactory mode of explanation. There is something else beyond the immediate horizon of the description, something enigmatic, that most critiques identified as something exotic and mysterious, almost African. Although Africa is the key to the unlocking of the building's meaning it is more evoked than actually followed as a theme. Africa is a "sign", without any precise definition, only identifying the "other" as something unknowable, not precise and somewhat mystique (Burns 1997: 54-72).

³ The Josephine Baker House was never built. All that remains is a photograph of the model and plans which give hardly any information about the interior. The unknown spaces of the home's interior provided infinite sources of speculations among critiques, with the central internal swimming pool as the most debated space.

Suddenly the continuity in the architectural process put into question and the discourse revolved around the question whether such an issue was of architectural concern at all since critiques had problems to place the house into any theoretical context. The dominant and also the most enigmatic feature is the exterior of black and white alternating stripes of marble slabs, which bear a strong symbolic power. Physically the black and white bands of the house appear to be equivalent but the bending has been the topic of countless interpretations whereas it is the border between the categories “black” and “white” that has dominated the discussion (see e.g. Münz and Künstler 1966, Gravagnuolo 1982, Rukschio and Schachel 1982).

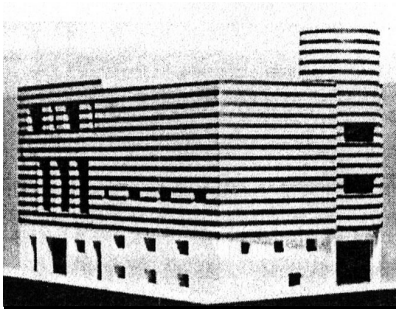


Fig. 34 _____
Josephine Baker House, Adolf Loos, 1927, Paris, model

The example of the Baker House shows very clearly that the modernist approach strongly followed a given track that was regionally limited. Although it marked the beginning of the international style, the term “international” was mainly limited to the US and Europe, with Africa hardly fitting into the context at all – a somewhat narrow point of view which has not changed much until today.

At about the same time that Loos tried to capture the notion of “Africa” for a European house, for the first time anthropologic observations gained limited attention among architects through what is called *anthropomorphic architecture*. This term is rooted in observations among the Bororo villages in Brazil – field research done by Levi Strauss in the Mato Grosso in 1936 – and among the Dogon villages in Mali which strongly reflect a cosmic, social and bodily order in the way they are spatially arranged (Fig. 35).⁴

⁴ The Dogon village has an oval shape, symbolizing the egg or the placenta. The smithy is the head of the village, a few shrines symbolize the legs. The huts that are inhabited by women during their menstruation are the hands, whereas the living quarters of the extended families form the body (Prevsner et al. 1992: 30).

2 Türlänge
Kübel
→ Küche
→ zwei Treppen
symmetrischen
die Augen
des Mannes

kana
= Lagerraum

ende
Ziegenstall

ende und kana
verbundener
die Augen
des Mannes

kana
= Lagerraum

kläwe
Tür
Vorraum mit Eingang

day
Tür

denne
= Arbeitsraum
Er symbolisiert
den Inneren
des Mannes

Reichsteine (Mehlspeicher)

bei de
= Stall

zentralem Raum des Hauses
Es symbolisiert den Oberkörper
des Mannes

kana
= Lagerraum

Die zwei Türlänge
verbunden
die Strukturen
des Mannes

denne
= Arbeitsraum
Er symbolisiert
den Inneren
des Mannes

Loos' contribution to the discussion of culture in architecture was something quite unusual in the modernist discussion of architecture which identified itself with the abolition of the particular, the ignorance of traditional values and the lived dimension of neighborhoods as socially inhabited space. Post modernist manifestoes departed from this strict call for wholeness and totality and Paul Virilio postulated the triumph of the art of the fragment, the most visible imminent result of which was a flood of –isms and styles developing throughout the 20th century. Charles Jencks (1988: 10) observed that after modern architecture, which lasted from about the mid-twenties until the late-fifties, “... the consensus has progressively eroded and many approaches have come and gone. Pluralism rules, if decentralized power can be said to exist in a variety of sources, and the air is filled with hostile debate.”⁵ Everybody was free to view architecture from a very personal, individual standpoint, although most post modernist architects claim to root their buildings in place and history. But what happens today, where fixed places that are inhabited by a defined society and have a specific history attached to them are rapidly disappearing from the scene? The present is important, the people and how they live today. But of course in this regard it is important to view the traditional in order to understand the present.

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Contemporary architecture critiques slowly start to see the need of integrating the issue of culture in architecture in an increasingly interrelated world, as for example Hans Busso von Busse: "In our contemporary spatial and demographic situation the building process must be seen more and more from the perspective of the society. Economic, technical or other constraints must be critically reassessed if the task is to design a built environment which can cope with the needs of the population" (1990: 151, NB: translated by the author). Busso von Busse sees Le Corbusiers Carpenter Center (see p 89 in this volume, fig. 25) as one example of the current solitary isolation of buildings that follows the phenomena of segregation and diversification. He argues that in future there can only be an understanding of architecture which draws the requirements and expectations for the complex demands of life from every single building (ibid.: 192).

As I have argued before, again the current confusion in architecture and the search for points of reference to build upon, the life style of the people, their requirements and longings are the most important – and probably the only - signposts that are left as an orientation for builders. However, this realization only slowly penetrates into architectural practice where architects still tend to search for realities within themselves and their individual styles of expression. I claim that the major reason for this is not the neglect of the people as a whole, but the lack of ability to communicate within increasingly complex social surroundings. It is one thing to reflect the requirements of the people in the building, it is quite another, primary one, to first of all find out about these requirements of the people.

Anthropology and Building in Developing Countries

Focusing on a globalizing world and introducing the challenge of culture, the question of who are “we” and who are “the others” is an important issue. Although the dividing lines are generally getting looser due to increasing cultural interaction, there is still a severe gap which exists between “them”, meaning the people from developing countries, and “us”, meaning the people in industrialized countries. This gap needs to be bridged through solutions that are carried out on a mutual basis.

Anthropological methods provide assistance in examining the changes during recent processes of “modernization” which have transformed the lifestyles of many people in developing countries. It is essential to find out what people build now, which materials they use - traditional and contemporary ones - and why they use them. Why do tin roofs replace traditional thatched roofs? Why are some new technologies adopted while others are not? In which way are new needs created through Western influence? Which technologies are copied just because they are fashionable and which do really improve the living conditions? Questions like these will have to be answered differently in different regions. But these are certainly questions that should be answered before even starting the design of a new building, housing project or anything like that. It is important to find out what questions to ask, how to ask them, and how to integrate the answers into the design process. It takes certain skills and a knowledge of methodology to get good answers to this questions and the architect or engineer is very often overtaxed with such a task. The architect must be able to evaluate the discrepancy of what people think, what they say and what the real issues are. Applied anthropological field research methods offer a variety of possibilities that can help the person in charge of a building project to gather and evaluate the information, integrate it into the design and reevaluate it during the process by involving the people. The composition of such an “anthropological pre-design study” (APD-study) should be the major outcome of my work. It should be easily applicable in many situations and thus be a valuable tool for the architect/planner/aid worker in charge.

The trend in current development strategies is to put more and more emphasis on CBOs and NGOs since they have better access to the people than most governments do. Through various examples, I will provide evidence that many failures, e.g. in housing projects, occur due to a lack of research in finding out about people’s wants and

needs. Solutions should be culturally appropriate and should meet with the social expectations of a community. Money, time and efforts have been wasted by implementing building projects based on wrong assumptions from the outset. Very often the failure of such projects could have easily been avoided by putting only a little more effort into pre-design research. Throughout this chapter I will give examples which underline this statement and which allow comparisons of positive and negative approaches that should be helpful for future projects.

A project that incorporates an APD-study will result in a process of building “with” the people instead of building “for” the people. It will take into account the social and cultural circumstances which are most important for implementing a successful project. Since in most cases there will be only limited possibilities to introduce a full anthropological field research prior to the design process (although this would be desirable), my attempt is to provide the person in charge of a building project with the most fundamental guidelines to carry out a study that should form the base for a successful design process.

About “the Others”

In order to understand a self other than ones own self, one must first have a self. (Paul Ricoeur 1984: 283)

Who are “the Others” and where do we find them? The notion of “the Other” is directly linked with the notion of place. As the certainty of place is increasingly wearing thin (see chapter *Placelessness*, p 27-33 in this volume), what happens to this immutable link between cultures or identities and specific places and how does it influence our relation to “the Others”? To deal with such questions is an indispensable task that an architect or builder, who is confronted with building in a culturally unfamiliar environment, has to face. And again, it is the discipline of anthropology that can be consulted and that can provide guidelines. It is a unique function of the discipline of anthropology to differentiate – or rather to overcome this differentiation – between the “Self” and the “Other”, between the world “Here” (seen from the dominant US-Eurocentric perspective as the West) and the world “Out There” (the non-West) (see e.g. Barth 1969, Schäffter 1991).

Due to the relativization of the US-Eurocentric perception the homogeneity of cultures captured within a certain place has been fractured by processes of immigration, revolutionary movements, civil rights actions, tourism, development work etc. Borders between here and there are getting blurred since the “savage” is no longer out there but has invaded home. Thus, modernist ethnographic theory started to focus on the fusion of the “primitive” and the “modern” and the results of these processes of intermingling are now termed in various ways: hybridity, syncretism, cyborgs, interculturalization, transculturalization, and intermixture (Lavie and Swedenburg 1996: 7). Such diaspora-populations¹ do not occupy a single cultural space anymore but they are embedded in various social and cultural ties that encompass both, the mother country and the country of settlement.

Such complex cultural interrelations create new problems to deal with in many areas, and reactions in the field of the built environment are still marked by confusion, guessing and a certain trial and error approach. Also, regarding the built environment a cultural approach is not only important when building “out there” but also gains significance in our immediate surroundings. In ethnographic research the revision and rethinking of the concepts of “field” sites and “home” sites is a popular demand. By partly turning the “fieldwork” into “homework” there is a breakdown of the difference between the ethnographer and the subject of study. And this is exactly the point where it becomes obvious that anthropological research cannot only be supportive for far-away building tasks in the field but right in front of our doorstep. Dealing with the subject of anthropology draws us closer to solutions for complex assignments such as building for an African in Paris, an Indian in Vienna or a Mexican in New York.

Dealing consciously with this topic can help us stop romanticizing the Others in “their” territory and to overcome the mental reservations regarding the Others in “our” place. Western builders often fail to see the joy and beauty of the Others in their immediate surroundings and they also fail to see the potential for the many fruitful and astonishing contributions they would be able to make out of their very distinctive experiences. On

¹ The term diaspora is an attempt to name a hodgepodge of an everyday-experience in an out-of-country or out-of-language environment. It refers to the divided and doubled relationship that refugees, migrants or the like have to the places they inhabit – their current space as the territorial center of their lives and their continuing involvement with “back home”. Such diasporas are termed as hyphenated identities such as the Arab-Jews, African-Americans, Franco-Maghrebis etc., where the hyphen stands for both the separation and the connection with the origins.

the other hand we try to overemphasize the romantic and nostalgic view of the Others in their own home geography, by neglecting the current circumstances and looking for inspiration in a past that is not lived out anymore. The many ridiculous excesses in resort architecture are only the top of an iceberg in a long list of failures due to such misconceptions.

Needs Created “Out There”

Buildings and settlements are *the* elements of the material culture that are most interrelated with the cultural phenomenon as a whole since they are the spatial enclosure of human activity (Feest and Janata, 1986/66: 103). If the “Self” therefore intervenes in the “Other”, by means of media, tourism, migration etc., it directly engenders changes in housing expectations. A new technical device penetrates into an established system of housing, new needs are created and a process of complete remodeling is ready to start within the existing institution.

Sudden and severe outside influence on building is nothing new – it happened throughout all phases of the colonial world. Mitchell and Bevan (1992: 13) recount the well-developed tradition of house construction in the western highlands of Cameroon in the late-nineteenth century. Raffia-pole walls, tall, distinctive, beehive-shaped thatched roofs, and elegantly carved door frames were the distinctive features that characterized the buildings. The German colonial authorities used experience gained elsewhere in Africa to introduce a system of earth-block walls and tiled, or simply thatched, roofs. Local materials were used in both systems, but soon wood became scarce, labor expensive, and the earth-and-tile house proved to be more economic and replaced the raffia architecture as a whole. Later, imported corrugated iron and cement replaced the tiles and the earth blocks and within barely a century the whole built environment was completely transformed.

Severe influences and changes as shown in this example can be traced on all continents. Although in general architecture is seen as a rather long-term process, such influences cause fast-changing environments that call for new solutions. It is the duty of the architect or builder to know about the current needs and requirements of the people and to react to them in time. Moreover, the architect must think ahead in order to fulfill the requirements of the inhabitants over a long period of time.

The new wants and needs that arise through the contact with the Others are manifold. There are two main categories that can be observed: a) aspirations for qualitative improvement of housing (better sanitation, new roofing materials that do not leak or rot, more durable wall material, chimneys against the smoke etc.), and b) a new desire to express social status. Whereas the former is easier to understand and capture for the builder, the issue of status is more problematic to deal with. Especially when status stands above quality real difficulties can occur. Very often the confusion of “modern” with “Western” can be observed. In Nigeria, people prefer imported goods from foreign countries in the belief that they carry more status than indigenous ones, which are seen as inferior and outdated. In the area of building, the effect of this confusion has been great structural deterioration of an elaborate indigenous built environment (Ede, *TDS WPS*, 1996: 50). As Richard Wilk (1990: 97-118) describes in his study about Belize, the whole country is crazy for foreign goods. One of the most cherished gifts from a mother to a girl child is an imported blue-eyed, blonde haired doll. The doll is not dedicated for playing but is kept in its sealed box and displayed on a prominent place on a shelf in the parlor. The doll is a symbol, a wish that replaces reality. Just as the doll is not meant to fulfill its actual purpose - to be played with - an extreme desire for status too could exceed the purpose of shelter and comfort that a house is supposed to provide.

“Us” and “Them” in Architecture

Many of the lessons learned from problems with the built environment in less developed countries are equally relevant to the developed world. But architects tend to ignore building activities that are going on beyond their US-European dominated view, pretending that architecture exists solely for the informed few. This is not the only example that describes the narrow point of view of architects, but in addition architects often design buildings that primarily reflect their own preoccupations rather than the values of the communities in the immediate surroundings that they serve.

The idea that buildings should be expressive of the character of the people who live in them is obviously negated by the profession’s presumption that architecture is formed by universal ideals or imperatives or interests. The architect tends to be on the side of „high culture“ rather than „popular or vernacular culture“, but „high culture“ is a minority culture and its aesthetic values often contradict the values of the majority. This is the reason for a frequent substitution of the architect with builders who respond to the aes-

thetic of the masses. Thus, when building in developing countries architects have to learn to come down to earth since the imminent task there is the improvement of the quality of life of the people. Charles Correa stated about the situation of his profession in Asia: "To find how, where, and when he can be useful is the only way the architect can stretch the boundaries of his vision beyond the succession of middle and upper income commissions that encapsulate the profession in Asia" (quoted in Khan 1997: 10). A friend of Charles Correa maintained that what was nice about living in a developing country was being able to take a position and shoot at twenty different problems which are none of ones business. This friend, an Indian, then lived in Switzerland, where he had no opinion on anything, because the Swiss had no problems.

But the professional life of Charles Correa himself is a good example that there is a way to combine the humanitarian task of sheltering the poor and the work of an architect as designer and form giver. However, the notion "form giver" as used here cannot be equated with the arrogant Western architect's notion of "high design", but it is much more of a form giving process that derives from the culture, the traditions and the requirements of the inhabitants. Correa does not see building for the poor or the rich as separated entities - he borrows aspects of design normally associated with the rich and integrates them in buildings for the poor, like the provision of individual house plots, a concern for exterior spaces, the tiled roof dwelling, climatically responsive buildings, and so on. Conversely, he borrows ideas from the poor and more traditional people and uses them in dwellings for the rich, such as decoration-painting of buildings, forms, materials, etc. This is a legitimate transfer and transformation of ideas from one context to another, an example that fruitful influence in both ways is possible (ibid.: 80).

Advantages of cooperation between the developed and the less developed world on building issues can be seen on both sides, but still many negative and disillusioning examples have littered the way. However – it is a matter of willingness and, above all, ability to make use of the opportunities offered.

Culture in Development Work

If there ever is a Bill of Rights for housing in the Third World, it would surely have to include - enshrine! - the following cardinal principles: Incrementality, Pluralism, Participation, Income generation, Equity, Open-to-sky space, and Disaggregation. (Charles Correa 1985: 56)

While many documents and declarations have recognized the importance of the cultural dimension in development and while the definition of development itself over the years has been broadened from the narrow economic perspective to include more comprehensive aspects of social factors, the cultural dimension as a whole is yet to be recognized and to be given its due place and importance. This is especially true for building projects which are most interrelated with the cultural backgrounds of the people.

The developing world is swamped with building projects of development organizations that lack acceptance among the people. Two problems exist: There are no experts involved and the people who are the future inhabitants are not sufficiently consulted and engaged. Usually a building or settlement project in the course of development work has to be implemented quite quickly. Once the money is pledged the project has to be put into practice within a very short period of time. More often than not the realization of a project lies in the hands of one or a few development workers who are conveniently on the spot but who are by no means experts in the field. I have talked to development workers who barely had time to read a book about the basics of construction before they started to build a new settlement. In the building sector it is especially problematic if things are rushed in such a way since the built environment is a long-term investment that can influence generations to come in their living quality. Taking this into consideration it is more than advisable to engage experts and to invest at least two or three months into an APD-study to be able to respond to the peoples needs.

The “Cultural Turn”

“Development policy”, “development aid”, “foreign aid” – all these are terms that are not easily captured in their real meaning and that do have approaches which are constantly changing, seldom going into similar directions. Slowly the One-World vision is recognized as a problematic concept and throughout the 1990s there has been an increasing call for the integration of culture into development work (e.g. Worsley 1984 and 1990;

Tenbruck 1990; Tucker 1997). However, the declaration that it is absolutely necessary today to include the subject of culture is rarely accompanied by theoretical precision or methodological considerations. It is a complex task to capture culture in development work, since the concept of culture itself means many different things to different people and cannot be defined in one precise way (see chapter *About Culture*, p 41-48 in this volume).

It was only in 1984 that Peter Worsley first introduced culture as the “missing link” in development thinking. In a wider perspective theories of post-colonialism, post-modernism and globalization all manifest what came to be known as the “cultural turn”, challenging the various existing development paradigms and, to a certain degree, adding new challenges and convolutions (Tucker 1997: 1).

What exactly does culture have to offer in development studies? Does it only contribute to further confusion and distract from economics and politics that really count? To avoid the drift of cultural processes in undefined directions we need to address the methodological issue by introducing cultural analysis into the study of development. Ethnographic methodology can help to capture the voices and concerns of the “recipients” or “users”.

As the main agency responsible for the cultural dimension of development, UNESCO wrote in a report of a working group that the long neglect of the dimension of culture in development efforts had been responsible for the irrelevance and non-assimilation of several good ideas in the past (1990: 1). The following principles should ensure a reformed development approach for the new decade:

- redefining development as necessarily including the cultural dimension
- emphasizing that the concept of culture goes beyond human resource development and the social dimension
- reiterating the plurality of cultural identities and the equality and importance of diverse culture, life-styles, traditional skills and wisdom all of which must be inputs to the development process

The working group strongly recommended to conduct detailed studies as well as seminars which should be intersectoral, interdisciplinary and cross-cultural - so culture as a basic dimension can become part of the definition and design of development as well as of all practical strategies and projects. Fresh emphasis has should be put on cultural, aesthetic and spiritual dimensions to correct the long-lasting overemphasis on the

utilitarian dimension such as economics, science, and technology, that was dominating throughout the last few centuries (ibid.: 2ff).

All major conferences and agendas of UNCHS Habitat (Global Shelter Strategy 1988; Global Strategy for Shelter to the Year 2000, Nairobi, 1991; Rio Summit, Agenda 21, 1992; Habitat II City Summit, Istanbul, 1996) point out the central importance of housing to everyone's quality of life and its contributions to physical, mental and social well-being. The considerable contribution of housing to a nation's total fixed capital turned out to be not the only measure to represent its value to the house dwellers. The focus has been shifted to the quality of housing, since the enjoyment and quality of life of a settler can hardly be expressed in statistics (United Nations 1996: 196).

The access to adequate housing as a basic human right is enshrined in the Universal Declaration of Human Rights and the International Covenant on Economic, Social and Cultural Rights. Still, at least 1 billion people do not have access to safe and healthy shelter (UNCHS 1994a: I).¹

While overriding organizations such as the United Nations and the World Bank struggle for new policies to meet these increasing problems, it is the work of many other experts to support the overall strategies with local intervention and improvement on a smaller scale. There is very much talk about policies, affordable housing, the growing number of housing needed - but there is still not much talk about the well-being of people in their houses, although this is a major contribution to the implementation of safer, more liveable, and healthier cities. It is not enough to just provide housing. It is not the quantity alone but also the quality that guarantees the ongoing success. This is where the efforts of the architect, the engineer, builder, development worker etc. count.

¹ Already now, more than 600 million people in cities and towns throughout the world are homeless or live in life- and health-threatening situations. Within a few years urban dwellers will outnumber those in the traditionally rural areas as the global urban population is expected to double from 2.4 billion in 1995 to 5 billion in 2025. Looking ahead to the end of the twenty-first century, more people will be packed into the urban areas of the developing world than are alive on the planet today (data from UNCHS 1996b: XXI).

Self-Help and Beyond

In most indigenous societies providing housing has belonged, and sometimes still belongs, to the major activities of the people, like the supply of food or cloths. Only in societies where building became too complicated due to more sophisticated technologies and materials, specialists started to become involved and the process of building drifted away from the inhabitants.

For a long time such self-built-traditions were satisfactory and even today in many rural areas the knowledge of building is still passed on from one generation to the next. However, denser social gatherings such as urban centers call for more sophisticated solutions to cope with mounting housing problems. But even in the urban context, self-building has an important place and has, no doubt, some quality. But still, the numerous informal settlements that quickly come up on the outskirts of cities in developing countries need more to provide for a basic quality of life. John Turner, the famous founder of “self-help housing” later changed his label to “community housing” (1972). He argued that squatter communities were highly successful solutions to the problem of mass urbanization in South America and elsewhere (1969: 127). At least they would be better than government housing – and with certain financial and technical contributions they could reach a high quality of living.²

Turner for the first time directed the attention to the user, who should be placed at the center of the decision making process. He did not see the house as a mere physical object, but he saw the underlying process that directed the focus away from the visual and physical characteristics towards the “usefulness” of the house for the occupants. I see Turners philosophy as a very central one that still has not gained enough recognition. This might be due to the fact that pure self-help usually does not produce long-term satisfying results. The help of experts is needed, at least in the process of coordination, to reach a result that is really livable and that meets the higher demands of the people which they are often not able to fulfill themselves, without the right expertise and consulting. Still, many people moving from rural areas to the cities bring with them their own self-built traditions which are deeply rooted in custom and culture.

² Architect John Turner closely worked together with the anthropologist William Mangin. Both had been involved with the squatters in Lima over a long period of time and hence based their interpretation on empirical data. Challenging the conventional wisdom, they suggested that squatter settlements were far from being a problem, but that they were in fact the solution.

That we can learn a lot about traditional building patterns even from rural settlements can again very well be demonstrated by the example of the traditional courtyard houses of Mexico. The Mexican courtyard house was not only a symbol for a family unit, but also an economic unit. It was a symbol of an organized, hierarchic, but colorful and lively society. Today, shrinking family sizes, individualism and the desire to express ones social status and self definition are factors that have caused a change in housing. The traditional courtyard is now used as a memory of the past in public houses or sometimes still in family homes as a feature of fashion or nostalgia. The only houses where the real meaning of the courtyard is still lived out are the houses of the “colonias populares”, informal settlements of the lower income groups at the periphery of Mexico-City. There, the timeless basic patterns of building can still be found, although in a transformed version (see Ribbek, *Trialog*, 1997). Since the urban context does not allow for a continuation of exactly these traditions, confusion is common, and more inventive and innovative solutions are required. Only the coordination of expert experience with the self-building movement bears the chance of success (see Mitchel and Bevan, 1992: 9).

Studies in squatter settlements are still rare in contrast to studies of traditional vernacular environments and architects frequently produce romantic and naïve analyses of built forms, concentrating on visual appearances and construction mode while neglecting the social and cultural surroundings. But in fact it is the squatter movement that shows most clearly what the basic demands on housing are. However, pure self-building is only about survival, whereas concepts of cooperation between experts and the people, participatory processes, are about upgrading and improvement. In order to encourage participatory activities, the existence of a social village structure is preliminary. As Afifuddin (1978) analyzed within a “canal-based society” in the Muda area in Northern Malaysia, the existing linear orientation of the *kampung* does limit the common feeling of a social unit.³

³ In his PhD-thesis Afifuddin described most villages in the Muda area as linear, and not clustered. The linear settlement patterns straddle the canals, drains and roads for miles and miles. There is no village boundary and farmers do not even refer to their residential area as a village, but rather mention the section of the drain or canal. As a result the villages have no corporate structure and lack corporate groups above the household level.

Due to such organizational problems, various development specialists (Marcuse 1992; Holmén and Jirström, 1994) have already realized the limits of self help, since it can only be a supplement to other policies. Outside intervention is seen as a necessary fact, but, as in all spheres of development work, it cuts both ways. There will always be the difficult question: How can any intervention from outside be justified? Is it really necessary? Does it in the long run bring more good or bad?

Friedrich Falch, a Tyrolean architect who has long worked in developing countries, once said that his best projects were the ones he was able to prevent. But he has also implemented a variety of projects, an evidence that in many cases progress cannot be prevented but is desirable and necessary. But it has to be carefully considered and the long-term implications must be kept in mind.

Confronted with the development of planning strategies for a new suburb in Leh, Ladakh, I will try to offer solutions which should make life easier for the people. Of course, it is a legitimate statement to say that the migration to the city and the dependence that comes with it is very problematic and new urban settlements should therefore not be established at all. However, it is a fact that such migration takes place and cannot be avoided. Urbanization is a worldwide phenomenon, deriving by factors that are hard to control, even with clever political strategies.

This still leaves the question if intervention e.g. from Western countries is desirable. Wouldn't it be better to leave the Ladakhis to solve their problems on their own? Apart from the fact that Ladakh never was the untouched *Shangri La* that many people try to see in it, communication with other countries is omnipresent and if we can't or don't want to prevent this interaction, the task must be to make the cooperation as fruitful as possible. Communication and the exchange of experiences is the motor of progress and there is no way to artificially avoid this. But one way to keep outside intervention within the necessary limits is through participation and by placing the local people into the center of every initiative.

One essential mistake, that happens very often and is to be strictly avoided, is the unmediated transfer of e.g. technologies, materials or strategies without adaptation. It cannot be the perspective for developing countries to follow in the footsteps of the more developed countries. When one quarter of the earth's inhabitants uses the vast majority of the world's resources it simply cannot be the attempt of all other countries

to follow their example unless we want to provoke a collective downfall. Instead we should search for new, better and more advanced solutions. Developing Countries have the advantage of seeing how something did work and how it didn't work, and thus modernization must and can go beyond Westernization.

There is no doubt that in many fields Western countries have developed advanced solutions, like in the field of energy usage, alternative energy sources, environmentally sound production etc. It seems, however, that many of these positive achievements do not have a chance to gain wide distribution due to restrictions by a long established, very powerful, economic system. Such technologies do have a unique chance in developing countries where the choice is not between cheap or environmentally friendly energy, but between alternative energy or no energy. In this regard it is a special responsibility to transfer this know-how – I consider it not only as a right to do this but more as an obligation.

Usually it is not the technology transfer as such that is the problem – it is much more the implementation, the acceptance among the people and the ability to deliver not just the product but also the knowledge tied to it. It is the challenge of how to introduce - but not to force - new features into a different context which causes problems for many experts.

Building For and With the People

In reality, architecture is too important by now to be left to the architects.
(Giancarlo de Carlo quoted in Julia Dwyer, Internet, 4th May 2002)

The history of development projects in the building sector is littered with failures, and I claim that the majority of reasons for such malfunctions can directly be put down to the absence of a methodology to trace the wants and needs of the people. The good intention to build for the people and to integrate them into the decision-making process is very often there. But how to actually do it?

Architects have long been engaged in analyzing and interpreting traditional architecture in order to gain knowledge for their design work. Although the analysis of historic building processes is most important to gain a basic understanding, nowadays it is no longer enough to draw attention to search for truth only in the past. Rather the questions are: What do people want today? How are they influenced by recent changes in their environment? Have their desires and requirements changed and if so, how? This approach directly involves the people as they live now, in the presence, without leaving their background out of sight.

Although organizations like the UNCHS propagate projects that “successfully” involve the people and give them a right to speak, such projects are mainly based on studies that rely on demographic data and statistics. Almost never would a consultant go through the trouble to actually talk to the future inhabitants and to find out what their current needs and desires are before even starting the planning process. Of course, it is not possible to do a full ethnographic research prior to every project. But it is possible to fall back on existing ethnographies to capture the overall situation and to implement additional specialized studies that concentrate on the field of housing.

The reasons why building projects in developing countries fail are manifold. In this chapter I will demonstrate through a variety of examples that many mistakes rooted in different presumptions could have been avoided, if adequate APD-studies had been put into practice prior to the planning and implementation phase of housing projects.

Tin Roofs for Everyone?

What do people want? The desires regarding housing are not only tied to a rise in housing quality but are also directly linked to the expression of social status. Just as clothing is not mere protection from weather conditions but there is also an expression of one's own individuality, a house communicates with the surroundings and has something to say in addition to its protective function. Thus, many desires may conflict with the criteria sustainable housing development since they are based on different values. In addition to the provision of a protective cover there is still the matter of choice between a wide selection. To find out why special choices are more desirable than others and to find the right balance between improvements that seems rationally appropriate and desires that are based on social or cultural factors is a challenge for every planner (cf. Rapaport 1994).

Often the demand for change is born out of a feeling of backwardness and the desire to copy a preferred style of house, usually of higher status. The replacement of thatched roofing material by corrugated iron sheets is a classic example that can be found in almost every developing region around the world. As this material must be imported from countries that are considered as rich, it automatically gains a higher status compared to locally available materials. At the same time it is not necessarily the case that the use of such a material can be seen as an improvement. There are the positive sides of less maintenance, possible rainwater collection, less infestation or fire-prevention. But on the negative side it can cause hot indoor temperatures, be noisy in heavy tropical rain or dangerous if lifted by strong winds.

The developments in a wide variety of countries are illustrative in this regard. For example, the case of northern Igboland in Nigeria exhibits a rapid vanishing of traditional dwellings that has started after the civil war of 1967-1970 and the growth of the oil industry in the seventies. Modern spatial organizations, corrugated iron roofs and paid labor have taken over and turned the dwelling into a status symbol. Wealthy migrants build modern houses that the less privileged desire but cannot afford. Not keeping pace with the wave of modernity, especially among villagers with extremely low income, is old-fashioned and a sign of poverty (Ede 1996: 50). This demonstrates very clearly, how the problem of identification seems to be very much related to the confusion of modernization with Westernization, where imported goods are considered as advanced.

This desire for the new and the Western, and the readiness to adopt it at once and without reflection into the built environment, is somewhat unique in developing countries. It is quite the opposite of what we can observe in the USA or Europe, where housing is rather seen as very stable, slow changing, something that provides a secure background. In Western countries people get used to changes in housing only very slowly and it is a long process to accept features that do not seem familiar in the appearance of a house. People like to have the latest car, the latest stereo or the latest computer – but a house should preferably look as it looked one hundred years ago. People do not have any needs for contemporary architecture since they feel well in their houses. Contemporary architecture only becomes interesting if it has major improvements to offer, such as more light or better thermal quality. Being innovative alone is usually no reason to build a new house – it has to be better.

This is very different in developing countries. New materials and techniques enter the construction scene from one day to the other, while their quality is often more than doubtful. Nevertheless, they are seen as desirable from the beginning and almost nobody hesitates to say good bye to the old. For Westerners this loss of the old usually feels very regrettable, something that should be prevented. Here, we already have one big discrepancy in the thinking of the local people and the US-European planner. But since this change means progress to the people, no matter if this is technically true or not, and since it is wanted, neglecting this fact is a direct way to failure.

In her report about the Tarime Development Project in Tanzania, Bertha Turner (1988: 46) describes the efforts of a Belgian NGO to provide information about the availability of local materials and to demonstrate their use. It is true that concentrating on industrially produced materials in an economic environment of severe production and transport bottlenecks conflicts with the policy of self reliance. And although Turner says that the corrugated iron roofs were much preferred among the people, at the same time she regrets that the traditional housing activities of the majority of rural people were endangered. But even if local materials are examined and maybe improved in one way or the other I see it as the wrong way to try to convince people of what we consider as best for them in a Euro-centric way. The sheer desire for the new has to play a role, otherwise the whole project will not gain acceptance.

This thesis can also be visualized with the help of Sigrid Paul's field research in the Maragoli-area in Kenia (1985: 98ff). American Quaker-teachers, together with locals,

developed a plan for a secondary school which should be adapted to local requirements. Although development workers tried to convince people that the school would work best if they designed it according to their own traditions, they then left the actual implementation process to the locals in the form of a self-help project. Contrary to the expectations, the Maragoli decided to realize an academic “British” type of school rather than an “African”, since the former was considered higher in status.

The Austrian architect Friedrich Falch (*Interview*, Feb. 1998) told me about a similar case in Ethiopia in connection with a housing project. When they provided housing in cooperation with the locals, the Austrian development workers tried to convince the people that using their traditional, skillfully woven carpets instead of door plates would allow better ventilation, cost less and function better. However, when they returned to the region a year later, the people had removed all the carpets and replaced them with cheap wooden doors which they had bought in the city. Having real doors just seemed to be more advanced and therefore increased the status of a house. In this case, too, it would have been better to deal with the wants of the people from the outset and to seek a compromise which would have brought a better result than old, non-working door-plates.

Using new materials does not necessarily mean giving up old traditions as a whole. In Indonesia, for example, where the traditional houses are dominated by the roof, the fast spreading habit of re-roofing the houses in corrugated iron does cause some changes in the visual appearance, but not in the form and the functioning of the roof (see Santosa 1996).¹ It has a much higher status, is therefore desirable and as long as it is available and somehow affordable there is no use in fighting against it.

A similar situation can be found in Samoa. Whereas the delicate and elaborate wooden roof construction of the traditional Samoan *fale* can still be found occasionally, the thatched roof made out of sugar cane and palm leaves is practically extinct. It has been replaced by corrugated iron sheets (Fig. 36, 37).

¹ In a field study Mas Santosa examined the change in indoor temperature in houses with corrugated iron roofs. The change has proven to be insignificant since the average wind velocity (2.5 m/sec.) is still able to provide the evaporative cooling to the occupant and to replace some warm air inside the house, even though the iron roof transmits more heat to the living area than the original materials (Santosa 1996: 67).

It is interesting though, that the original curved shape of the roof, which is so characteristic for the traditional Samoan house, has not disappeared because of that – on the contrary, it is even more emphatic, since the iron sheets are thinner and more even and the curve comes out more perfectly than under an irregular thick layer of thatched roof. It is this perfect curve which tells the interested architect already from afar, if he/she will find a traditional wooden construction underneath the tin cover or if it is a contemporary construction with little reference to the past. The tin roof therefore not only has a certain aesthetic value (although it will not be seen as such by most of the tourists) but it also protects the wooden structure underneath from heavy tropical rains and slows down the natural rotting process.

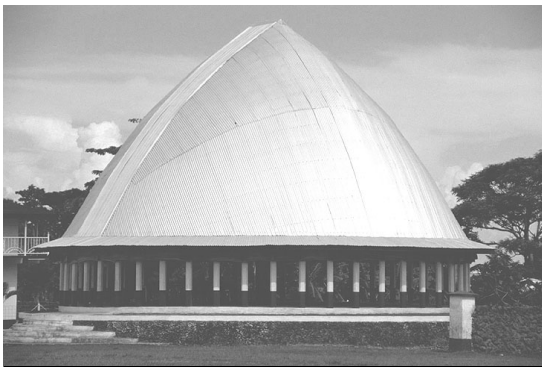


Fig. 36
*Fale Tele (assembly building)
near Lalomalava, Savaii,
Samoa*

Fig. 37
*Roof construction with tin
cover, Old Parliament Build-
ing, Apia, Upolu, Samoa*

Ignoring Wants and Needs

Looking at a number of development projects in housing in the past it is a recurrent phenomenon that projects are extensively changed and rebuilt right after their completion. To a large extent this is due to a lack of sufficient studies dealing with the desires of the people, studies that go beyond the immediate requirements and find out more about the actual wants and needs. In addition to establishing the wants and needs of the people it is necessary to analyze the surroundings they are culturally rooted in. One of the major reasons for the misachievement observed is that there is no sufficient master plan that allows village life to develop in its natural way. Alienation, loss of identity and the loss of the intimate, humane spaces of traditional arrangements restrict the natural communication among the people (Fig. 38, 39).



Fig. 38
Old Ahmedabad, India: a traditional city scene, a place for social activity and interaction

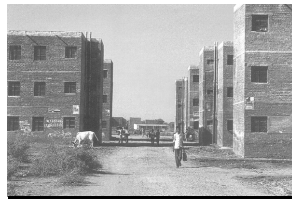


Fig. 39
Mumbai, India: new housing development, loss of intimate, humane space



Fig. 40
Telal Zeinhoum, Cairo, Egypt: shops and handicraft in the old streets

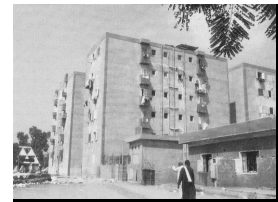


Fig. 41
Telal Zeinhoum, Cairo, Egypt: new street development

Saarland Village², a squatter development project in Manila, is only one example that demonstrates fully such a failure. 30 km from Manila 110 houses were erected, made out of concrete hollow-block walls and galvanized iron roofs. The families moved into the completed houses but a later analysis showed that 69 per cent of the residents had immediately rebuilt their homes and/or built extensions (see Turner 1988: 90).

Something similar happened in Sri Lanka: A project called 100,000 houses program (OHP) directed by the Urban Development Authority (UDA) was an all-at-once process of housing allocation guided by political party lines, which were insensitive to local caste, class, and social relations. Western experts were hired which should express the progressiveness of the project, while traditional building modes and skilled craftsmanship were disregarded and the use of concrete and unknown technologies did not allow for any participation of the people. As a result, the climatic condition inside the houses was very bad, the houses were too expensive for over 50 % of the population and there was nothing that attracted people to live in them (Robbins 1989: 57ff). A very positive aspect regarding this project was that the housing program was taken up again a few years later by the National Housing and Development Authority (NHDA) whereby the prior mistakes were analyzed which resulted in a very successful second attempt: minimal government intervention, self-help, emphasis on local initiative and local NGOs, and the mix of traditional and new materials. For self-help, mud brick seemed advisable, but since this material cannot withstand the frequent floods a concrete mix was used for the floors and platforms – this did not only result in technical improvement with a small investment in non-local materials, but it also raised the status of the houses. The same was true for the roofs. The traditional materials, coconut and vegetable fronds, did not seem appropriate since they are dangerous in connection with

² The Saarland Village project was sponsored by the Domus Mariae Foundation, a NGO that had been especially created for this purpose in 1983.

open hearth fires and allow only poor ventilation. People had switched to tin roofing, but this had only intensified the smoke and the heat of the tropical sun. New solutions were found in concrete, lime and tiles, which, as a further plus, allowed the establishment of small-scale industries (ibid.: 70).

This Sri Lankan experience shows that architects, community planners and housing specialists have to deal with a whole spectrum of different issues, reaching from technology to social and cultural processes. Thinking about an appropriate design requires a profound knowledge of the prerequisites. Ignorance and a “we know what’s best for you” approach has little chance to succeed.

One of the most distinctive examples of failure in housing projects because of a neglect of the people’s requirements was the mass-exodus caused by the Nubian resettlement project in 1961 due to the construction of the Aswan High Dam. 250,000 people were affected by the flooding, and the Egyptian Government planned the settlement of New Nubia in Kom Ombo, about 50 km north of Aswan. The design of the new settlement was a disaster, and the settlers started to rebuilt it on the first day they arrived. There was no connection whatsoever to the built forms of traditional mud brick, vault and dome architecture that was well fitted to the harsh landscape and climate. Instead, four prototype units of one, two, three or four room houses were offered, consisting of cost- and time efficient concrete walls and flat reinforced concrete roofs. The dismal result: 30 degrees of indoor temperature in summer, part of it also due to the wrong orientation of the houses. Self-help was consciously prevented since the consultants feared that the Nubians would spend any money handed over to them not on housing but on something else. However, in the end the Nubians did help themselves by rather successfully integrating some of their building knowledge into the existing project. They remodeled their houses, added extensions made out of mud brick, broke through the walls and created windows for better ventilation, added some mud-cladding etc. It could have been easier – a lot of money and effort could have been saved and the result could have been much more appropriate if the people had been asked at first hand (Steele 1992).

A similar story can be told about the Worker’s City, in Helwan, Egypt that was built at about the same time by the Nasser regime (1960). Most households had made immediate alterations to the flats, whereby balconies and terraces were added and the area for general activities was expanded. The system had simply not been flexible enough

to react to the fast changing family situations (see Tipple and Wilkinson 1992: 283-304).



Fig. 42
Worker's City, Helwan, Egypt: self help transformation of government built flats

Another major housing project that was never fully occupied since people refused to live there, was the mass housing project implemented as a consequence of the December 1982 earthquake in Dhamar province in Yemen. Three European NGOs³ put most of their efforts in technical progress by training the locals on earthquake-resistant construction. But the design was in no way appropriate, the houses were substandard in terms of space and material and the site layouts dull and senseless. People either did not move in at all or they started an immediate rebuilding process (see Veranda, *TDS WPS*, 1996).⁴

Jo Tonna (*TDS WPS*, 1992: 142ff) reports a case in the country town of Birkirkara, Malta, where the traditional village Laqxija was bulldozed in 1984 and its inhabitants resettled in "globalized" public housing projects built on the same site. At least the traditional settlement was carefully recorded before being wiped out, enabling an analysis of the change. The former dwellings had been mainly courtyard types and the change from the courtyard type to the apartment block has directly responsible for a loss of togetherness and security that people reported in a survey. In the perception of the politicians the old village had been considered as a slum since it was dense and overcrowded. They wanted to create more healthy and airy blocks and the only guidelines that were given for the planning process were to follow sanitary laws and planning

³ Oxfam, Concern and Save The Children Fund

⁴ It has to be clarified that in this case the use of industrialized material and the neglect of traditional methods was mainly a result of economic considerations. Especially during the 1990s traditional materials tended to become exclusively available to the rich urban or to the remote rural populations. The "traditional" has become desirable and fashionable in urban regions, since the cost of traditional earth construction (*zabur*) is now as high or higher than stone. The desire for the traditional look goes so far that something like a "reverse industrialization process" occurs: it is a sign of greater distinction to finish by hand the stones that came machine cut from the shop (Veranda, *TDS WPS*, 1996: 2).

norms. As a result, the user interviews showed a near-total consensus that, notwithstanding an obvious improvement in standards of sanitation and a not-unwelcome image of modernity, the new apartments represented a regression in terms of privacy, security, thermal comfort, and the image of home and family that was connected with the old courtyard houses. There is nothing to say against measures for improved health and it was also discussed in length in the previous chapter of this volume that the feeling of modernity is an important element in itself. But the Laqxija example clearly shows that this alone is not enough – by far. It has already been mentioned in the other examples that better hygiene standards are welcome by the inhabitants, but not a priority, and that they cannot compensate for any lack in life-enriching facilities related to social comfort. In any case it would have been highly recommendable to analyse the existing structures before starting construction.

The problem is that many architects do not see this alternations as a result of poor or insufficient planning. Rather they see the people, the inhabitants, as the inconvenient factor who destroy a design that was just perfect before they started to intervene. Some time ago I read an article in an Austrian architectural magazine (Scimemi, *Architektur aktuell*, 2000: 102) about a project that was initiated in Lima/Peru in the 1970s. Many well-known architects were involved in the planning of the large housing project, and the magazine described the development of the results over the years. One sentence, that was dealing with the project of Dutch architect Aldo van Eyck, attracted my attention:

It cannot be denied that the Dutch project is among the few that can still be recognised, despite its being integrated into the variety of realisations by the other competition participants and despite further contamination through the building measures undertaken by the owners.

The *contamination (!)* by the owners – whereas the designs of other architects are considered as variety, the undertaking of the inhabitants to improve their living conditions is seen as mere contamination. This sentence describes in a very simple way the critical stance that the relation between the architect and the client has reached.

Fig. 43
PREVI project,
Lima, Peru: Aldo
van Eyck, housing
after completion
1976

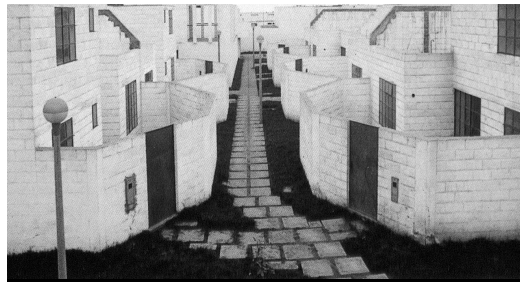
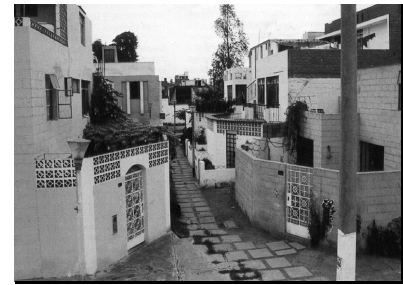


Fig. 44
Project alterations
by the inhabitants



One alternative that is seen as the solution for countless building projects in developing countries is prefabrication. It seems to promise a lot: cheap, fast, flexible – but it has hardly any relation to the local processes of building. I do not want to say that the oh so praised prefabrication is not worthy any consideration at all. Prefabrication systems have even been used in a traditional form that is sometimes still in use today, for the construction of dwellings in a variety of countries, such as Ethiopia, Mexico, Malaysia, Guinea or Vietnam (Cabannes 1992: 241).⁵

Most prefabricated parts that are used today are based on cement. The major problems of such parts is that participation is very difficult within this process and that the parts usually have a poor performance regarding aging. Such systems hardly allow to refine existing technologies, rather they are something completely new, showing no connection with existing forms of building. Freedom of choice is limited and the identification of the users with their houses is low. But these are no reasons to neglect prefabrication as a whole. There is potential in refined existing technologies. One example for successful prefabrication using local materials is Columbia with its prefabricated bamboo panels, which are meanwhile being tested in Ecuador, Peru, Laos and Costa Rica. Such efforts can enable local materials to compete with imported goods on the market.

Self-Built versus Professional Support

In different regions of this world indigenous people struggle not only for their survival as individuals, but also as cultures. Since no culture can be blocked off anymore from outside intervention of various kinds, self-help alone would mean an artificial exclusion of the globalization phenomenon.

⁵ The Mestizo villages in the Vera Cruz region of Mexico are still one of the most fascinating examples of traditional prefabrication systems. The whole roof structure is prefabricated on the ground and then lifted on the top in a collective effort. Sometimes even whole houses are transported to a new location.

A rise in public awareness for cultural matters is a mutual process of internal and external affairs (cf. Borofsky 1994: 416).

But culture is not something that can be planned. Ingun Bruskeland Amundsen (*TDS WPS* 1994) claims that building projects should be evaluated in terms of their “cultural sustainability” in contrast to their “material sustainability”.

Although I see the evaluation of cultural circumstances as essential for every building project I do not agree with an approach that interprets culture as something that can be added-on like a technical innovation or a new roofing system. The development of culture is a process, and trying to copy this process or to continue it in a predetermined way does not make sense. The planning work of an architect is no cultural process – it can be an artificial creation, a reaction to the circumstances, a search for new solutions or the like. A planned city or a planned house works differently from a house that has grown over centuries, but at the same time “planning” does not necessarily imply the loss of culture, if the issue of culture is incorporated into the planning process.

Although self-help has delivered astonishing results in so-called “new vernaculars”, which are more directly termed “squatter settlements”, I claim that there is a high potential for improvement through expert intervention. There are various problems of self-help settlements in developing countries: The building process is extremely long due to economic constraints and constant rebuilding does not allow for a satisfactory living quality in its different stages. As building material anything is used that is easily available but often does not respond to the existing climatic conditions. Due to a lack of sense for community concerns the relationship to landscape and resources is a problematic one. It is no question that interventions of professional groups can improve the technical, hygienic, and sometimes even the economic or political standards. But these usually lack the knowledge of the complex cultural and aesthetic background and the people’s need to identify themselves with their environment. In her interesting research on the topic of aesthetics in low-income houses in Campinas, Sao Paulo, Brazil, Doris Kowaltowski analyses the subjectivity and plurality of definitions of aesthetics and tries to establish some principal guidelines (*Habitat International*, 1998: 299ff). In the study she describes that elements from nature (landscape, vegetation), the relation to a specific house image of the region, proper proportional human scale and aesthetics (mainly expressed through ornamentation) were found to be missing in environments considered as dehumanised by the people. In an environment considered as humane and attractive there was a preference for flowery, curvilinear forms, copies of classic

stylistic decorative elements, everything that people in Europe or the US would consider as homely, too – and everything that professionals refer to as *kitsch*.⁶

I do not mean to say that the designs of professionals should add such features in their concepts. It is not the assignment of a planner to add a flower pot here or a curtain there – this is a very individual matter. But at the moment it seems that architects waste most of their energy on fighting against a triple arched colonial style front door or a new Mediterranean facade that extends above the roof level. A housing design has to fulfil its function – and it must allow people to develop their own personal *kitsch* (Abb. 45-47).

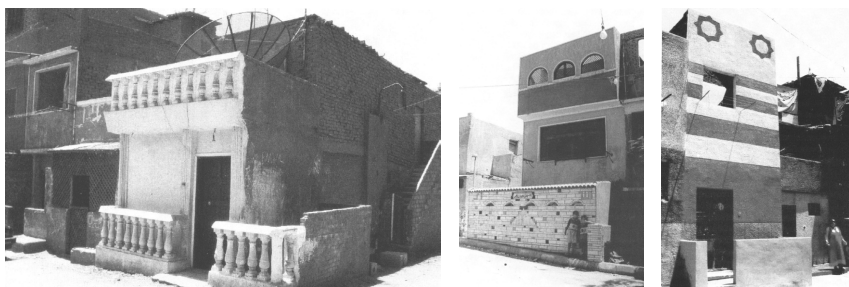


Fig. 45-47
Cairo, Egypt: the wide variety of decorative elements for individual expression through the facade

A large part of development projects in housing takes place in the context of a disaster situation where immediate assistance is needed and where time is a crucial matter. But since earthquakes, hurricanes or floods frequently occur in different areas around the world, the suddenness and surprise-effect of such disasters can no longer be an excuse for the frequent inappropriateness of such construction projects. Since building is a long-term investment even speedy action in emergencies have severe consequences in the long run. Turning to the people must again be the rule, although it might be more of a challenge in such cases.

A clear lesson in this regard can be drawn from the negative side effects that two European initiatives caused after the Gediz earthquake in Turkey in 1970. Aiming to reduce costs and to speed up delivery of temporary shelter, the German Red Cross supplied standardized sprayed-polyurethane domes to the victims. Similarly the Austrian government provided hexagonal prefabricated units. Although quite useful for the

⁶ A preference study shows that reductions to simplicity, sparse lines, the elements of the modernistic aesthetics, symbolize poverty developing countries and are therefore avoided. When tested, 85% of self-builders attributed importance to the beauty of a house (see Kowaltowski, *Habitat International*, 1998: 309).

time immediately following the earth-quake, practically all victims interviewed would have preferred to have used the cash spent on these prefabs for self-help construction. Some tents or a temporary shelter would have been sufficient to help people over the first few weeks. The dome shelters were not only badly adapted to the climate, they just had not been constructed according to the needs of a specific society and they did not leave any options for adaptation. As a result most victims neglected the houses as a whole and built up their own structures out of the rubble that was left. Some domes were occupied, enlarged or adapted for extended family use. With all these additions it turned out that the vulnerability to future earthquakes had even increased (Mitchell and Bevan 1992: 35).

Even if this chapter is overloaded with rather negative examples of developing projects my goal is not at all to curtail the value of the efforts made to find solutions for problematic situations. But I do want to argue that in many cases the results could be much better if only a little more input had been given to the pre-planning phase and if the necessary research had been carried out, with the people as a central concern.

Working with APD-Studies

What is needed in housing programs are not prototypical solutions but prototypical design processes (Lang 1989: 375)

As shown in the previous chapter, many failures in development projects occur due to a lack of information about the people, their living situation and their wants and desires. Showering the people with prototypical solutions only adds to the mounting confusion. To deal with this current malaise a two-fold approach seems necessary, one epistemological and the other methodological.

Although there is a widely-echoed call for the integration of culture in development, so far there are no definite methodological guide lines of how to actually integrate culture into the pre-planning phase. Throughout this thesis it is argued that the discipline of anthropology has a high potential to offer solutions for a variety of decision making processes in development questions, but also, and particularly, in the building sector. Different anthropological methods, combined in an APD-study (Anthropological Pre-Design-study), can guide the process into the right direction from the beginning and it should ensure that severe mistakes that do not go conform with the people's wishes can be prevented.

In this chapter I will introduce the concept of an APD-Study as it can be implemented in modified terms in many different regions. In part II of this volume a case study of Ladakh will provide a detailed example of how such a study can be carried out in practice.

How to Communicate

Communication skills are a major prerequisite. There are many obstacles that complicate communication between the planner/expert and the people: language, different cultural backgrounds, differing views of professionals and their customers, different expectations in housing, different value systems etc. In addition, technical experts are usually very fixed on their specialist knowledge and tend to put it above everything else, forgetting that finding a good technical solution is only part of the problem solving process. There are experts for everything: technical solutions, the natural environment, water and infrastructure management, design... but where are the experts on people's

affairs? The mediators between the technical experts and the people are still the missing link.

The use of anthropological knowledge and techniques to solve problems of the people who have previously been studied, has a long tradition in the field of applied or practical anthropology.¹ Applied anthropological methodology in building projects is especially valuable since only a qualitative collection and analysis of data and a thoughtful implementation using architectural experience can lead to a technically and culturally satisfying result. Although it would be desirable to engage two experts, one anthropologist and one architect, who closely cooperate, this will be possible only in a very few cases due to the lack of time and money, usually two crucial factors in development projects. Therefore, it seems to be more feasible to provide the architect, planner or development worker who is in charge of a building project with the necessary anthropological tool-kit to work with. Often it could even be better to have one person who is not perfect in any one discipline but has a good knowledge of both than to have two different experts who have a problem to communicate with each other.

It will be difficult enough for the professional worker to bring his or her own subjectivity into a more sensitive, if not an equal, relationship with the subjectivity of the people with whom he or she is working. To build a basis for communication there must be a living relationship between traditional continuities, the imperative of change, and the role of the outside agent of guided change. Here, the aim is fundamentally different from that of an ordinary researcher or anthropologist, since it has little to do with the transport of information and knowledge from a non-Western culture to Western laboratories, classrooms and bookshelves. The knowledge is needed right on the spot, it is the implementation of what has been worked out between the fieldworker and the community, it is a result that has far-reaching practical consequences (Khan, *TDSR*, 1996: 58).

¹ Whereas the British used anthropology in practice to maintain their colonial rule, the American government used it to provide reliable data for the establishment of a Native Indian policy, immigration policy, but also its own colonial policy following World War II. In the U.S. applied anthropology was booming during World War II, followed by a draw-back right after the war and again raising interest in the 1970s. Only from the 1990s on an increasing number of anthropologists can be found in virtually every sector of society: governments, international agencies, social services, business and industry, development, planning etc. (Naylor 1996: 12).

O.k. – so lets add culture to approach more satisfying results in building. But how? How can we gain a conceptually more refined notion of culture? What are the methodological considerations and how can we be theoretically precise?

Since time is a most valuable factor in building projects, the mixed bag of anthropological research methodology in the field such as participant observation, formal-, informal or semi-formal interviews or surveys, has to be thoroughly structured in order to obtain usable data and applicable results. As a minimum time-frame of an APD-study I suggest that one needs at least

- 1 month full time for preparatory work
- 2 months on the spot
- 1 months for analysing and evaluating the data

Preparations

The amount of preparatory work depends mainly on the extent to which the planning and building expert who is entrusted with a project is familiar with the planning environment. It is highly desirable that people are engaged who are familiar with the particular region and the cultural circumstances, but we have to face the fact that very often this is not the case. I find it necessary to gather in advance as much information about the particular region as one can get. Contrary to long-term ethnographic research, where some intellectuals claim that it is better to approach a surrounding as unprejudiced as possible, with only the most basic information about the subject of study, this does not make sense in the case of with an APD-study. The more information one has before getting to the field, the more precise the field-study can be and the less time has to be spent on obtaining general information.

Ethnographies that already exist about a certain people can be very helpful in providing an overview of the social and cultural circumstances in the region. Although ethnographic literature about the traditional house form is usually not existent or at least very rare, detailed information about family structures, way of life, religion, customs and rituals can be most helpful when dealing with the current housing situation. The aim of the study has to be thoroughly defined and questionnaires should be drafted in advance. Of course they will often have to be revised in the field since some aspects will be more relevant than others, but still, a pre-prepared questionnaire will be a good structure to hold on to and to prevent the inquiry from drifting into less important fields. Much infor-

mation can be collected in advance if there are contact persons on the spot, NGOs, governmental departments, building departments etc. Are there other building projects that have already been implemented? What are their strengths, what their weaknesses?

Above all it is essential to know every detail of the building project that should be carried out. Only if the planner/architect fully understands the purpose of the project will s/he be able to define the right group of people to get the necessary and relevant information from. The planner also has to be informed about the major pre-requisites of a building project such as the existing policies, political and economic situation and, very important, the system of land-ownership. Since building is always directly related to the availability of land, and since land-ownership is a very diverse and crucial factor in developing countries, it has far-reaching influences on construction. There are many examples where a changing market approach towards land-ownership alienates the land and the house from the kin-group and causes confusion in construction.

A concrete example of this is Ghana, where land-ownership is not an individual matter but lies in the hands of paramount chiefs, priests, quarter- or family heads. The same is true for house-ownership. In Ghana the material world is seen as part of a larger realm which is inhabited by ancestors who are vigilant and influential over affairs that affect the long-term wealth and well-being of a lineage. Disposal of land or housing is therefore likely to be punished by the ancestors and thus property-ownership is based on loyalty and obligation throughout the lineage (see Tipple and Korboe, *Habitat International*, 1998). The question of land tenure is similarly important in Zambia (see Schlyter, *Habitat International*, 1998) and many other locations not only in Africa but also in Asia and Latin America. Without knowing about the precise circumstances it is barely possible to conduct any serious study about housing.

On the Spot

Development agencies gain more and more understanding of the fact that proper solutions for specific problems can only be worked out by sending experts to the field. Recently even the World Bank established the practice of sending staff to live in squatter settlements in order to experience the local situation (Sandhu, *Habitat International*, 1998). The right attempts are being made – but there is still no proper guideline to obtain the desired results. Being there by itself is not enough. Especially if the aim is a

genuinely democratic integration process it is of utmost importance in successful design and implementation to accumulate an understanding for of motivation of the people who are the beneficiaries and participants in the development process.

With an APD-study it should be possible to trace what Tucker (1997: 9) calls the “structures of feeling” which have both individual and social or collective aspects. It allows a critical analysis of processes of meaning construction and deconstruction. There will always be very manifold versions of one statement which will converge and conflict with each other. But usually there is a tendency that some meanings and ways of perception predominate while others are marginalized. In order to trace this core line, multidimensional approaches are necessary, which will only deliver results if combined in a useful arrangement. An APD-study focuses on the actor’s point of view. It uses the detailed knowledge of the people on the spot to put the Euro-American centred view of an expert into a different perspective and to draw it away from universal generalizations. Qualitative research through face-to-face encounters should open up the world of the meaning and significance that housing has for the people. But in all that the central question should never be abandoned: What am I producing this knowledge for? Whom am I producing this knowledge for?

The selection of target groups is one of the most crucial subjects before starting interviewing the people. It will not be enough to just work with a certain amount of people – different target groups will have highly differing perceptions. A special concern should be given to the perspective of women, since in most cultures it is the women who spend the major part of their day in the house and who therefore understand best the design of their own home. Only if women’s issues are already integrated into the basic research do they have a chance to play a major role throughout the development process (see e.g. Piesch, *Trialog*, 1995: 38-41; Patel, *Architecture California*, 1995: 55).²

The actual approach of an APD-study in the field can best be made accessible through an example. This is described in length in part II which also gives insight into the applied methodology.

² In the 1980s an interesting project was started in India called SPARC, Society for Protection of Area Recourse Centers. By consciously involving women and by offering training classes the pavement settlement situation was improved in various cities all over India. Under the name “Mahia Milan” = “women together” they built life-size model houses out of cardboard, wood, cloth and other material so that people could get a sense for the alternative. In this case working with women has proved to be highly successful (Patel, *Architecture California*, 1995: 55).

Analysing and Utilising

When we ask questions there will always be different answers to one and the same problem. The answers might present themselves to the researcher as a clear consensus among almost all people interviewed, sometimes there will only be a tendency recognizable, and sometimes the answers will be mixed and no clear result can be drawn from them.

It must be clear that knowledge gained by a rapid appraisal is no ultimate truth. A quantitative, large scale survey could bring quite different answers to some particular questions. Thus, within the limited time-frame given, it is only possible to determine certain tendencies. Although it is clear that “short is never better”, it is a necessary evil defined by the tight development planning schedules in which even large-scale projects operate. With this in mind there must be a clear judgmental sense of how limited the data are. After all, this is why I argue that a mixture of methods is absolutely necessary since at least it allows for cross checks of a certain subject.

Throughout the analysis of the data the researcher will discover that frequently the results of the data collection do not go conform with what s/he would like the result to be. Therefore, it is necessary to be aware of this risk and to consciously try to stay objective. Another risk is that the researcher is tempted to place the results of the APD-study above everything else. Development is an integrated process with a variety of participants. It can only work if the results of the study are integrated into a whole network of other important parameters such as technical, political and economic considerations.

Going through an APD-study does not only incorporate the evaluation of a questionnaire, interviews or things that were observed, but also the interpretation of the data, the processing and the passing on of the knowledge. To gain an understanding among the people who are engaged in the planning and design process, it is necessary to summarize the results in such a way that the anthropological concepts can be translated into architectural practice. Most essential of all is the transfer of the results to and their distribution among the actual subjects of study. This might not only clarify their own understanding of their situation, but will also be a good opportunity for cross-checking the results and a further method to prevent basic errors in planning.

Passing on information to the people is a subject in itself and often involves processes of education, seminars, plays or other methods of transfer that go beyond a simple printed script.

Once completed, the APD-study should be a constant point of reference throughout the design- and planning process and further on throughout the implementation phase. If special problems arise that have not been covered yet, the APD-study can be extended in a flexible way, in the search for answers to specific, unsolved questions.

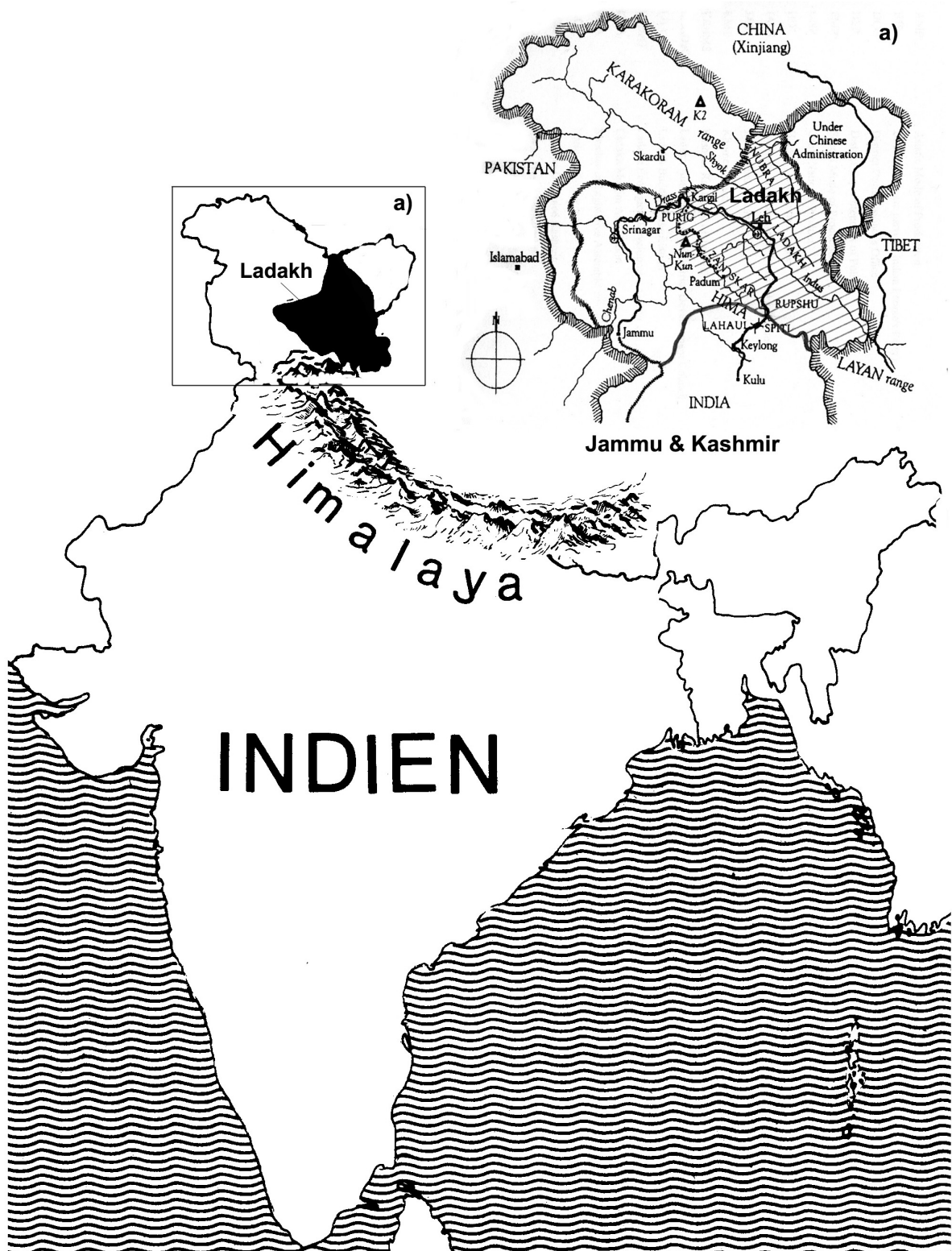


Fig. 45

Introduction to the Field

Ladakh – mysterious land on the top of the world, eclipsed from time and space, idyllic and original, frozen in eternity. This is Ladakh as seen through the eyes of most tourists. Yet the heavy presence of the tourists themselves, who arrive by plane or travel the roads linking Ladakh to Shrinagar or Himachal Pradesh, is proof enough that Ladakh is not the *Shangri La* that it has never been, although many idealistic minds like to see it this way.

In the following chapters I will give an overview of the way I approached and analyzed the research environment and I will provide some data about Ladakh, summarizing the enormous changes that have influenced all spheres of Ladakhi life in the last quarter of the 20th century. Due to the elaborate contents of this thesis I will not be able to discuss the current situation in Ladakh in detail. However, some basic introduction will be necessary for the understanding of the further discourse on the housing situation.¹

The task of my field research was to conduct an anthropological field study prior to the design process of a building project, in order to trace the major wants and needs of the people regarding their housing situation. The setup was as follows: First of all I concentrated on a specific housing project, “Solar Town”, which was in the first planning stages. Then I examined an existing settlement in the outskirts of the capital Leh, the Housing Colony. It was the subject of the field work to analyze the housing situation in this colony with the help of an Anthropological Pre-Design study (APD-study) in order to obtain valuable information on the prerequisites for the planning of a new Solar Town Colony.

The challenge was primarily to define the right methodology for an efficient outcome of the field study within its limitations. To do so I mainly followed the theoretical guidelines that were worked out in part I of this volume with the necessary alterations due to the specificity of the region and the situation in the field. To put it another way: With the field study I turned the theoretical considerations of part I into practice. However, since

¹ For further information there is a variety of books, travel literature and scientific studies, dealing with different aspects of the country and its people. The series *Recent Research on Ladakh*, No 4-8 (Ostmanston et al, 1993, 1995; van Beek et al., 1999 – there are no volumes No 1-3), gives a good overview of the research conducted in Ladakh over the last twenty years. Prem Singh Jina (Jina, 1994, 1995, 1996) writes in a more narrative but very informative way. Other useful literature can be found in the bibliography of this thesis.

Ladakhi life has been exposed to severe outside influence in every aspect of daily life I put the main emphasis on the theoretical and methodological significance of these interrelated processes.

The task was the following: After the completion of the analysis and evaluation process, the outcome of the design-supporting anthropological study should be a list of suggestions based on the collected ethnographic data. This suggestions should form a fundamental guideline throughout the planning and building process of the new Solar Town Project. As such it should assure a more satisfying outcome for the people and improve the living situation compared to other housing colonies.

Architecture on the one hand has the responsibility of conserving the cultural heritage and supporting appropriate technical developments on the other. How responsible the future planner will handle this task depends on the exact analysis of the specific regional situation and a sensitive approach towards the needs of the people. As should be shown in this study, an anthropological approach can contribute a lot to solve basic questions already prior to the planning phase. Thus I argue that an APD-study should - especially in such regions of cultural instability - be carried out prior to every major building project.

The research environment _____

The inhabitants of this country have reached something that others only dream about: They have made the desert blooming.
(Harrer 1978: 45, NB: translated by the author)

Why Ladakh? As Heinrich Harrer describes it in his book about Ladakh, Ladakhis are a remarkable kind of people. It is a hostile atmosphere of well-being that surrounds every visitor to the region. This is still true today, although Ladakh has undergone a major process of change during the last decades. Ladakh is a significant region exemplary for many locations that have been subject to severe and rapid change due to global factors. In Western countries far-flung interactions and mutual exchange have developed over a long period of time. Ladakh, on the other hand, has long been in a rather separated position when change started to appear overnight with immense speed that influenced the whole social background. Still, the task cannot be the on prevention of any intervention, but to find the right reaction to it.

Similar situations than in Ladakh – although under different economic and political pre-conditions – are found not only in many countries in the Himalayas, like Tibet, Nepal or Buthan, but in less developed countries all around the world.

I spent three weeks in Ladakh in the summer of 1997, got a vague insight into the problems of the region and became fascinated by it. So I returned twice for a longer period and found it more and more appropriate for a case study.

In Ladakh, like in other regions of the developing world, researchers tend to stick to the past and to neglect current influences that have long influenced all spheres of Ladakhi life. Many researchers see the current circumstances as a cultural decline which started with the intrusion of the Indian army in 1949 and was enforced through the opening of the region to tourism in 1974. The major task of current research work is to examine the rich social and cultural heritage in order to document and preserve it. Working with present problems and the search for solutions with the help of an “applied anthropology” is a challenge. Therefore, most researchers present affairs, as well as the pressure of taking over any responsibility. Preservation is important – but in my opinion it is at least as important to use this knowledge for the present and the future, where it is still possible to influence undertakings into a positive direction. There is no such thing as “cultural self-destruction”. The Ladakhi culture is subject to a transformation never experienced before, but the Ladakhi people will always be determined by their own culture – the cultural surrounding might be different today from the one twenty years ago, but it can be at least as exciting.

Methodological Considerations

Anthropological methods provide assistance in examining the changes taking place during the recent processes of modernization which have transformed the lifestyles of many people in Ladakh. It is essential to find out what people build now, which materials they use - traditional and contemporary ones - and why they use them. Why do tin roofs replace traditional mud roofs? Why are some new technologies adopted while others are not? In which way are new needs of people created through Western influence? Which technologies are just copied because they are fashionable and which do really improve the living conditions? Questions like this will be answered differently in different regions. But they are certainly questions that should be answered before even starting the design of a new building, housing project or anything like that. It is impor-

tant to clarify what questions to ask, how to ask them, and how to integrate the answers to them into the design process. It takes certain skills and knowledge of methodology to find the right answers and the architect or engineer is very often burdened with such a task. The architect must be able to evaluate the discrepancy of what people think, what they say and what they really mean. Applied anthropological field research methods offer a variety of options that can help the person in charge of a building project to gather and evaluate the information, integrate it into the design and reevaluate it during the process by involving the people. The composition of such an "Anthropological Pre-Design study" (APD-study) should be the major outcome of my work. It should be easily applicable in many situations and thus be a valuable tool for the aid worker in charge.

To design a fieldstudy-scenario that can be carried out quickly and efficiently was one of my major tasks. My field research in Ladakh should function as an exemplary study in order to prove that such design-supporting anthropological studies can be usefully applied prior to various building projects in developing countries. In such situations time is a crucial factor and it has to play a significant role in the choice of methodology. Otherwise there is a danger that the study and the analyses take too long for the data to be used and applied.

The design-supporting anthropological study is a mixture of field research and a form of rapid appraisal. It is a truncation of a formal survey combined with the useful aspects of narrative interviewing supported by participant observation.

Since I see no absolute truth in any one specific way to collect the best quality data for an adequate analysis within a given time frame I think that the usefulness of an anthropological study lies in the diversification of the methodological tool kit. There were three main tools that I used for obtaining information: Participant observation, surveys combined with interviews, and semi-formal interviews (for more detailed information see chapter *Study Approach*, p234).

Of all these methodologies I consider participant observation as the most important. Only through the observation of people and their living conditions is it possible to interpret the answers given in surveys and interviews in an appropriate way. One problem is that in front of a "Westerner", who is still seen by most locals as an incredibly rich and enviable person, Ladakhis very often feel inferior, and want to make up for that by

trying to impress in various ways. Another problem is that the phrase “I do not know” seems to be forbidden under any circumstances. One good example is a question that I asked three persons independently and where I got three completely different answers: Behind the housing colony there is a big sandy slope that was dotted with some strange looking dark inlets. I had no idea what these could be for and when I asked three persons I got the following answers: landing platforms for helicopters, bunkers for the army, a golf course. The most incredible, a golf course for the army, turned out to be true. I am sure that in this case nobody said something wrong on purpose, but my respondents simply did not know any answer and told me something that seemed most likely to them. Thus, observing and getting a basic feeling for the information is of major importance.

The Role of the Field Worker

Other than the researcher or scientist the fieldworker has the difficult task to mediate between traditional continuities, the imperative of change and his/her role as an outside agent of guided change. There is a complex knot of historical disjunction and cultural continuity that has to be resolved. In the case of this specific field work it was important to me to not only transfer the interpreted information to Western scientific institutions or bookshelves. The aim was an active interpretation of the current situation both by the fieldworker and the subject community, the identification of conflict between sustainability and progress, between continuity and what does, or sometimes only appears, to disrupt it. In this way it is desirable for a professional worker to bring his or her own subjectivity into a more sensitive relationship with the subjectivity of the people with whom s/he is working.

My task was to study not *the* Housing Colony, but to study *in* the Housing Colony, having particular problems and questions in mind. First I had to formulate and address the questions: “Why am I doing this particular study in this particular location? For whom am I producing knowledge? Who can make use of it?”

It was important to deal with the “globalization issue” but in a way of not interpreting it as something external arriving like a ship from outside. I anchored this issue by studying a particular subject – building, on a particular site - the housing colony (cf. Tucker 1997: 18). Before it was important to gain knowledge about the historical context such as traditional building methods and material and how it developed in relation with so-

cial, geographical and economic circumstances. I agree with Roderick J. Lawrence (1989) that the study of indigenous architecture and the observation of traditional building processes can provide a lot of knowledge for one's own design work. On the other hand I think it is time to go much further and not just examine what had been in the past, but what is the situation now and what are people's expectations regarding the future. Research in the building field has to be more people centered since the strong concentration on technology alone is not appropriate anymore. Doing so I have Manfred Kremser's theory (1998: 143) in mind that the tendency must proceed from the asymmetric perception of the exotic to a self reflexive and circular process of perception regarding the relation between the actors. The contents of research has to move from the perception of the "object" to the perception of the relation between the people.

After analyzing a situation there will always be the question if the researcher has a right to intrude from the outside - for example in the form of planning or building work - and to come up with actual suggestions. This is a very personal question that every researcher has to answer for him/herself. In particular, regarding the situation in Ladakh one could say that the rural-urban migration is not a desirable process at all, that it causes many problems and that the planning and building of new settlements should therefore be avoided in general. But the fact is that the migration takes place. Avoiding this tendency is often a political goal, but even politics is quite powerless in these matters as the worldwide problems of urbanization prove. Accepting the matter as it is, it still leaves the question: Is it advisable to interfere in these matters as an outsider? Wouldn't it be better to leave this problem to the Ladakhi population? On the other hand Ladakh had never been the uninfluenced and protected *Shangri La* as it is still seen by enchanted tourists and communication with all parts of the world is omnipresent. If we cannot avoid this mutual influence, or if we don't want to, then the issue becomes one of moulding the relationship in a positive way. An artificial demarcation line is neither possible nor desirable since local systems have long lost the isolation and compactness. Marshall Sahlins pointed out at the beginning of the 90s that an open local system is something different from a non-existent local system (see Sahlins 1992, 1994). Ladakh is a vicarious example for such an open local system which has preserved its peculiarity in spite of being exposed to a process of change of immense speed.

The task is not to repel outside influences but to deal with the dangers that speedy processes of change bring with them, with the biggest danger of all - the unreflective

taking over of Western standards. Seeing it in a broader context the desire to do so is, in the long run, the most certain way to ruin our entire environment for living. One only has to realize that only a small minority of the entire world population consume most of the the world's energy and other resources. At the same time three out of four children are born in so-called developing countries. Taking this into account it is out of question that modernization has to take precedent over westernization since the copying of the mistakes that occurred in the West would undoubtedly lead to a worldwide breakdown in many respects.

We know very well about these threats and we already have developed technologies, like renewable energy sources, that function extremely well. Although these alternative resources do not seem very attractive as long as others are so easily and cheaply available, the situation in Ladakh is different, where in many villages the choice is between solar electricity or no electricity at all. Therefore it is our responsibility to spread our know-how of renewable energy sources. However, there will always be a thin line between the provision of knowledge and tutelage.

About Ladakh

Away in the heavens above I saw the great ice peaks, like towers of polished silver, which the passing blond shadows dimmed and brightened as when one breathes on bright metal. I had eyes for no other scenery that day, for I had seen heaven and the great white throne.

(A.D. McCormick quoted in Jina 1995: 98)

This is how the British painter A. D. McCormick described the landscape when he traveled to Ladakh as part of Martin Conway's expedition team around 1915. His description mirrors the breathtaking impression that visitors to Ladakh still experience today when trekking through the vast mountainous landscapes. But if the wanderer draws closer to the villages, or even the capital, the impressions of the contemporary visitor will not have much in common with those McCormick experienced. During the last five decades Ladakh has gone through a major process of change, leaving its traces not only in the villages, but also on the landscape. Nevertheless, Ladakh has kept its very own fascination due to its unique location and the people who were born out of this rugged landscape.



Fig. 46
Road from
Manali to
Leh/Ladakh

The Land

Ladakh (*la-dvags* = the land of the passes)¹ is a region in the northernmost part of India. It is situated in the eastern territory of the Indian Federal State of Jammu and Kashmir (J&K) and is embedded between the mountain-ranges of the Himalayas in the south and the Karakorum in the north. It is bounded in the north and east by China, in the north-west by Gilgit and Skardu, now occupied by Pakistan, in the west by the Baramula, Srinagar and Anantnag districts of the Kashmir valley, and in the south by the Indian State of Himachal Pradesh.

Geographically, Ladakh is part of the Tibetan plateau, one of the highest inhabited areas on earth, with villages situated between 3,500 m and 4,500 m altitude, while the highest peaks rising well above 7,000 m. Ladakh has a size of 59,000 sqkm (not including the territory occupied by Pakistan and the area of Aksai-Chin² which was annexed by Chinese forces) with a population of about 205,000 inhabitants³, which corresponds to a density of 2.6 inhabitants per sqkm. Ladakh is the largest territory within J&K but it hosts only about 3 % of its population.⁴ Ladakh is subdivided into the valleys of the rivers Indus, Zaskar and Suru, the valley of Nubra, the Do-Hannu area, the Chang-Than plateau and the mountain ranges in between. In 1979 Ladakh was divided into two administrative districts: Leh District and Kargil District.

The landscape is shaped by the high desert climate and only 0.4 % of the area is cultivated. The average rain fall is no more than 10 mm per year. Temperatures range from + 35 °C in summer to – 20 °C in winter and there are pronounced differences in day and night temperatures.⁵

¹ According to Franke (in Emmer 1992: 93) Ladakh is the Persian transliteration of the Tibetan word *la-dvags*. There are many more terms used for Ladakh among various researchers and scholars: e.g. *bla-dwags* = the land of the lamas, *mar-yul* = the lower land or the red land, *man-yul* = the land of the people, *mnaḥ-ris bskor-gsum* = Western Tibet (Emmer 1992) etc.

² Aksai-Chin is a territory of 30,000 sqkm with almost no population except a few nomads. A bloody border war between China and India was started on 13th October 1962. Until today China lays claim to the area; a peace treaty is still outstanding.

³ Data resulting from the micro census of India, 1995

⁴ J&K covers an area of 138,942 sqkm and had 5,987.389 inhabitants in 1981 (latest official census). It consists of three regions: the Kashmir Valley, Jammu and Ladakh.

⁵ According to the Renewable Energy Resource Data Collection of the Ladakh Ecological Development Group (1997: 16) the average temperatures during the years 1995-1997 were as follows: average minimum/maximum temperature in January: -15°C / -3°C; average minimum/maximum temperature in July: +11°C / +28°C.

The People

Hermann von Schlaginweit,⁶ one of the most eminent explorers to Ladakh in the middle of the 18th century, summarized his knowledge about the population of Ladakh simply as follows:

The inhabitants of a vast part of Ladakh belong – as the once in the whole of Gnari Khorsum and in the land of the Dalai Lama – to a pure Tibetan race. This reaches in the northern part of Ladakh, in Nubra, up to the water-deviding border of the Karakorum range; in other parts of Ladakh the pure race starts to change with the presence of Islam. Already 40 to 50 English miles west of Leh, there is a great number of Muslims. (Schlaginweit quoted in Harrer 1978: 45, NB: translated by the author)

In fact, the structure of the people in Ladakh today is very heterogenous. The population is a mixture of Indo-Arian descendants from Gilgit (today in Pakistan) and Tibeto-Mongolian immigrants from the high eastern plains.

The Ladakhi language belongs to the Sino-Tibetan family of languages. Ladakhi dialects are archaic Tibetan forms of speech. The official language today is Urdu and English is taught in all schools as well. However, Ladakhi is still the language that is most widely used by the people. In the District of Kargil people speak Shina or Bhaita or a mixture of both. Until recently Ladakh did not have any literary writing since the Ladakhi language has an oral tradition only. Today several cultural movements try to introduce a written form of Ladakhi which is closely related to the Tibetan script to prevent the language from being thrust aside even further.

Religion is of high importance to Ladakhi people, it is responsible for the lively cultural multiplicity and its permanent presence shapes both Ladakhi landscape and Ladakhi life. Religious symbols are distributed throughout the country and monasteries, mosques, *chorten* and *mani* walls⁷ characterize the scenery.

⁶ Hermann von Schlaginweit was one of five brothers from Munich who became world famous for their extended travels and expeditions. He travelled through Ladakh several times and published his experiences in four volumes called “Reisen in Indien und Hochasien” (Travels in India and High-Asia). His collection, which was divided between the ethnological museums in Berlin and Munich, consisted of 14,777 exponates.

⁷ Detailed information about *stupas* and *mani* walls is given in the chapter *Traditional Architecture*, page 189.



Fig. 47 _____
Thikse Monastery



Fig. 48 _____
Chorten outside
Leh

The religious variety in Ladakh is as heterogeneous as its people with the two most dominant religions being Buddhism and Islam. According to the last census in 1981 there were 51 % Buddhists, 46 % Moslems and some minorities like Christians, Hindus and Sikhs. The Muslim population is mainly concentrated in the district of Kargil, where 77 % of the population are Muslims whereas 19 % are Buddhists. In the district around the capital Leh it is the other way round with 81 % Buddhists and 15 % Muslims. Today there are about 100 Christians in Ladakh, mainly concentrated in Leh. Christianity was introduced in 1885 by the Moravian Missonaries from Herrenhut. Hindus and Sikhs can mainly be found among the army forces but they are rather small in number with about 3 % Hindus and 0.25 % Sikhs.

Ladakhi Buddhism is a variation of the Mahāyāna Tradition (Great Vehicle) and is strongly oriented along Tibetan Buddhism. It is a particular form of the Tantrayana⁸. All Buddhist schools which exist in Tibet are also represented in Ladakh. Elements of the Tibetan Bon religion with its colorful figures and beasts became partly assimilated into the Buddhist practice in transformed ways. Together with the Buddhas and Bodhisattvas there exists a whole pantheon of gods or spiritual beings (*lha*, *btsan*, *klu*) and protective deities (*vidam*). The worldview of Ladakhi Buddhists is even today formed by practices of animistic and shamanistic elements from times before Buddhism was introduced to the country. The typical ritualists of the little tradition are the astrologer (*onpo*), the oracle and the *lha-pa* (female: *lha-mo*), who is a local ritual specialist trying to cure sick persons with the help of incarnated local gods (among them, sometimes, also mountain gods).

⁸ The Tibetan Buddhism was already mixed with Tantric elements when it arrived in Tibet. There it was further mixed with traditions of the original Bon religion. The ultimate goal is to reach „emptiness“ with the help of meditation and meditative instruments such as *mandalas* or *mantras*.

Interestingly, in mountain cults play a less important role in Central Ladakh than in the central and eastern Himalaya regions.⁹ Ladakh has been characterized by a comparatively strong, dynastic rule over a long period of time, by nearly continuous, direct state influence and by a distinct scriptural tradition. It seems that in the vicinity of such intermediate and intermittent spheres of state and scriptural influence mountain cults play a subordinate role on the local level (see Gingrich 1996: 237ff).

It is typical for the Tibetan Buddhism that “Great Tradition” and “Little Tradition” are interrelated and form a continuum. To a lesser extend the Muslims share these experiences and it is still common in Leh and surroundings that Muslims visit the *lha-pa/lha-mo* for healing if they are sick (Emmer 1999: 111-112).

In the District of Leh there are mainly Sunni Muslims, descendants of immigrants from Kashmir which came to Ladakh along the trade route. There are about 120 Shia households in Leh township, in comparison with a population of over 300 Sunni families.¹⁰ Thus, the Shiites represent itself a minority among the Muslim minority. Chuchot, a village about 20 km down the Indus valley from Leh, is an enclave of Shiite Muslims mainly of Balti origin. Whereas the Sunnis are mainly traders, the Shiites came as refugees or soldiers and are now mainly farmers or workers. The offspring of marriages of Muslims with local Buddhist women are called *Argons*.

According to Abdul Ghani Sheik (1995: 189), one of the most skilled Muslim scholars of Ladakh, the advent of Islam in Ladakh cannot be dated precisely but it can safely be said that the first Muslims set foot in the area more than 600 years ago. Many Turks and Balti Muslims reached Ladakh in the 15th century AD and they were followed about 100 years later by Kashmiri traders.¹¹

In the beginning of the 17th century Islam began to take root in the Leh area after King Jamyang Namgyal’s defeat in a war with Batistan. Jamyang Namgyal was taken pris-

⁹ In Central Ladakh local and territorial demons are not associated with mountains as in neighboring regions, but merely with elevated places, with shrines as the locus of rituals (Gingrich 1996: 237).

¹⁰ This data derive from estimates of various Shia informants interviewed by David Pinault (1997: 290)

¹¹ Mir Syed Ali Hamdani was the first to recrute converts for Islam in Ladakh, after his second visit to Kashmir when he passed through in 1394 A.D. on his way to Kashgar, Chinese Turkestan. He is often described as the founder of the Islamic faith in Kashmir and, according to local tradition, built several mosques in Ladakh including one at Padum (Zaskar) and one in Shey. Shey was the capital of Ladakh at this time (Sheik 1995: 189).

oner and Ali Sher Khan, the Muslim ruler of Skardu, offered his daughter Gyal Khatun to him for marriage. Ali Sher Khan sent Muslim maids, male servants and a band of Balti musicians back to Ladakh with the marriage party. Gyal Khatun retained her religion until her death and private mosques were built for her and her servants in Leh and Shey. Later Muslim queens of Ladakh used to offer prayer in these mosques (Sheik 1995: 190).

After the final conquest of Ladakh by the Dogra army in 1842, some Muslim soldiers remained in Leh and settled down there permanently. Many Muslims of Kashmiri or Turki origin (from Xinjing) married Ladakhi Buddhist women. After their marriage Ladakhi Buddhist women and Muslims would adapt to each other's way of life. The man kept his religion but in other respects he adopted the food, language and social customs of his wife (ibid.: 191).

Ladakh is often represented historically as a "pure" Buddhist realm, but under closer scrutiny such a narrow representation can not be upheld since there is a much wider religious variety to be taken into account. In literature, scientific as well as travel scripts, Ladakh is often represented in the surroundings of Tibetan culture and terms like "Little Tibet" or "Indian Tibet" are widely used. Writers tend to dwell in wistful moments of paradise lost and in these terms Ladakhis are still seen – by Indians and foreigners alike - as a mysterious people living unchanged lives at the fringes of the Himalayas, primitive, backward and uninfluenced by modernization or Western values.

Even Indians tend to see Ladakhis more affiliated to Tibetan lifestyle than to their own, whereas Ladakhis practically never speak of themselves, neither in an ideological nor in a political sense, as Tibetans. In terms of their identity Ladakhis feel very much part of the Indian State, which is, to a considerable extent, due to their fear regarding infringements from Pakistan or China. For Indians, in turn, the areas in the Himalayas are seen as insecure border land where national heroes live their lives in defense of intrusive neighbours. At the same time the mountains are sacred places inhabited by deities and full of spiritual enchantment. Still, in spite of its strategic importance, I have talked to Indians who don't even have an idea that Ladakh is part of their country or where it is located.

Ladakhi identity has been a critical issue over the last three decades since modernization has changed traditions that are not necessarily affiliated with religion. Both, Bud-

dhism and Islam, are very flexible within their doctrine, adopting a variety of influences from different religious practices. This identity, which can be termed as “Ladakhiness”, that had developed rather independently from religious terms over centuries, has now come into a severe crises through outside influence and political struggles.

Historical Nexus

For almost nine hundred years, from 950 until 1842, Ladakh was an independent kingdom and the hierarchical structure that was built up during this period can still strongly be felt within the society. There is no cast system comparable to other parts of India, but the influential families are to a large extend direct descendants of the royal family.

The first king of Ladakh was a direct descendant of the Tibetan royal family. This was before the first Dalai Lama became a god-king in Tibet, thus the king of Ladakh, contrary to Tibet, always played only a political, never a religious role as head of the country. There was no political unity until dPal-gyi-mgon conquered Ladakh and founded the kingdom. He was the eldest of the three sons of dPal-gyi-mgo, who was himself a great-grandson of the Tibetan king gLang-dar-ma, who had established a kingdom in mNga-ri, east of Ladakh.¹²

But it was not until 1616 that King Seng-ge-rnam-rgyal, one of the most influential monarchs, united the many independent principalities (Ladakh, Zaskar, Spiti etc.) and built the Royal Palace in Leh. After his rule had ended the kingdom of Ladakh had to cope with a variety of external conflicts and internal tensions. There are different interpretations of the protracted decline of the kingdom in this period, the most widespread is the failure of Ladakhi kings as effective rulers.

In 1834 the Dogra-ruler Raja Gulab Singh of Jammu attacked Ladakh. Only with the help of Tibet it was possible to sign a peace treaty which allowed the royal family of Ladakh to stay in their palace in Stock, but they were deprived of all political power. In 1947 British rule was established also in the northern parts of India. But since these territory was not of much use for the British they sold it back to the Dogras for 7.5 million Rupees. The period of the Dogras was very harsh and harmful to the Ladakhi peo-

¹² gLang-dar-ma became king in 842 and was later murdered by a Buddhist monk because of his strong inclination to the Bon religion and his anti-Buddhist behavior. After his assassination it took about 100 years to stabilize the country again.

ple and their cultural heritage. Monasteries were destroyed and high taxes threatened the well established economic life along the major trade route. The Dogras tried to introduce Hinduism to the country.

One reason why they never succeeded in this was that the Ladakhi people could convince them that Buddhism had always been a part of Hinduism and thus was no different religion.

An end to the Dogra-era was brought by Sheik Mohammed Abdullah, also known as the “Lion of Kashmir”, who was the representative of the Kashmiri Muslims fighting against the Maharaja. He founded the first Muslim party of Kashmir, the National Conference, which marked the beginning of nationalism in Kashmir. Abdullah was the first to start fighting for the independence of Kashmir, a struggle, which has not found a peaceful end until today.¹³

After the independence of India in 1947 there was about the same number of Buddhists and Muslims living in Kashmir. When India and Pakistan were divided the question arose which part Kashmir should be allocated to. From this time on a bloody border war has been going on between India and Pakistan and there is still no political solution in sight. Ladakh held a neutral position at first, but when Pakistani troops proceeded as far as to the villages of Nimu and Phyang¹⁴ and were fought back with the help of Indian troops, Ladakh got directly involved. In 1949 Ladakh for the first time claimed “Union Territory Status”, a demand which is still upheld today.

Politics Today

The constant struggle between India and Pakistan has a direct influence on the relation between Ladakhi Muslims and Ladakhi Buddhists. In summer 1989 Ladakh experienced massive agitation in the struggle for more local autonomy. The event led to severe confrontations between Buddhists and Muslims and to an economic and social

¹³ With the Article 370 of the Indian constitution a restricted autonomy of J&K was achieved. Kashmir was granted its own constitution and was largely independent in terms of legislature, foreign affairs, communication and defense. In 1975 the passage was weakened by Indira Gandhi (the legislative power was returned to the Indian Parliament) and until now Article 370 remains a constant point of struggle and arguments.

¹⁴ Nimu and Phyang are villages situated about 30 km and 10 km, respectively, from the capital Leh in the upper Indus-valley.

boycott of the Muslims of Leh District.¹⁵ The initiative was taken by the Ladakh Buddhist Association (LBA) under the leadership of their president Thubstan Chhewang who launched the agitation on 19th July, 1989. Primarily the Buddhists in Ladakh no longer wanted to be kept in the tight clutches of the J&K-government in Shrinagar. They claimed the status of a Union Territory which should put the country under direct rule of the central government in Delhi. The reason for this demand was mainly that Ladakh accused the government in Shrinagar to use up most of the financial support coming from the central government of India for their own development and not passing on a sufficient amount to Ladakh. In what followed, Ladakh partly achieved what it had claimed for. The Ladakhi Buddhists and Shia Muslims were granted "Scheduled Tribe Status", which entitled them to receive more financial support and more freedom regarding legislative structures.¹⁶

In 1995 another long-standing demand was fulfilled. Ladakh was granted restricted autonomy based on the newly installed Ladakh Autonomous Hill Development Council (LAHDC), which was granted administrative independence while the jurisdiction is still concentrated in Shrinagar. But even the LAHDC is very controversial among the population. Out of 26 LAHDC-members only two are Muslims and practically the whole committee belongs to old and influential Ladakhi families related in some way to the former royals, like the current president Tupsten Chhewang, which revives old hierarchies.

To demonstrate their loyalty to the central government in Delhi almost all LAHDC-representatives became members of the Congress Party, which was the leading party in Delhi in 1995. Not only that the National Conference, the ruling party in Pakistan, never had good relations with the Congress Party, currently also the power in the central government in Delhi switched from Congress to BJP casting further shadows over the Leh-Delhi-relations.

¹⁵ In the course of the protests three Ladakhi people were killed, several people were injured and about 150 arrested. Houses were set on fire, bombs exploded and a curfew was imposed on the capital.

¹⁶ To subdivide the people of Ladakh into so-called „Scheduled Tribes“ sociologists were sent into the region to study the structure of the population. They defined a somewhat artificial construct consisting of 8 tribes (Boto, Balti, Beda, Drook, Changpa, Purigpa, Mon, Garra). In the beginning there were long disputes about the *Argons*, offsprings of Buddhist-Muslim marriages, who were not granted Scheduled Tribe status since they could not be classed within any specific tribe. Finally they were acknowledged and also granted Scheduled Tribe status.

In 1996 the National Conference Party of Abdul Faruq, son of Sheik Mohammed Abdullah, won the Kashmir elections with overwhelming majority. Faruq, like his father, is a strong advocate of autonomy for Kashmir and in many negotiations with the Indian government considerable further concessions were made again leading to protests in Ladakh.¹⁷

From 2000 on a division of the country into three parts, Jammu, Kashmir and Ladakh, has been discussed. Up to the present day Ladakhis demonstrate their demand for Union Territory status in frequent street rallies.

Economic Situation

Although the region of Ladakh is characterized by harsh climate and topography, the people have learned to cope with these difficult circumstances and to face the challenges posed by nature. In terms of its location in between two mountain ranges Ladakh has always been isolated from other regions and the subsistence economy has been – and still is - the backbone of the Ladakhi economy. Through pastoral nomadism in the higher parts and subsistence farming in comparatively lower areas Ladakhis have always managed to produce the necessities of daily life, using their resources very carefully, especially during the long and harsh winters.

However, the country has never been a complete cul-de-sac. Many important overland trade routes passed through the region, linking Ladakh with Tibet, Central Asia, Kashmir and the North Indian plains. These trade routes have not only added a substantial portion to local produce, but they have also significantly contributed to the making of the culture and traditions of the region. Especially the capital Leh gained interregional importance as a market where traders coming from different parts of Asia met, exchanged their commodities and then went back to their own places. Wool, hides, yak tails and borax were the main items of trade. The commodities bought in exchange included tea, sugar, utensils, coarse cloth, spices, and jewelry (Singh 1997: 240).

In terms of farming, barley, peas, wheat, mustard, and fruits such as apples and apricots were the main products. The overland route between the plains of India and Sinkiang, a branch of the Silk Route, enabled Ladakhis to earn some cash income by

¹⁷ For a detailed description of the circumstances around the agitation see also Gerhard Emmer (1999: 94 ff).

renting out their horses, donkeys and yaks as pack animals. The cash thus earned was utilized to purchase additional basic necessities of life as well as some luxury goods.

Since the time of Indian independence and the emerging struggles with the neighboring countries Pakistan and China, trade has lost its important position in Ladakhi economy. Trade connections within India now exist mainly with Kashmir and with Delhi, but imports by far exceed the export possibilities of the region. There is more and more dependence on subsidies from the Central Government in Delhi and on foreign aid and even the fast-growing cash economy is almost exclusively resulting from the presence of the Indian army and from tourism. There is still no industry to be found in Ladakh. There are several NGOs (like e.g. the LNP – Leh Nutrition Project or LEHO – Ladakh Environment and Health Organisation) who are trying to build up new trade connections with Delhi for the export of farm products such as vegetables, fruits, apricot oil etc. Other markets could be established for wool, for example mohair from the angora goat, which is mainly used for carpets and cloths. Because of tourism there is an increasing demand for handicrafts from the Himalayas. The raw materials and skills are rapidly available and opportunities would include people in urban and rural areas alike. But in all these fields marketing is still a big problem. The Department of Handicrafts and Industries and other organizations have been trying to develop these skills for many years but because of some inherent problems, little has been achieved.

The main – perhaps the only – constant export product from Ladakh over the last five or more troubled years has been its valuable animal fiber called *pashmina*¹⁸. Throughout its history the Kashmir shawl industry has been totally dependent on the high-altitude pastures of Ladakh, Tibet and central Asia. Ladakh produces one of the best *pashmina* fibers in the world, but even this product has been exported as a raw material and no attempt has been made to turn it into a finished product, or to try and enhance the quality of fiber before selling it. The major problem is the grading of *pashmina* by color and quality. There is no such thing as a standardized process in Ladakh which makes tourists and traders insecure of the quality they get. Now there are attempts to upgrade processing skills, introduce new ones, and make use of available technology to improve production (Deen 1997: 67).

¹⁸ *Pashmina* is the wool from the under-belly of a variety of domestic goats living in high altitude regions like Changtang. The wool is produced by the goats in winter as protection from the severe cold.

Current Changes

If a valley can solely be reached over a steep pass, only good friends or bad enemies will come.

(Tibetan saying, quoted in Harrer, 1978: 13, NB: translated by the author)

Are tourists friends or enemies? Is the army friend or enemy? Whatever they are, tourism and the army are to a large extent responsible for the rapid changes that took place in Ladakh during the last decades. Since Ladakh has been integrated into the global market economy enormous social changes have been created. Globalization, modernization, Westernization – the so-called “traditional values” of Ladakh have started to be transformed in a very rapid way. Tourism is often made responsible for the loss of values and the uniqueness of culture, but there is also the opposite point of view, stating that only thanks to tourism it was possible to define the uniqueness of the Ladakhi way of life and to encourage people not to throw it away. I think that Ladakhis would long have entirely adopted the “modern” lifestyle that was introduced to this “backward” region from other parts of India by the army and government officials if it was not for tourism that made them aware of Ladakh’s great cultural heritage.

Ladakhis soon understood that the preservation of their heritage attracts tourists - and that with the tourists comes the cash. Are tourists then friends or enemies? Probably they are both, depending on one's point of view. Heinrich Harrer states in his book: “With our experiences we can help them (the Ladakhis) to preserve their tradition before it is too late” (Harrer 1978, NB: translated by the author). This might be true in some sense – on the other hand, without bringing in Western experiences, would the cultural heritage be endangered at all? Abdul Ghani Sheik sees it this way: “Ladakhis are a hardy race, but easy money has made them easy-going, as government and welfare agencies spend large amounts of money on the development of Ladakh” (Sheik 1999: 347).

Reasons for the Changes

It has already been mentioned that Ladakh has always been a remote but never completely isolated area. Its location at the important cross-roads of the Silk Route ensured ongoing trade relations with neighboring countries, thereby turning Ladakh into a hodgepodge of social interactions and far reaching cultural interactions. Progress and change were omnipresent throughout the centuries but these changes resemble

rather a standstill compared to the severe transformations that Ladakh has experienced during the last 50 years. It is the rapid speed of change that challenges all spheres of life and leaves the people only little time to adapt.

It is a phenomenon which is by no means unique to Ladakh but can be observed in many so called “backward” regions all around the world. Particularly the neighboring regions in the Himalayas - Pakistan, Nepal, Tibet or Buthan - are facing similar problems but show quite different reactions to them.¹

In Ladakh there are two major factors that have been the main causes of intense change since the middle of the last century:

- the rise of strategic importance (starting right after Indian independence in 1947)
- the opening of the region for tourism (in 1974)

The strategic position of Ladakh became suddenly important when the bloody border war between Pakistan and Kashmir started in 1948/49. Indian army forces were sent to the region and Ladakhis too have been recruited to join the service. Today there are still an estimated 30.000 Indian soldiers stationed in Ladakh. A further reason for the reinforcement of the army presence was the occupation of the Aksai Chin area by Chinese troops in 1962.

Although most Ladakhis I have talked to named foreign tourism as the major reason of change, I do not agree with this perception. I see the enforced interaction with other parts of India, mainly caused through the presence of the army, as the major factor of influence. There are several arguments for this:

Without the infrastructure that was erected by the army, tourism would not have been possible, at least not in this intensity: The airport, roads, electricity, telecommunication, and most of the technical innovations were first introduced by the Indian Government in order to support the region, draw it out of its “backwardness” and thus strengthen its importance for strategic purposes. Today Ladakh is far more influenced by the “Indian lifestyle” (meaning that of parts of India outside Ladakh) than by the “Western lifestyle”

¹ It would go beyond the purview of this thesis to make a detailed comparison of Ladakh with its neighboring countries in terms of the general recent development. For some more information about Tibet and Buthan see also chapter *About Tradition*, pp 74-92 in this volume.

introduced by tourists. In contrast to the Indian Government, tourists normally do not have any active interest in bringing progress to Ladakh, since they mainly go there in search of an authentic, unspoiled culture that is yet not influenced by the constraints of our technocratic society. It is true that tourists demand certain standards in terms of hygiene, food etc. But this is generally not what Ladakhis adopt for their own lifestyle since it is economically quite out of reach and only reserved for hotels, guesthouses etc. Rather Ladakhis opt much more for innovations coming from other parts of India, which are affordable and readily available through imports by the army.

It all started with road construction which began in the post-1962 period. The Shrinagar-Leh Highway (434 km) over the Zoji-La pass was completed in 1966. It usually remains closed between October and May depending on the weather conditions. The same is true for the Manali-Leh road which was opened in 1987 and is the most direct link to Chandigarh and Delhi by road. From Delhi it takes about four days via Manali to reach Ladakh by bus. The route from Manali is very exhausting, with very bad and narrow roads that are only partially paved winding up steep mountains and passes as high as the Tanglang La at 5,300 m.

Although an airport had been built for army purposes long before, public air travel only started in 1979 when Indian Airlines for the first time was flying to Leh.² Until now it is the only airline flying to Ladakh although some private airlines are planning to start operating flights. Leh is connected by air to four cities: Delhi, Jammu, Chandigarh and Shrinagar. In summer flights are much more frequent than during the rest of the year, offering daily connections to Delhi and about three times a week to Jammu and Chandigarh. Since the airport is enclosed by mountains and landing is only possible with good weather conditions, flights are frequently cancelled.

Of major influence to the region was the introduction of radio and TV services. In 1971 All India Radio Station was opened in Leh, and in 1984 the first TV relay station went into operation in Leh. The second, much more powerful, relay station started only in 1995 (Jina 1996:247). It is amazing that within a time of hardly more than 15 years practically every household obtained a TV set and that TV nowadays consumes a significant part of people's leisure time thus being responsible for a large part of outside

² It was a much celebrated event. On 10th Dec. 1978 Captain Anand Mohan Kapur was the first pilot who landed a Boeing 737 aircraft on an airfield at 3,500 m altitude. Until today the pilots on this route have to go through a special training process.

influence, especially from other parts of India. In contrast, radio is much more important for the internal information system. Since there is no tele-communication system in many villages, radio is the only way to get information about road conditions, hazardous storms, floods or snowfall. In 1992 Leh was connected to the S.T.D. telecommunication services and in 1994 the first Fax facility was made available for public at Leh.

Electricity was first introduced in 1964 with the establishment of a 20 KW Diesel Generating Site. Today the Stakna Hydro Project provides electricity for about 4,000 families in and around Leh, but only for seven months a year since freezing occurs in winter. The system still completely lacks continuity and usually electricity is not available more than 4-5 hours daily with specific schedule.

Although I see the strategic importance as the main cause of the many unprecedented changes, tourism undoubtedly seems to be a very strong factor, and also one of the most debated and controversial issues. Mismanagement, chaos and corruption have plagued the juvenile tourist industry from the beginning. How can a small village inhabited by a few thousand farmers and some traders cope with more than 15,000 tourists a year (see Tab. 1), who conquer the place only during the short summer months? It's not only the tourists but the thousands of workers directly and indirectly related with tourism coming from the Kashmir Valley, other parts of India or from Nepal. They invent what Sonam Wanchuk, a major contributor towards a more sustainable development, refers to as "use and throw" policy: open up an exotic region, and when it is filthy and spoiled, open up new ones (*Ladags Melong* 1998b: 29). Mistakes are constantly repeated in Nubra, Da-Hanu, Tsomo-Riri and Pangong³, areas which have only recently been opened for tourism, have very fragile eco-systems and where the people who live there have neither been warned nor informed about the possible difficulties, but also the chances, related to tourism.

Before 1974 Ladakh was a restricted area even for non-Ladakhi Indians. Since the decision to open up the region the number of tourists has grown considerably (Tab. 1),

³ These regions are all located in strategically problematic border regions and former military-barred zones. In fall 1993 the Indian government, in the course of a relaxation of relations with the neighboring countries at that time, decided to open these areas for foreign tourists. Permissions are needed, which are easy to obtain within one or two days for a few Dollars. The length of stay is restricted to seven days. Environmental activists recently started campaigning against tourism especially in the regions around the lakes of Tsomo Riri and Pangong, since they have preserved a very unique fauna and flora. Especially the extremely rare Black Neck Crane is very sensitive and its population has been alarmingly decimated since the opening of the area.

reaching a peak in 1990 with 24.864 tourists⁴. This might not seem to be an exceptionally large number, but it has to be considered that tourist arrivals concentrate almost solely in the months of July and August and that tourists then spend most of their time in Leh, which itself has only about 25.000 inhabitants.

Tab. 1
*Tourism Development in
Ladakh*

Year	Foreign	Domestic	Total
1974	500	27	527
1980	13.105	1.013	14.117
1988	16.256	8.608	24.864
1990 ⁵	6.342	396	6.738
1994	15.388	2.080	17.468

Tourism not only severely influenced the social and cultural landscape of the region, but also the physical landscape, especially in the capital Leh and in some of the villages that are close to popular monasteries such as Alchi or Lamayuru. Until 1973 Ladakh had no hotel or guest house and the only places to stay were the circuit house or the PWD rest house which were basically meant for visiting officials (Singh 1997: 244), whereas today there are about 150 hotels and guest houses in Leh alone.⁶ This has significantly changed the immediate surroundings around the center of Leh where former agricultural fields were almost entirely transformed to make room for tourism infrastructure.

Apart from the severe physical transformation the introduction of the cash economy has quickly transformed all aspects of Ladakhi life. Today job opportunities draw young people into the town where they work in hotels, restaurants, as taxi drivers or for trekking companies, which in turn influences the whole system of subsistence agriculture, family ties and community structures. Commercialization of cultural events soon took place and today traditional dances and drama are losing their seasonal significance and are much rather performed for tourists and for money.

The active monastery life did not stay unaffected for long, either. The magnificent *gom-pas* are now major tourist attractions and their importance as community centers for the

⁴ Data from the *Master Plan of Leh* (J&K TPO 1996: 31)

⁵ The severe downfall in the number of tourists in 1990 is a result of the severe political agitations in 1989

⁶ This information was given during an interview with Mr. Motup from the Engineering Department in Leh (6th July 2000)

population nearby is waning. Monastery festivals are a critical issue. On the one hand monasteries try to attract foreigners to benefit from their entrance fees and donations (this goes so far that e.g. the Lamayuru monastery festival has been transferred from April to the summer-tourist-season), on the other hand many Ladakhis, especially the *lamas*, complain about disturbances of their rituals and uncontrolled behavior of their guests. Mister Hussein writes in *Ladags Melong* (1994: 5) in a letter to the editors: "I was shocked at the behavior of some tourists during the Phyang festival. Half the people there were tourists, many dressed skimpily, or playing with their cameras during the holy and religious dances, and going to and from in front of the head lamas and the holy books. These types of things are very bad activities in our culture and disrespectful to religion."

Although tourism is often seen as a major hazard to Ladakh's cultural traditions and sustainable development by Western observers of Ladakh (e.g. Norberg-Hodge, 1991) there is another, opposite effect of tourism that is generally overlooked but which I consider very important to mention:

During my stay in Ladakh I have always felt that tourism brought back to Ladakh a very positive and strengthening effect on cultural life, which was almost about to loose ground under the strong influence of non-Ladakhi Indians, i. e. mainly the army. Indian officials, military forces and non-governmental organizations were sent to Ladakh to develop this "poor and backward" region and to introduce a "civilized and contemporary" lifestyle. For the first time the people of Ladakh experienced what it meant to be inferior – at least in the eyes of others – and they started to feel according to this treatment. The Ladakhi language was neglected, Urdu or Hindi were the languages that parents wanted their children to be taught and century-old rites and traditions were suddenly regarded as primitive, something to be almost ashamed of. The intentions of the newly independent India were by no means always bad. There was an enormous desire to "develop" the whole country according to Western standards, to finish what the colonial masters had started.

The influence of tourism on Ladakhi life is more an indirect one. It effects the economic basis by introducing the possibility to earn cash which has far reaching implications on a number of things. However, there is very little direct contact between Ladakhis and tourists and the relations are restricted to the most necessary. Ladakhis have only little idea of what the life of the tourists is like in their home countries. In their impression

these visitors throw around with their money and don't have anything to do except enjoying themselves and climbing difficult mountains for no reason at all. Moreover tourists re-enforce this impression when in superficial talks they tend to describe life in the West as something exceptionally advanced by telling Ladakhis how much they earn at home or what their car or house is like. But this is usually something that exceeds the imagination of the people. Thus, far more than this they tend to copy the fashionable Indian lifestyle transmitted from Delhi via television, movies and magazines.⁷

A TV-set has become a "must have" in every household in Leh and with better and better electricity systems TV rapidly spreads to the villages. When I was living with a Ladakhi family, especially one observation made me drastically aware of how important TV already was: Since quite often there is no electricity available in the evening, the family had a battery that was recharged up during the day. In the evening this battery was used to run the TV instead of being used for the light bulb, while the woman of the house had difficulties to do the cooking under candle light only. Music, too, comes before light. During a trekking-tour I saw children using the household's solar-device for playing loud music from tapes rather than charging the battery and saving some power for three to four hours of electric light in the evening.

There are rarely any Western films to be seen on TV but mainly Indian soap operas, which are the favorites of many women and children. Therefore, the life-style of the upper-class Indian family is the model of a desired living standard that Ladakhis would like to reach. Together with the most popular Indian songs broadcasted via radio and with fashion and life-style magazines from Delhi, the non-Ladakhi Indian way of life has broad access to every household.

Another "window to the world" that had been brought to Ladakh in 1998 is the internet. There is no server in Ladakh so far. Connecting to the net is only possible via Jammu which makes the internet a quite costly experience almost solely used by tourists and NGOs. In 2000 there were three agencies in Leh that offered internet connection, and tourists were standing in long lines in order to get their chance, always depending on the availability of electricity or a working generator. The first NGOs were just starting their work in the IT branch, providing schools with computers and offering the first train-

⁷ A good overview over tourism and its influences in Ladakh is given in Prem Singh Jina's book „Tourism in Ladakh Himalaya“ (1994) or in Sonam Wanchuk's article in *Ladags Melong* (1998b, pp 29-31).

ing courses for locals. For a country geographically as separated from the rest of the world as Ladakh, the internet could offer great chances if it would succeed to get down from its high horse to the level of the common people.

Problems and Chances

The intensified interaction with the outside world and the over-night introduction of the cash economy in a region so far almost exclusively depending on subsistence farming created a variety of problems:

One of the most severe problems is the high rate of population growth of over 3 % per year. During the first three quarters of the 20th century the population was rather stable. It only grew by 42,000 between 1901 and 1971, whereas in the following twenty years it nearly doubled.⁸ The population growth rate in Ladakh has been less than 10 % per decade in the period from 1901 to 1961. It rose to 19.1 % per decade during 1961-71 and a phenomenal 30.5 % during 1971-81 (Singh 1997: 247). According to the last census of J&K the population of Ladakh numbered 134,372 in 1981, whereas a micro census of 1995 already counted 205,000.⁹

The reason for this severe population growth was the strong migration of people from other countries (e.g. Nepal) or other parts of India (e.g. Bihar, Sikkim, Punjab) to Ladakh to get one of the many new jobs created in tourism, in government offices or in the army. This rapid population growth has triggered a variety of problems: environmental pollution, scarcity of drinking water, exploitation of scarce resources like fire wood, and, above all, high dependence on uncertain supply sources. Since food is heavily subsidized by the Indian Government many Ladakhis don't find it profitable to continue farming. Tons of food are arriving in lorries coming hundreds of miles from Delhi over the high passes to Ladakh, food that is sold cheaper on the bazaar than the one grown a ten minutes walk away.

Helena Norberg-Hodge from Sweden, who won the Alternative Nobel Price in 1986 for her "Ladakh Project", was among the first tourists who came to Ladakh after the opening in 1974 and, after having returned almost every year since then, she became probably the most well-known observer of the developments in the region. In her book

⁸ Data from the Census of India, 1991

⁹ Data resulting from the last Census of J&K, 1981 and the Micro Census of India, 1995

Ancient Futures - Learning from Ladakh (1991) she analyzes many of the problems of modernization in Ladakh. She argues that

the gap between rich and poor is widening; waste and pollution are rapidly increasing; the status of women is declining; the old are being forgotten and the young are growing ashamed of their own culture. A once self-reliant people is becoming increasingly dependent on imported resources over which they have no control, and is relying ever more upon a distant bureaucracy for needs once provided by their own community... the changes brought by development have not, on balance, been an improvement. (1997: 196).

However, both among the population of Ladakh and among Western researchers of the region, Helena Norberg-Hodge has passionate followers as well as harsh critics. Whereas the former see in her ideas the only way for an ecologically and economically sound development, the latter identify her ideas with a hegemonic “green romanticism” and “mental” colonialism. Although I find many of her arguments to be true, I would strongly criticize that she paints her picture in black and white only, leaving practically no room for the benefits and chances of modernization that are the other side of the coin. When she argues that the status of women was higher before modernization and that their position is worse today, in my opinion this is true only up to a point. Although there is no doubt that women had long been the decision-makers in many cases, Norberg-Hodge does not emphasize the fact, that they also had to do a major part of the very hard work in the fields. There was no way out – life was a constant struggle for survival and physically tough.

When I was interviewing women living in Leh who were staying at home with their children while their husbands had a job for cash income, most women told me that they much prefer the clean and quiet life in a small family with less of the hard work.¹⁰ It does not matter if we, from our Western point of view, see this as a form of independence loss, which might not seem desirable, most women in Ladakh I have talked to are happy with this new situation. In this case I find it most problematic to compare the position of Ladakhi women directly with the expectancies of women in the West, since, after all, we have other alternatives than hard physical work. As long as many “new” Ladakhi house wives seem to be more satisfied with their current life than with their previous one, I find it a sensitive topic to apply Western standards and artificially judge their situation to be worse than before.

¹⁰ See Graph 6, p 257

Psychologically it might very well be that people were in a better state of mind. As long as the outside contact was limited, especially in the villages, the creation of new desires was not very significant, a process that causes permanent dissatisfaction and unhappiness today. As soon as the contact with other regions was increased, desires were created, that could not be fulfilled immediately, making people discontent with their living situation. However, modernization is a fact and there is no way of turning around and hopping back onto the trees. Rather the question is how the major requirements of life can be fulfilled and thus ensure a more content life and a sustainable future.

Lots of things have gone wrong in Ladakh, but there are chances as well that should not be overlooked and there is still a window of opportunity that Ladakh will adopt a course that could be exemplary for similar regions.

Many Ladakhis are acutely aware of the disadvantages resulting from the unquestioned copying of Western life-style and there is a considerable struggle to find an individual, better way for future development. Especially among the younger generation there is confusion and concern and more and more people tend to turn into opposite directions: Whereas some favor unlimited modernization oriented upon the Western example, others wish to strengthen their cultural roots and develop their own way of achieving progress. It can be observed that Ladakhis in general have become much more conscious about their cultural roots. Tourism, the enthusiasm of various foreign NGOs and of course people like Helena Norberg-Hodge have all played a major part in this process. With her persistent demand for a "sustainable development" for the region, Norberg-Hodge exerted great influence especially on "higher-class" Ladakhis in terms of focusing on their own potential for self-sufficiency and the conservation of traditional cultural values. In 1983 Helena Norberg-Hodge founded the Ladakh Ecological Development Group (LEDeG). With a staff of currently about forty people LEDeG has become the most influential local NGO in Ladakh. LEDeG is strongly supported by the Ladakh Buddhist Association (LBA) and many former LEDeG members have become influential policy makers in Ladakh, whereby this political orientation is often a cause for critique. Nevertheless the population is quite influenced by the work of LEDeG and sometimes it is quite obvious that people have gone through the Helena-Norberg training process, e.g. when they repeat almost stereotypically that they have to preserve their culture, that modernization is bad and that they have to struggle against the influence from the West.

But there is a thin line between persuading Ladakhis to "go their own way", in the sense of advancement and improvement, and wanting them to "turn back to the roots". And there are differences in preserving a culture and creating it anew in an artificial way: Seven months after the Leh Autonomous Hill Development Council (LAHDC) came into being it made a decision that school children in Ladakh should start wearing the traditional *goncha* as school uniforms in all schools in Leh district. Can this be called "preserving tradition"? Would we want to send all Austrian children to school wearing *Dirndls* and *Lederhosen* in order to preserve our culture? I consider this to be a problematic approach as it is based more on enforcement than on voluntary dedication. A different and in my opinion less problematic advance, other than clinging to traditional values in everyday life, is not to forget one's own traditions but value them during special occasions. *Lhosar*¹¹, weddings, the birth of a child, festivals or sport events like archery or polo games are frequent and popular celebrations where people like to wear the traditional Ladakhi gowns. During my first stay in Ladakh in 1997 I experienced a very delightful two-day exhibition organized by the Ladakh Women's Alliance¹². A variety of traditional foodstuff, home-made dairy products and handicrafts were lucidly presented in the exhibition, aiming to cherish the value of the everyday work done by Ladakhi women (see fig. 48, 49). The *Ladags Melong* (1997 Vol. 1, Iss. 2) reported: "The exhibition aimed to preserve and promote the traditional culture and life-style amidst the fast changing modern dilemma, and to build interest in that very simple and sustainable life-style of our forefathers among today's youth."



Fig. 49, 50 _____
Ladakh Women's Association, Exhibition, Aug. 2000

¹¹ *Lhosar* is the New Years festival which lasts for about three weeks and is the most important festival in Ladakh. According to the Tibetan calendar *Lhosar* starts on the 25th day of the 12th month, which is usually at the end of February.

¹² The Ladakh Women's Alliance is part of the Ladakh Project initiated by Helena Norber-Hodge. It started with a group of ten women. Now it has a growing number of members from all over Leh district and from Changthang, Nubra, Leh and Sham.

There are not only cultural but also environmental issues that foreign and local NGOs are concerned with. Ladakh is a region that is representative for the use of solar energy for electricity generation thanks to SWRC, a very efficient working local NGO. This is only one of many examples where Ladakh heads into a direction that offers great chances.

The Ladakhi Family

For centuries the structure of Ladakhi families was organized in a polyandrous way, which means that several brothers co-married a single wife. This marriage system also determined the clear structure of inheritance. If there was no son in the family, the estate was inherited by the daughters, who, singly or in a pair, could marry an incoming husband from another family, called a *magpa*. He thus maintained the patriline of a sisters-only generation. This arrangement kept the property of a family intact from one generation to another and at the same time the number of children on the estate and within the community was kept relatively low. Reproductive opportunities were reduced due to the fact that the younger male members of a family were often married to a woman that was considerably older than they were themselves. Often these younger men opted to become *magpa* husbands, which means that they left their family to marry the daughter(s) of another family. It was common that fathers did not know if a child was theirs or their brother's, a system that further strengthened family ties and avoided struggles among family members. Usually at least one of the younger brothers was sent to the village monastery to become a monk. Many women who failed to marry remained in their natal households as additional laborers. Some became nuns, having a very low status, not comparable to the one of monks, since nuns usually received no education, did not live in monasteries and were simply used as hard workers in the household (cf. Crook 1995: 25-26).

In 1941 the *Polyandrous Marriages Prohibition Act* officially banned the practice of polyandrous marriages in favor of monogamy. Although there are several reasons for the severe population growth, the abandonment of polyandry is seen by most researchers as one of them. Another result was the imminent dissolution of former social networks. Nowadays polyandry is still practiced from time to time in village families, but people who are engaged in government jobs, tourism or trade marry monogamously and the inheritance is split per capita among their offspring.

The traditional household system has substantially changed since then. A traditional Ladakhi family was organized in two or more households: The co-marrying brothers lived with their wife and offspring in the Big House (*khang chen*) while the rest of the family, the parents, grandparents, uncles, aunts and non-co-marrying brothers, all lived in the Small House or sometimes several small houses (*khang chung*) (ibid.: 27). Especially people who used to live in the *khang chung*s now make use of the new opportunities to find employment in the army, in government administration or tourism related areas. They leave the *khang chung* and often marry monogamously. From their wages they can afford to rent some land and to create their own household apart from their extended family. Monogamous marriage is now considered as of much higher status than polyandry. As Katherine Hay (1997: 179) found in her research on gender and modernization, "Ladakhis have started to speak ill of polyandry... polyandry is perceived as primitive or uncivilized by many Ladakhis... further, polyandry is also now considered to be counter to Buddhism."

There is a shift away from a stress on collective reciprocity to an individualistic entrepreneurial style in which maximization of individual wealth rather than that of a subsistence group is becoming the norm.

Farming

Would Ladakh starve? It was in 1996 that the Leh-Shrinagar road, the major road connection with Kashmir and from there on to other parts of India, had been closed for seven months because of bad weather and road conditions. In the middle of summer there was still no opening in sight. The KT News Service in *Ladags Melong* (1996 Vol. 1, Iss. 4: 10) wrote:

The fact remains that the road will take one more week to be traffic worthy or before it is open for general traffic. Meanwhile, a near famine situation in Leh and Kargil districts is fast developing. There are reports of acute shortage of food grains, flour, edible oil, salt, LPG cylinders, medicines and petrol. The administrations in both the districts have failed miserably to arrest the situation. Edible oil is being sold at Rs 120 per kg and 10 kg of flour for Rs 140 in Leh. Rice and common salt are out of stock...

The Hill Council commented:

The shortages had a very interesting effect: for once in modern Ladakh, the traditional self-sufficient farmers were better off than the urban consumers. It was a great lesson to us all about our dependency on these roads. What would happen if the roads didn't open at all one summer due to unusual weather? Would Ladakh starve?

Generally it seems that Ladakhis are far better off today in terms of the quantity of food that is available compared to past times when they sometimes hardly made it over the long winter months. But looking more closely into the matter this new prosperity rests on a shaky ground, since it is not out of the people's productivity that there is more food on the tables. Rather it is the subsidized rationed food that is handed out by the Indian government through the army, to support this "poor and backward region". Grain is sold for half the price it can be produced by the local farmers. In 1997 21,000 families in the district of Leh were registered as recipients of rations equivalent to the full annual requirements of these families.¹³

Commodity	1989/90	1991/92	1993/94	1996/97
Rice	3,007	3,713	3,785	5,000
Wheat/Flour	1,987	3,581	3,704	4,725
Total	4,994	7,294	7,489	9,725

Tab. 2
Food Imports Leh (in metric tons)

Since the time of Indian independence Ladakh has slowly but steadily slit from former self sufficiency into dependence, even for the most basic necessities. The implications connected to this cheap and easy supply with food were manifold. While the population has nearly doubled (since 1947), the cultivated land was reduced to half the area (Wangchuk 1995: 12). Massive rural-urban migration to Leh town had started while farms were abandoned leaving fields fallow. If rationing was stopped now, famine would certainly be the consequence. The agricultural system in Ladakh has always been in a very delicate position and only an amazingly refined farming system in combination with a strict social order guaranteed that people could cope with the limits laid down by nature.¹⁴

¹³ Data according to the Food and Supplies Department, Leh (quoted in Deen 1997: 87)

¹⁴ Ladakhi farmers developed an intricate network of *kuls* (waterways) for irrigation. Water for irrigation was diverted from the higher reaches of streams or *nallas* (seasonal waterways) and brought to agricultural fields through *kuls* using gravitational force. Since this work was not possible at an individual level, collective effort under the supervision and guidance of „the Community Centre“, the monastery, was necessary.

Nearly 68 % of the total land lies more than 5,000 meters above sea level and is virtually unfit for vegetative and human life. Land lying between 4,500 meters and 5,000 meters, constituting approximately 5 % of the total area, permits some pastoralism. Settled agriculture is confined to areas below 4,500 meters (Singh 1995: 195). The second major constraint on agriculture in Ladakh is imposed by the cold and arid high altitude climate. Agricultural land is used mainly for growing food crops namely *grim* (barley), wheat and peas. Less fertile land is used for raising fodder crops (e.g. alfalfa) for feeding livestock during winter months when pastures are not available.

An important social factor to keep this system intact is the *phaspun*. This is a group of families joining together in a village to complete more labor intensive work such as irrigating the fields, plowing, harvesting etc. in turns. The *phaspun* highlights collective efforts and consists of families extending as far as to first or second cousins. Land owned by *gompas* is generally leased out to peasants who in return pay part of the produce to the *gompa*, which at times can be as high as 50 % of the harvest. In recent times it has become more and more common to hire paid laborers for agricultural work, whereas the role of the *phaspun* is declining (see Singh 1995).

According to Mohammed Deen (1999: 80), 71 % of the population in Ladakh still depend on agriculture and related activities. However, in the course of the past three decades there has been no improvement in agriculture, but rather a deterioration, partly due to negligence in cultivation and care for the soil.¹⁵ In the past, agriculture was the only guarantee for survival and the status of a village family was always ranked according to their landholdings. This has changed - suddenly agriculture is no longer profitable since Ladakh's economy is slowly shifting from agriculture to non-farming activities such as army services, government employment and tourism.

On the other hand, the saturation of the labor market together with the rapid increase in population already starts to force people to go back to farming again.

¹⁵ According to Mohammed Deen (1999: 799) there are several factors that negatively affect ecological agriculture in Ladakh: import of wheat and rice for sale at subsidized rates by the government; import of chemical fertilizers for sale at subsidized rates; creation/availability of wage employment in sectors such as tourism, transport, government service and the army; land degradation; declining profitability of agriculture due to the collapse of the integrated animal husbandry-farming system; high population growth.

There are several initiatives, taken by the government and NGOs of the region, to improve the situation: Proper use of the available irrigation potential, reforestation programs, encouragement of greenhouse-construction for vegetable growth (mainly cabbage, turnips and cauliflower) are only a few examples. Also, new machines to extract oil from apricot seeds or vegetable packaging systems are in development, which would allow to fill up the many empty trucks that return to Delhi with products to sell on the open market.

Economy and Change

The people in Ladakh never owned as many commodities, goods, cash etc., as are readily available in the new middle class households in Leh today. Over centuries trade along the silk route had contributed to a lively economic exchange, but with the onset of the Sino-Indian conflict in 1962 trade came to a sudden end. So where do all these goods come from today if not from the army? The army provides jobs, cash and even the goods to spend it on. Tourists, too are seen as “walking money bags” who just need to be served in order to be handed their cash. Some very critical observers recognize them as the new *sahibs*, placing their orders in an almost neo-colonial world.

But both tourism and the army are extremely unstable factors that keep an already weak economy always on the edge of collapse. Between 1984 and 1986 tourism in Ladakh already got a slight setback due to tensions in Shrinagar, but it became very severe only in 1989 during the agitation and the frequent curfews (see Tab. 1). At the same time, the withdrawal of Indian soldiers from the Sino-Indian cease fire line was placing heavy pressure on local farmers since the cash-crop purchase severely declined after 1989 (Bertelsen in Emmer, 1999: 105). Ladakh's economy and prosperity, with the ration-subsidies removed, the army withdrawn and tourism stopped would give a pretty sad picture, leading not only to massive unemployment but also to starvation.

There are now 2,000 shops in Leh alone¹⁶, more than two thirds of which are directly related to tourism and shut down during winter. In addition, there is a network of ration stores that has been set up throughout the region. 300,000 tons of butter are imported annually, which is equivalent to Rs. 3 mio, a proportionally large quantity owing to the

¹⁶ Records given by the Labor Department in Leh

fact that the per capita butter consumption in Leh is the highest in India (cf. Sheik 1999: 339).¹⁷

Nevertheless there are domestic lines of production that promise success, but so far they have not been sufficiently developed. The production and manufacturing of *pashmina* is one of the major hopes of the Department of Handicrafts and Industries and many non-governmental organizations alike. *Pashmina*, the valuable and high quality fiber from the belly of the mountain goat, has been the only constant export from Ladakh over the last years. LEHO (Ladakh Environment and Health Organisation) has opened up a pashmina production center in Chushot, where new tools are introduced and training sessions offered. It is a start - if processed in the right way, the quality of *pashmina* in Ladakh is among the highest in the world. Other important fibers are sheep wool and mohair (produced from the angora goat) which are manufactured through spinning and weaving into carpets and blankets.

There is an increasing demand for handicrafts from the Himalayas but marketing is still a big problem. A lot of items sold under the label of "local handicrafts" are made in other places like Punjab and Delhi, where they can be produced in higher quantity for all Himalayan regions and therefore at much lower cost. However, the raw materials and skills are rapidly available in Ladakh and there would be the further advantage that opportunities are opened up for urban and rural areas alike. *Tanka*¹⁸ making is still popular not only among monks but also among artists. The raw material required for making *tankas* is readily available at low cost. The base is made of tricot, and normally a stone color is used, as this does not fade. In some very expensive *tankas*, pure gold powder is used for painting. Another handicraft, which is cherished among locals and tourists alike, is the carving of *choktse*, low foldable wooden tables, elaborately decorated and painted in bright colors.¹⁹

¹⁷ This can be put down to the extensive consumption of butter tee (*gur gur cha*).

¹⁸ *Tankas* are Buddhist paintings on cloth (cotton, linen or silk) that can be rolled up. On the front there is a silk curtain to protect the image from damage. Originally they were painted with natural colors (today more and more artificial colors are used) and framed by braids of brocade. An average *tanka* measures about 65 x 30 cm whereas some *tankas* can reach enormous sizes and are only unrolled at special occasions like monastery festivals.

¹⁹ For more information on Ladakhi handicraft see e.g. *Handicraft Development in Ladakh* (Deen 1997: 68-82).

Environment and Health

The rapid changes and developments during the last decades have not only affected the social but also the physical environment. Due to the growing population and the intense migration to the capital the pressure on water and land resources is growing constantly, above all in Leh. Water is very limited while the demand for water has risen significantly. In addition, most of the new settlements are built in areas that are completely dry and cannot be reached by any water from melted snow. Three government tankers are constantly providing the outskirts of Leh with water. Even in the center of Leh, where water supply had always been sufficient, there is a problem since contamination is now present everywhere and water-born diseases have become common. Due to tourism there are water toilets but far not nearly enough septic tanks, rivers are polluted through growing amounts of trash and the use of soap for washing cloths. Thus, drinking water for Leh has to be taken from clean springs further up in the mountains and transported to tap outlets in Leh via tubes. 334 m above the Indus the government established a water reservoir containing 1.5 mio gallons to provide clean water for the new colonies around Leh and there is another 200,000 gallon tank close to Choglamsar. But this ensures water for only about two hours a day, leading to long queues at the outlets.

The contamination with trash in Leh can best be seen during the summer when tourists produce huge amounts of waste material. There is no functioning system for trash disposal, trash boxes are constantly stolen (they are used as ovens in winter) and anyway only emptied every three weeks. Positive initiatives are being promoted by NGOs, like the ban of plastic bags in the whole region, the introduction of septic tanks or the use of solar energy for electricity, heating and cooking.²⁰

Air pollution is becoming a serious health-issue mainly due to heavy traffic, brought about by the strong increase in goods transportation but also due to polluting diesel generator plants causing respiratory diseases. Respiratory tract infections, such as silicosis or tuberculosis, account for almost 60 % of the total diseases. In part this is also due to the high altitude and dusty atmosphere and to people living in kitchens that are exposed to open fire and heavy smoke (Tondup 1997: 300). In this regard the introduction of gas stoves and the use of smoke pipes has already brought some improvement.

²⁰ For more information about ecological issues see e.g. *Ecology and Development in High Altitude Ladakh* (Singh 1997: 239-250).

According to Dr. Tsering Norboo, a leading physician in Leh, great changes in health conditions have taken place within the Ladakhi community. On the one hand infectious diseases like smallpox, measles and whooping cough have been brought under control but on the other hand the progressive adoption of an unhealthy lifestyle has introduced the diseases of affluent societies. Today, obesity, diabetes, coronary artery diseases, gall-stones, cancer of the stomach, cervix-, uterus- and lung cancer are increasingly being diagnosed (Norboo 1997: 208).

The health system in general has gone through a process of considerable improvement. In Ladakh illness, diseases and misfortune in general have long been and to a considerable extent still are blamed on supernatural causes coming from the gods, spirits and ancestors or social forces like sorcery or witchcraft. Folk-healers, who obtain their power from trance practices, are still very common and regarding psycho-social problems they are still successful although certain dangers cannot be denied.

Western medicine was originally introduced in Ladakh by the Moravian missionaries in the nineteenth century. From 1960 onwards, the Ladakhis were served by their own doctors trained in allopathic medicine. Immunization, family welfare, maternity and child welfare programs have helped to reduce infant and maternal mortality. Today Western medicine and the traditional healing system, called *amchi*²¹, are proceeding in partnership without much rivalry since the government started to support traditional practices as well. Initially it was the LNP (Leh Nutrition Project) and the SCF (Save the Children Fund) who have played a major role in supporting the *amchis* through communication, exchange of experiences, meetings and workshops. Thus, during the last two decades a renaissance of the *amchi* system was noticeable in the community. This might well be a reaction to the increasing insecurity among the people and a decline in the formerly unquestioned trust in Western values (cf. Norboo 1997: 205-212).

Education

The education system in Ladakh has been a perpetual object of most severe criticism and allegations of mismanagement.

²¹ The term *amchi* is used for the local medicine and healing practices as well as for the practitioner of this medicine.

Until the first school was started in Ladakh by the Moravian missionaries in 1886, education was the exclusive domain of the monasteries and teaching was mainly restricted to *lamas*. The development towards education for everybody has only taken off during the last three decades. Within this period schools were opened by the Central Government and by the State Government not only in Leh but also in many of the villages. The number of schools rose to 261 State Schools which educate up to 10,120 students.²² In addition there are five private schools located in and near Leh with approximately 4,000 students and some individually owned small private schools with some 800 students.

However, the way of teaching is subject to many disputes. Modern education has little relation to Ladakh's agriculture-based society. Receiving a modern education is considered progressive whereas the traditional education in the monasteries loses its reputation. Before the introduction of Western teaching systems, education that was essential for survival was passed on to the children from one generation to the other. Today essential knowledge for farming loses ground since children are sent to school which leaves them little time to help with agricultural work at home. In Western-style schools they are trained for the job-market in an industrial economy. This economy, though, is close to non-existent in Ladakh, leaving people separated from their land and very often unemployed. The number of Ladakhis competing with each other for the limited number of jobs is growing exponentially and is likely to become even more critical in the future.

Today many people feel that traditional values are brought back into the mainstream, or as Sonam Wangchuk, head of the educational organization ONH (Operation New Hope) puts it:

As time passes they start reading, or in fact chanting, in Urdu or Hindi about the world. They chant about the Taj Mahal and the tower of Pisa but learn nothing about the Palace of Leh. They chant about elephants, coconuts and monsoon rains, but hear nothing about Yaks, apricots or glaciers. They chant about how atoms of hydrogen and oxygen combine to form a molecule of water but read nothing about how a Ladakhi farm is watered with melting ice from the glaciers. (Ladags Melong 1995: 14)

Still, the illiteracy rate in Ladakh is estimated to be more than 70 %, but there is no exact data available for the whole region. In the capital Leh the literacy rate has risen sig-

²² According to the J&K State Board of Education report, 1995/96 (Dawa in van Beek, 1998: 72)

nificantly from 22 % in 1961 to 46 % in 1996.²³ Only about 15 % of the students pass the official Indian examination to finish their education. The question is: Is it the students who are failing or the system (*Ladags Melong* 1998: 8)? Students are permanently overtaxed with learning languages and different alphabets. From the beginning students have to learn at least two foreign languages besides Ladakhi: English is compulsory and in addition they have to learn either Hindi or Urdu, depending on the type of school. An additional complication is that all these languages use different alphabets, and even the proper writing of the Ladakhi language is still an unresolved issue.

Ladakhi is a Tibetan dialect, but the traditional written form of the language has been classical Tibetan (*bod yig*) differing significantly from the spoken version both in grammar and vocabulary. One complication is that there are not many books available in Tibetan language, with the Tibetan script being mainly reserved for Buddhist religious texts. This is also the reason why Muslims have little incentive to learn the Tibetan script. The result is that most literate Ladakhis know how to write in English, Hindi and Urdu, but are illiterate in their own language (Emmer 1999: 219).²⁴

An additional reason why the school system is not on top of the agenda is that most influential people, including the political leaders, send their children away to places like Jammu, Delhi or Chandigarh and therefore are not very concerned about the internal education system. There are some highly dedicated non-governmental organizations like for example SECMOL (Students' Educational and Cultural Movement of Ladakh) or Operation New Hope (ONH), who seek to incorporate the modern education system into the Ladakhi way of thinking and also to train teachers in this direction.

Religious and Political Tensions

There are discussions among scholars engaged in Ladakh whether the tensions between Buddhists and Muslims that have intensified so much during the last two decades are primarily due to religious or exclusively due to political causes (e.g. André 1997; Emmer 1999).

²³ Data from the Census of India 1996 and the Primary Survey, TPO, Kashmir

²⁴ A serious attempt to create an artificial Ladakhi language was the initiation of the biannual Ladakhi-English magazine *Ladags Melong* (Mirror of Ladakh) in 1994. Due to financial problems the production of the magazine was stopped in 1999.

According to Abdul Ghani Sheik (1995), one of the most respected Muslim scholars in Ladakh, the history of the Muslim community in Ladakh started in 1384 A.D. with the arrival of Mir Syed Ali Hamdani. He describes the mixed nature of the family structures, some brothers being Muslims, others Buddhists, sharing a common pot of stew, but with individual morsels distinguished by different colored strings to indicate meat conforming to the requirements of different faiths. Similar descriptions are made by Nawang Tsering Shakspo (1995) in his description of the village Kushko, where all the villagers used to join in common dances and offerings to the village deity. Such interaction is not a “used to be” only since during my stay with a Buddhist Ladakhi family in the Housing Colony I did not feel any discrepancy with our Muslim neighbors in everyday life. The children were playing together, mothers talking while knitting in front of the house, invitations for dinner were common and special occasions were celebrated together. However, when I asked my Buddhist friend Yangdul for information about families that I wanted to interview, she always pointed it out when they were Muslims. This was done neither in a positive nor in a negative sense, but the fact alone that it is pointed out proves that Muslims are seen as “others”, and that the common identity of “Ladakhiness” - after all, the communities are heirs to the same cultural heritage - is divided into Muslim or Buddhist.

Of course during their common history there were tensions among the two groups, e.g. between the rulers of Ladakh and those of Skardu, but most periods were characterized by peaceful co-existence and friendship. Occasional intermarriages between Muslim chiefs of Puring and Baltistan and the Buddhist royal family of Ladakh helped to reduce tensions. The common people followed the example of religious tolerance set by their rulers (see Sheik 1995: 189-192). There are several reasons for the rising tensions between the two communities during the last two to three decades and it is clear that tourism played an indirect but still very important role:

Since the Sino-Indian conflict in 1962 put a sudden halt to the trading activities, Leh, which had been a prosperous center of trade, went into decline, and the economic situation deteriorated more and more. New possibilities for trading only came up with tourism in 1974. At the same time the opening of the borders has led to an influx of traders from Kashmir who come mainly in the summer months to sell handicrafts and souvenirs. The presence of Kashmiris in Leh was supported by the government of J&K. The entrepreneurial spirit of the Kashmiris and *Argons* is still thriving, they control many new businesses, they were the first ones who turned their homes into guest houses

and hotels for tourists, who opened up travel agencies and became owners of taxis and of the main tourist shops in the Bazaar. Envy among Buddhists grew and when, in addition to their profitable businesses, Kashmiris also were given the most important official positions in politics and administration, the Buddhists accused the Kashmiri government of favoritism (see Dollfuss 1995: 322).²⁵

With the engagement of the LBA – who put Buddhism on the forefront of their movement – the line between economic demands and religious and cultural issues became very thin. Education has always been a point of struggle, with Urdu and the Arabic script being accused to threaten the Ladakhi language and the Tibetan script. Another big issue has been that, according to the LBA, the censuses show that the Muslim population has been growing more rapidly than the Buddhist one. However, one reason for this trend is the quite frequent conversions of Buddhist women to Islam when marrying a Muslim man.

A culmination of the tensions was reached during the agitation in 1989. The reason why the LBA called for demonstrations at the time was the still unfulfilled demand for Union Territory Status with the goal to gain more independence from the government in Shrinagar. In addition Buddhists felt powerless in the face of what they saw as increasing Islamisation. They started a campaign of civil disobedience aimed at those in power, which resulted in bloody riots. In the follow-up to these events the Buddhists called a social and economic boycott which affected the whole Muslim community, not just the Kashmiris.²⁶

Although the boycott was given up after five years, and the peak of the confrontation has passed, the agitation has had lasting implications on the relations between Buddhists and Muslims. The Buddhist Association now sees religion not only as a weapon against Kashmiri control of the economy, but also as a reaffirmation of an identity that has been threatened by the rise of tourism and the establishment of a large Indian military presence in the region. Buddhism now stands for identity and the line separating it from a „nationalist“ movement is a fragile one.

²⁵ According to the Ladakh Buddhist Association Muslims, although only accounting for 12 % of the population in Leh District, occupy 40 % of government employment.

²⁶ The boycott posed serious economic problems to many Leh Muslims, for whom business had traditionally provided the main income. The Buddhists made their purchases from Buddhist or Hindu shops only, and they encourage Western visitors to do the same. In response shopkeepers, even Hindus or Sikhs, wrote their shop-signs and names in Tibetan script.

The Built Environment

In order to make suggestions for an improvement of the housing situation in Ladakh it is first of all necessary to thoroughly analyze the historic situation, i.e. the development of the building processes from the oldest built testimonies up to the most recent changes in the built landscape. In doing this it is not only necessary to concentrate on the house as such, but on the built structure in its surroundings, the villages, the town of Leh or the new settlement activities in the suburbs.

In this chapter, throughout the examination of the architectural heritage, I will concentrate exclusively on the mud architecture of the high desert areas in the district of Leh. The district of Kargil, which is also part of Ladakh, has very different climatic conditions and thus the built environment is a completely different one, with delicately carved woodwork and burned bricks often being used as building material. Building in this area would require a totally different approach and is not subject of this thesis.

In the following chapter, I will examine the architectural heritage of Leh district, from its most impressive representatives such as monasteries, *chorten*, palaces etc. to the simple farm houses in the villages. I will describe the rules regarding the layout of village plans and try to structure the growth of Leh town, which has developed in a rather chaotic manner. Further, I will turn my attention to the many colonies that quickly came up around Leh. With this as a background I will then explain the circumstances of the new settlement project called “Solar Town”, which is the focus of my further research.

Traditional Architecture

In Buddhist teaching we believe that all things are interwoven and they come together because of interaction. There is never just one cause for anything. If you build a house you need wood, brick, stones etc. - different material, and you need a mason, a carpenter etc. - different people. It is a process of interaction. (Tashi Rabgias, interview, 23rd June 2000)

Religion is omnipresent in Ladakh. This is soon apparent to any traveller since the landscape is scattered with built structures of higher spiritual purpose. The delicate and elaborately decorated architecture of Buddhist monasteries (*gompas*) has always functioned as a model for profane buildings, especially for the kings palace and for the

more advanced houses of the aristocracy. Until recently both spiritual and profane built structures had little pretensions on permanency, since everything in the Buddhist philosophy is subject to ongoing transformation, construction and decay, death and re-birth. Building traditions have changed radically during the last decades and in order to understand these changes it is essential to acquire some knowledge of the traditional ways of building.

Religious Buildings and Symbols

The variety of built structures with a spiritual meaning is impressive (Fig. 50-52). There are *mani* walls, *chorten* (*mChod-rten*) or *stupas*¹, temples and religious symbols of different sorts, and though the purview of this study does not allow a description of all these structures I consider a short introduction to be necessary for the understanding of the building tradition. Moreover, it is important to observe the way people treat their religious monuments and symbols and the attitude they have towards maintenance and new construction today. It is this kind of symbolic buildings that show, more than any other built structure, the expression of the way of life and the ideology of the Ladakhis.

Manis and *chorten* are two rare examples of built structures where people who approach these symbols are expected to take direct action by making sure to pass them in a clockwise direction or even taking detours in order to do so. *Manis* are prayer walls that develop over a long period of time. Every year hundreds of pilgrims pile up stone after stone until the wall is as high as up to the shoulder. *Manis* are meant for offerings and believers place painted or carved stones with prayers on top of the wall (e.g. with the inscription: *om mani padme hung*²) to receive a certain blessing or to have wishes fulfilled. Sometimes the walls are almost one kilometer long. Cunningham measured a *mani* in Basgo, which was 1.5 meters high, 3.6 meters wide, and 800 meters long. The British explorer William Moorcroft describes a *mani* of almost one kilometer length in Leh (Harrer 1978: 112). Some of the remains of it can still be seen today. Sometimes a *mani* can be found in the middle of a street so that it can be passed easily on the appropriate side without taking extra detours. Today most people don't produce the delicately carved stones they put on the wall themselves. There are special stone carvers

¹ *mChod-rten* is the Tibetan expression for what in Sanskrit is called *stupa*.

² This mantra has many interpretations. Basically it is the mantra of Chenrezigs, the essence of the compassion of all the Buddhas. Chenrezigs is always seen holding a jewel and a lotus. *Mani* and *padme* do mean jewel and lotus in Sanskrit. So the mantra is meant to help people visualise the one who holds the jewel and the lotus.

who take orders or who have many stones prepared in advance that one can choose from and buy directly. Art historians have found out that *mani* walls were not placed into the landscape arbitrarily but that, apart from their spiritual purpose, they also have a physical concern. They were often erected to fix loose soil portions and to stop land slides from penetrating a village (ibid.: 113).

It can be observed that even young Ladakhis who do not care much about religion or traditions anymore are very respectful regarding religious symbols and that they would never pass a *mani* wall or *chorten* on the wrong side.



Fig. 51
Chorten close to Shey Palace



Fig. 52
Religious symbols in Choglamsar



Fig. 53
Mani in Leh

The development of the shape of the Buddhist *stupas* or *chorten* dates back to pre-Buddhist times, when in India grave-mounds (*tumuli*) of ascetic saints were regarded as holy places for pilgrimages and meditation. The saints were buried in a seated position thus giving the graves the shape of a dome. This is considered as the origin of the form of a *chorten*.³

According to Buddhist belief, the Buddha named five factors that would free people of interference from negative forces and contribute to the practitioner's attainment of enlightenment. The fourth of these five factors was to constantly repair old *stupas* or to construct new ones.⁴ In terms of the merits gathered, there is no difference between circumambulating, making offerings and saying prayers in the presence of a *chorten*, or in the presence of a statue of the Buddha. However, *chorten* have a wider impact since

³ Now the shape of a *chorten* is said to resemble the proportions of the Buddha's body. The whole *chorten* represents the Buddha in the seated position for meditation.

⁴ The other factors are: to give Dharma constantly with the intention of helping others, to give sentient beings a sense of security or freedom from fear, to constantly reflect on the four types of immeasurable, and to maintain the mind of enlightenment (Thupten Rinpoche, 1996).

they are not hidden in a temple. They are often erected at very busy places and can be seen throughout the landscape from far distances.⁵

According to Giuseppe Tucci (2001) there were two main reasons *chorten* were built after the historical Buddha Shakyamuni died:

- to commemorate the eight great deeds accomplished during his life⁶
- to enshrine relics after he passed away⁷

In Tibetan Buddhism, the construction of *chorten* became an integral part of the spiritual life. The symbolism is so vast and complex that any attempt of simplification is out of question. Every part of the outwardly visible *chorten* has a very specific meaning, yet what is within, scriptures, relics and alike, is at least as important.

In Ladakh the period from the 11th – 15th century produced some of the most interesting *chorten* with shapes that have not been built anymore in recent times. Some of the oldest ones, e.g. the big *chorten* in Saspol and Basgo, can be linked to the great builder Rin-chen-bzang-po. Also the great *chorten* next to the Sum-tsek temple at Alchi goes back to this builder. They are especially interesting since it is possible to walk through them and there is an elaborately decorated negative form of a stepped *chorten* that can be seen from the inside.⁸ Two other large and exceptionally elaborate *chorten* are the great *chorten* in Shey (Fig. 53, 54) and the “many gates” *chorten* at Changspa.⁹

⁵ Buddhists believe that the positive impact of a *chorten* can not only be achieved by circumambulating it but already by seeing it, touching it, listening to the qualities of a *chorten*, or even by only passing in the shade of a *chorten* or being touched by a wind that passed over it.

⁶ The Buddha Shakyamuni himself had ordered his disciple to place his ashes in a monument as was common for Indian leaders at that time. When the Buddha died, the question arose of who his remains would belong to and therefore, who would be the builder of such a great monument. As no answer was found his remains were divided among eight kingdoms and eight different *stupas* were built. They were very diverse in their design which is one explanation for the vast variations of forms of *stupas* today.

⁷ For any *chorten* to be of benefit there are relics (*ring.sel*) that must be put inside, to ensure its power to benefit others: There are the „relics of the Dharmakaya“, the *dharanis*, which are the mantras that were taught by the Buddha, fragments of bones of Buddhas, Bodhissatvas or gurus, as well as parts of their hair or clothing.

⁸ A good overview about the most important *chortens* in Ladakh is given in the paper *Archaeological Notes on Chorten Types in Ladakh and Zaskar from the 11th – 15th Century* by Kath Howard (1995).

⁹ The bkra-shis-sgo-mang or “many gates” *chorten* at Changspa is enclosed by a wall of 108 small *chorten*. The six levels show three doorways on each side while the middle ones leading into small inner openings. The entire structure is made out of stone. The dome is not part of the original structure.

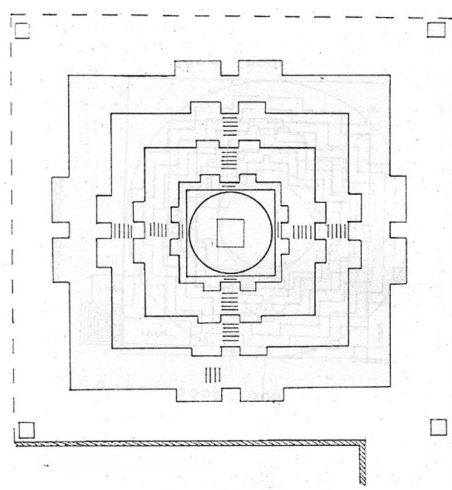


Fig. 54, 55

Shey chorten: situated just below Shey castle, the chorten is built out of mud brick and paved with stones. The steps of the lower platform are flanked by projections with small chorten on them and there are larger ones of the same pattern at each corner. The dome sits on a short drum and is surrounded by a moulded ring. The remains of a mud brick enclosure wall can still be seen.

Most of the time in Buddhist or also in Hinduist architecture and art, the artists or architects are not known. The building of monasteries, *gompas* or *chorten* is a process that empowers the personal karma and is a deed for mutual benefit thus referring the actual builder to the background. In Ladakh the construction of *chorten* is still a serious task today. It seems to be more attractive to build new *chorten* than to preserve the old ones, thus *chorten* in all stages of deterioration can be seen. Whereas the form of new *chorten* has not changed much, the material often has. In particular, *chorten* that are built close to *gompas* are more and more often constructed in concrete. The main reasons for this is that people think that they are more permanent that way and they find the smoother surface more attractive and perfect. Especially in the villages it is still common to build private *chorten* next to the house. Sometimes they are integrated into the facade in a relief-like manner, e.g. above the entrance, sometimes they stand separated from the house.¹⁰ It is a very responsible task to built a *chorten* and the whole building process has to be supervised by a *lama*. The *lama* will give initial advice regarding the selection of the site and will accompany the building process by helping to choose the relics to be placed inside, doing the necessary consecrations at various steps.

¹⁰ A very common element is the arrangement of three small, different colored *chorten*, either attached to the house or separated, which symbolize the bodhisattvas Avalokitesvara, Mañjusrī and Vajrapāṇi.

Many building techniques that have been in use over the centuries and are still widely used today can be traced back to the construction methods used for monasteries. Monasteries are most fantastic structures and they provide very logical and natural answers for various building tasks. Buddhist scholars in Ladakh see the famous Lo-tsa-wa Rin-chen-bzang-po (958-1055 A.D.) not only as a great builder and developer, but also as the true founder of Buddhism as well as the distinctive culture of Ladakh. Rin-chen-bzang-po built many *gompas* and *chorten* in Ladakh and the neighboring countries, among them the *gompa* in Alchi.¹¹ Many of the old monasteries in Ladakh were founded between the 11th and 12th century. The kings of Ladakh tried to support Indian Buddhism and invited great teachers like Naropa, Marpa, Milarepa and many great representatives of the bKa-brgyud-pa school to Ladakh. They founded important *gompas* like Hemis or Stakna.

Like in Tibet, monasteries are the religious and cultural centers of the country and also the whole concept of the Ladakhi monasteries is also strongly related to their Tibetan counterparts. The location of the monasteries varies widely – some are situated on the top of a rock, some are built into steep slopes on the foot of a hill, while others, like Alchi, are placed almost on flat ground in the middle of a village, though this is rather an exception. The use of stone for the lower stories and of rammed earth or mud brick for the upper ones is the rule.



Fig. 56
Rizdong gompa



Fig. 57
Likir gompa

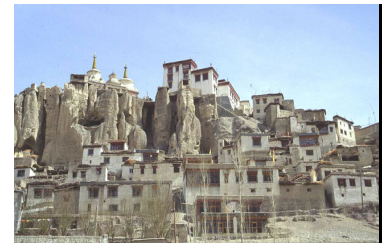


Fig. 58
Lamayuru gompa

Like in most of the highly developed cultures the Tibetan way of building monasteries was developed according to a very distinctive proportional and harmonic system. The most widely spread system was the span-system whereby one hand-span (*tala-tho*) was the distance between the thumb and the middle finger of the straddled hand which

¹¹ Rin-chen-bzang-po was also one of the most famous translators in Tibetan history. He spent several years in the Indian plains and translated many texts from Sanskrit into Tibetan. He was not only one of the most influential religious leaders and translators but also a physician and a great builder.

corresponds to a width of 12 fingers (*anguli*).¹² Holy numbers, like 84 or 108 are constantly reappearing in the proportions and measurements but also in actual figures or elements. 108 *anguli* is the height of a Buddha figure, the Tibetan rosary counts 108 pearls, 108 prayer wheels are moved when circumbulating a monastery and 108 beams make up the ceilings of the great assembly halls. Holy numbers are only one example where myths and religious purposes have much more importance than structural requirements.



Fig. 59
Thikse Monastery



Fig. 60
Hemis Monastery



Fig. 61
Phyang Monastery

While some monasteries have survived over centuries until today, many have been destroyed during the era of the Dogras. Today there are elaborate disputes among Western experts about how to renovate and conserve this rich cultural heritage. Why is it so difficult to maintain monasteries nowadays whereas over centuries this never seemed to be a problem?

I see it first of all as a matter of philosophy and world view. In our Western point of view it is not common anymore to see buildings in a religious, cultural and local context. Today even in Ladakh the traditional kind of sustainability rooted in Buddhism's "impermanence" is loosing ground due to the increasing outside influence. Architecture in Ladakh, as in most Buddhist environments, has always been seen as a dynamic process and it is not only for material reasons that buildings have been in a constant process of construction, deterioration, renovation etc. Not only the designs, but whole concepts have continually been altered and elaborated over the centuries, which is also true for monasteries. The Buddhist philosophy is full of paradoxes where matters might be important and unimportant, sacred and profane at the same time. Physical structures, too, do not have to be perfectly maintained, moreover some are never finished

¹² The proportions of a Buddha statue were usually developed according to a 9-span-system. The standing Buddha measures 9 spans (about 1.80 m), or a partition or multiplication of this. 9 spans are 108 fingers which is a holy number. Also, the measurements of the different parts of the body were exactly layed down (see also Gerner 1988: 108-112).

but maintained in an infinite cycle of composition and decomposition, as the whole life is a process of ongoing birth and rebirth.¹³

Nowadays monasteries gain a new importance as tourist attractions and therefore as historical and cultural monuments. Tourism influences monasteries in various ways: there is a new quest for perfection regarding the appearance of the monastery buildings, huge crowds during monastery festivals call for improved safety conditions, and there exists a so far unknown desire for more permanent construction methods. Maybe one of the most severe examples of damage through recent developments is Spituk monastery¹⁴. A few years ago a large part of the monastery together with the whole side of the hill went unstable and slid down. Spituk is very close to the airport and when landing in Leh it seems that the plane almost touches the monastery since it passes by so closely. The frequent air travel is seen as one reason for the severe damages, since the constant vibrations slowly but steadily loosened the structure.



Fig. 52
Spituk Monastery, renovation, tons of concrete replace the former rock foundation. The first direct victim of tourism?

¹³ A good example is the restoration process at Alchi, art-historically the most valuable and fantastic monastery in Ladakh founded in the 10th century AD. The Department of Architecture at the Fachhochschule Köln, Germany, initiated the project „Save Alchi“ and started the restoration of the severely damaged structure. When the experts returned to Alchi in 1988 to continue their work they were shocked when they found out that an old house in the temple district had been torn down and the building refusals had been piled up along the walls of the monastery. Further, many of the unique wall paintings done by Kashmiri artists more than 800 years ago had simply been repainted by local artists. This was certainly done with good intentions, since the locals were no longer happy with the fading colors and wanted to brush up the structure. However, in our sense of preservation this was just an unthinkable act (Poncar, 1994).

¹⁴ Spituk monastery lies on a hill about 8 km from Leh, overlooking the Indus valley. It was founded during 1040-1050 by King Ol-de of Guge and now belongs to the Gelug-pa sect. Spituk is well known for its present head lama Kushak Bakula who is an incarnation of Arhat Bakula and is at present the Indian Ambassador in Mongolia. There he was able to contribute a lot to the recent re-introduction and spread of Buddhism.

Because of tourism preservation suddenly became an issue – but there is a big gap between the traditional Ladakhi and the Western approach as to what preservation means.

Ladakhis, as most other Buddhists, see monasteries as places that have obtained a certain sacredness. It would be quite unthinkable for them to build something other than a *gompa* on a site where a religious building stood. The sacredness of that place will never be lost and therefore it is important to preserve the symbolic meaning of it since this is more essential than the building itself. The big difference to our Western perception of preservation is that the reason for keeping a building intact is not the historical value of it. Therefore it is by no means important to preserve historical construction techniques. This often leads to tensions between the Western approach to the preservation of monuments where the authenticity of the material is a major principle. This is of only minor concern in Ladakh where the most important concern is to protect a building from decay, which is nowadays often best and most permanently done with the help of concrete. Also the adherence to the old appearance is only of minor concern, since it is more important to improve the building, eventually increase its size and make it more comfortable.

The question arises: can our Western demands on building preservation be applied in an environment with a completely different perception of such issues? On the other hand, there already is so much Western influence in so many other fields that it might be misleading to spare out solely this issue. In a sense it is most necessary for Ladakhis to reassess their perception of conserving their heritage, since tourism for the first time carries the danger that Disney-like features might infiltrate even the most sacred places. It is a sign of a lack of responsibility to introduce new materials and methods practically over night and then leaving it to the locals how best to deal with these new technologies in order to develop them to their benefit. There is a high risk that the ensuing development might drift into the opposite direction, causing more evil than good.

One example of such a risk is the construction work currently going on in Hemis¹⁵. The whole southern enclosure of the inner monastery's courtyard has been removed and is now being replaced using new materials such as concrete and bright artificial colors.



Fig 63
Bright artificial colors are used for the re-painting of religious monuments

Compared with the old structure the bright colors do not improve the overall appearance in any sense – they are neither an exciting counterpart to the old structure nor can they compete with its perfection. While most monasteries have shown a highly developed relationship between the pragmatic and the symbolic, new copies have often tried to achieve the same result with pure decorative elements which, however, cannot cope at all with the original meaning and intention. This goes so far that some new buildings seem to be hardly more than a caricature of the old structures. As in the West, conservation is a complex task and there is no universal solution of how to approach it.

Monasteries have long been, and to a certain extent still are, strong reference points for all kinds of building activities. Especially among the upper class houses (*gZims-khang*) around Leh or the feudal houses around the palace in Stock, the direct influence of monasteries can be seen quite obviously: The houses are usually two or three stories high and the rooms are arranged around a courtyard on the first or second floor. As in the monasteries, the roof parapet is emphasized, the windows have conic plastered decorations and above entrances and windows one can find protective projections (*bakna tukul*) which are elaborately carved.

¹⁵ With about 300 monks Hemis is still the biggest and wealthiest monastery in Ladakh. It was founded in 1627 by sTag-tshadg-Res-chen, a Buddhist teacher who was invited by King Sengge Namgyal to build the monastery. It is particularly well known for its festival that is held every year from the 9th – 11th day of the 5th Tibetan month. Hemis has an excellent library and a extended collection of *tankas*. One very large *tanka* is unrolled every 12 years during the festival.

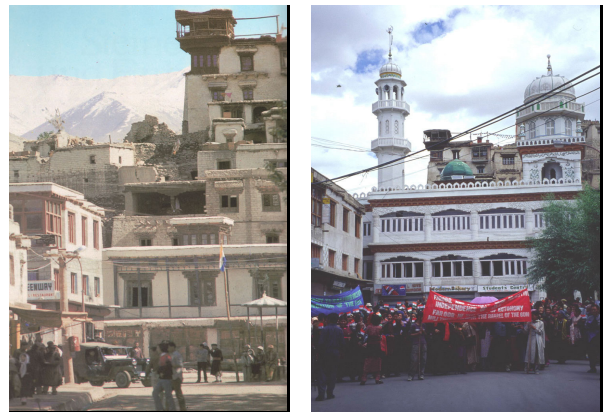
These building elements that derive mainly from religious examples are what is nowadays meant when people speak of the “Ladakhi style” of building. This “style” is gaining more and more importance among Ladakhis and, given the tense political circumstances, it becomes an important symbol of identification, mainly for Buddhist Ladakhis. In this respect it is interesting to compare the development of Mosque design with that of Buddhist monasteries (see also chapter *Cultural Aspects in a Globalizing World*, p 53 ff in this volume).

The first mosques built in Ladakh did not differ significantly from the design of Buddhist monasteries. Marco Pallis, a British traveler from Liverpool who came to Leh in 1936, wrote:

... Immediately below the castle is the mosque, for there is a large Mussulman community – built in the usual Ladakh style of architecture ...
(Pallis quoted in Jina 1995: 118)

Fig. 64
Old view of the Jama Masjid in Leh, 1978: The woodwork, the balcony and the window decoration are clearly elements drawn from Ladakhi monasteries

Fig. 65
The Jama Masjid in Leh, 2000: The facade has been remodeled using Turko-Iranian elements



When the first Muslims came to Ladakh about 600 years ago they began to play an important role in construction and development, participating in building monasteries, canals, roads and bridges, gardens and tanks, palaces and *chorten*. Wherever a sizeable Muslim population lived together they constructed a mosque to offer prayers to Alah and many of these mosques are still in use today.

Of all the mosques of Ladakh, the Jama Masjid of Leh (Sunni Islam), described by Marco Pallis above, has a prominent place, situated at the head of Leh bazaar. The exact date and year of its construction is not known, though historians date its with the reign of King Deldan Namgyal on the order of the Moghul Eperor Aorangzeb, which would be around 1660. This order came with a threat of military action by the Moghul

empire, if the Ladakhi king did not submit to Delhi, stop attacking Muslim-held areas – and build a Mosque at Leh (*Ladags Melong*, Sheik 1997: 24).¹⁶

Following tradition, the mosque was built on a portion of the King's main field known as *Tetres*, whereas the remaining part is now the main bazaar. Before the Jama Masjid was built there were two small mosques in the area, the Imameya Masjid and Chashma Masjid. These mosques were built near the stream of Chukeranthaq, and they are still there today. There are actually four mosques inside the Jama. The oldest part in the main mosque predates 1660. It is dedicated to Hazrad Syed Ali Shan Ham-dai who came from Kashmir and founded the mosque at Shey around 1384. During the past 35 years, the Jama Masjid has been expanded and repaired several times, the existing structure has now a capacity of more than 500 people with plans for further extension.

Another important building for Muslim Ladakhis is the Chhushot Imambara. It is the oldest imambara in Leh District, built by the first group of Balti immigrants, who came to Ladakh from Puring and Baltistan in the beginning of the 17th century.¹⁷ For centuries, Shia Muslims – both men and women – have been assembling in this Imambara on Ashura and on special occasions to mourn the martyrdom of Hazrat Imam Hussain, the grandson of Prophet Muhammad and his faithful followers. In recent years a magnificent Imambara has been built in the style of Turco-Iranian architecture at the site of the old Imambara. Its minarets and dome can be seen from miles away.

The Jama Masjid in Leh and the Chushot Imambara are only two of several mosques that have completely changed their appearance in recent times.

¹⁶ The Mughal governor of Kashmir sent a representative named Sheikh Mohi-du-din to Leh to build and supervise construction work of the Jama Masjid.

¹⁷ This old Imambara bears the testimony of the close relationship between Ladakh and Baltistan following the marriage of Gyalpo Jamyang Namgyal with Balti princess Gyal Khatun. These Baltis settled at Chushot and Shey on the banks of River Indus.



Fig. 66

Close to Thikse a new mosque is being built next to the old one. It can clearly be seen that the old structure (left) features what can be called "Ladakhi building elements", whereas the new structure (right) has completely changed in style and is more related to the Turko-Iranian building tradition

Today there are about twenty mosques in Leh District, many of them built only in recent years. Abdul Gani Sheik, a well-known Muslim scholar of Ladakh, points out: "It becomes more and more important what architecture expresses. Until this century the outside of the mosque in Leh was purely Ladakhi. Then it was completely changed in order to make it look Muslim. In Chuchot, too, the mosque was completely changed in favor of a Turko-Iranian style" (*Interview*, 23rd June 2000) (Fig. 60-62).

It is clear that this change in architectural expression is directly linked with the shift in identity of both Buddhist and Muslim Ladakhis. Starting with the disputes with Muslim Pakistan and intensifying with the internal political struggles between Ladakhi Muslims and Ladakhi Buddhists a gap has developed that threatens the very notion of a common "Ladakhiness". Whereas Buddhists more and more see Ladakhi identity and culture related to Buddhism, Muslims are tempted to re-enforce their search for their own separate way. This drifting apart and the conscious standing out against each other is distinctively expressed in buildings, with religious buildings logically being of first priority. It is a worldwide phenomenon that a religious community tries to create an internationally applied "style" to express its sense of unity. The example of Ladakh proves that the mutual sense of a common Ladakhi community has long stood stronger than the individual expression of its religious communities and it is obvious that the tendency of drifting apart has been encouraged by the intense influence from outside and the resulting tensions. Of course, it is not only the Muslim community, but also Buddhists, who pay more attention to traditional building details and start using these elements on purpose and in a very conscious way. Taken together, Ladakh is a significant example of how important architecture is as a symbol for expressing a people's identity (this topic is theoretically discussed in part I, chapter *Building Identity*, p 65 ff).

The Ladakhi Farm House

Cultivable land is scarce in Ladakh and only the rocky and very dry sites are available for building houses. Therefore, houses (*khang pa*) are often built on the foot of a hill or on the steep rocky south-facing slopes, integrating the rocky ledges into the construction and using part of the hill as a back wall.

In the villages Ladakhis live in extended families. It is common that the parents move from the *khang chen* (big house) to a separate house, the *khang chung* (small house), when the (male) children marry. This is true only for Buddhist families while in Muslim households the parents remain in the house, which also has to do with the different family structures since polyandry was normally not practiced by Muslims.¹⁸ Although the *khang chen* and the *khang chung* usually stand quite near to each other it is also possible that they are on completely opposite sides of a village.

The traditional Ladakhi farm house was a very introverted structure, acting like a massive, fortification-like enclosure with thick walls and very few and small openings. The introduction of glass has had a major effect on the appearance, allowing windows to be much bigger and thus giving the houses a much more open impression. Almost all traditional farmhouses have been adapted following this new introduction by enlarging the openings, while the main structure and spatial organization of farm-houses has remained quite the same. Houses consist either of mud, stone or a mixture of both with walls as thick as one meter at the foundation, tapering at the top according to structural necessities. In adaptation to the very dry climate all houses have flat roofs that are used for storing straw, twigs and dung, for doing work outside and especially for sleeping in summer. The roofs have a small balustrade (*thog gyang*) where the straw is bundled, and sometimes the balustrade is formed directly by the storage material such as cow dung. Houses are usually two, sometimes three stories high.

There are two basic types of houses depending upon their location on a slope or on a plane:

¹⁸ More about the organization of Muslim households was found out by Nicola Grist during her fieldwork among the mixed Buddhist and Muslim population in Suru Valley (1993: 90-92).

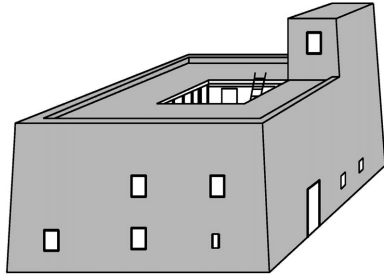


Fig. 67
Typology of a Ladakhi farm house on plain ground

Fig. 68
Ladakhi farm house in Stock village

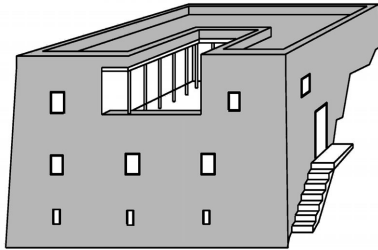


Fig. 69
Typology of a Ladakhi farm house on a hillside

Fig. 70
Ladakhi farm house on a hillside north of Leh

Houses situated on an even ground have a square inner courtyard (*yaps*) on the first or second floor that is surrounded by rooms on all four sides. Houses situated on the hillside, which is most of the time south-facing, consist of a central block with two wings. The upper rooms are also arranged around a courtyard but they create a U-shape thus leaving the southern side open in order to receive more sunshine. Sometimes the second floor is slit further back into the hill. The courtyards are surrounded by wooden posts holding up a canopy. Thus there are three zones: the fully protected and enclosed rooms, a semi-open area sheltered and shaded by a roof and the open courtyard in the middle.

There are many small open-air niches or terraces that are oriented to the sun and protected from the wind so that especially in winter they receive sunshine and are used for sitting and working. Earlier it was common that the wealthier houses, for example the houses of members of the royal family, had balconies and loggias (*rab gsal*) with wooden shutters that could be taken away during sunny days thereby offering a warm and sheltered space. Nowadays, with the use of glass, these elements have changed. From the outside the traditional Ladakhi farmhouse did not offer many decorations – these were limited to the more elaborate town houses that already Herman von Schlaginweit described during his journey to Leh in the second half of the 19th century:

Several houses in the town, perhaps five or seven, have more than one balcony and were altogether superior to most houses in Tibet, but even in these houses the only pretensions to "style" are the symmetrical arrangements of architraves above the balconies, dormer-windows and doors; the wooden galleries running right round to the inner courtyards at first floor level or higher; and one or two wooden ornaments that are clearly of Indo-Buddhist region. (quoted in Harrer 1980: 14)

The regular Ladakhi farm house is kept very simple: The walls are either of exposed stone or covered with mud plastering (*marka laga*); sometimes they are also white-washed (*dkar rtsi*)¹⁹. It is not the rule that the walls of a farm house are painted but sometimes the outer and/or inner walls of the *chod khang* (*mChod-khang*), the house temple, are decorated whereby every painted symbol has some religious significance.²⁰

In addition there are spots of red color and other symbolic elements to be found on the houses in order to keep evil spirits away. Of course, most colorful prayer flags are placed on the roof of every Buddhist house.

The windows (*sge u-khung*) are generally kept simple according to structural necessities although they can get very detailed with a broad black or red stucco frame (*nag tshu*) around them, which is usually broader at the bottom than at the top. The black color is extracted from the soot on the kitchen ceiling. Since there are no chimneys there is a thick layer of soot which can be scraped off, mixed with ash and water, and applied to the stucco. Window decorations of farm houses are mostly influenced by the decorative elements of monasteries where the ledges are elaborately carved. Nowadays most of the small old windows with wooden shutters have been replaced by much larger and usually very elaborately decorated glass windows.

The spatial organization within the house (*khang pa*) is structured very clearly. The ground floor is allotted to animals and to storage purposes whereas the living quarters are on the upper floors (*yang thog*). There are two main variations of entrance situations into the living quarters: In the first case people use the first floor entrance leading past the stables (*rta ra*) and one finds steep and narrow stairs in one of the corners of

¹⁹ The roughcast is mixed of earth and water and usually applied and smoothed by hand. Not all Ladakhi houses are whitewashed since this is rather a Tibetan tradition. Whitewashing is quite a procedure since it is not very durable and has to be refreshed every year, about two to three times in spring. The limestone is not burned but simply crushed and mixed with water. It is applied with some cloth which is wound around a stick.

²⁰ The following symbols are common: norbus (*ratna*), the lotus, swastikas (*yundrung*), the Eight Spoked Wheel of the Dharma, cloudwhirls and auspicious symbols.

the cattle barn which take you to the second floor. But very often houses also have external stairs, leading directly to a small landing on the second floor.

The rooms (*khang*) are very low with a floor to ceiling beam height of 2.00 meters, whereas on the ground floor the height sometimes does not exceed 1.80 meters. The parapet of the windows is only between 40 and 60 cm high since it is considered important that it is possible to look out when sitting on the floor.

The two most important rooms of the farm house are the kitchen (*chansa*) and the *chod khang*, a house temple or shrine room. The latter is situated on the highest level of the house and is reserved for daily offerings and prayers, for the visits of *lamas* or sometimes for guests. Another important room is the reception or guest room (*don khang*) that is kept very neat and clean and is used only for visitors and for celebrations. Although most of the houses do have such a room, in very small houses the kitchen functions as a *don khang* as well. Many houses have a separate room (*chang*) for the storage of the local beer which underlines the significance of this beverage. Depending on the size of the *khang pa* there are additional guest rooms and storage rooms (*dzot*). The toilet room (*chagra*) is elevated or situated on the second floor. Most of the time it is attached to the house close to the storage rooms, sometimes it also stands completely separate. It consists of a small room with an average size of 1.5 x 1.5 meters. It has a mud floor with a hole in the middle and some sand is put next to it to through down after use. The contents can be emptied from the first floor and is used for the fields.

The most important room in a Ladakhi house is the kitchen (*chansa*). As Reinhard Herdick (1998) observed in Yangtang by analyzing the air vents (*thog skar*) from above, the orientation of the kitchens is not consistent. It is most typical for the Ladakhi farm house that there is a „winter kitchen“ (*chansa*) and a „summer kitchen“ (*yar khang*). The winter kitchen is situated on the ground floor and is surrounded by the stables and storage room. Usually this kitchen has no window, but only an air vent in the roof which is situated over the oven and releases the smoke to the terrace above. The winter kitchen is used during the coldest months of the year, from about November until February, since it is protected on all sides and with the stables and animals around and no heat loss through windows it is by far the warmest room. Of course, the room is very dark and smoky and during the day, when it is sunny and therefore warmer, people still spend much time in sheltered areas outside. In March, when it quickly starts getting

warmer, the whole household moves one story higher into the summer kitchen. The summer kitchen has bigger windows and usually a direct connection with the courtyard which is seen as an extended living area during the warm season.



Fig. 71 _____
View from the terrace into the winter kitchen, no additional windows



Fig. 72 _____
Old clay oven in the winter kitchen



Fig. 73 _____
Summer kitchen with window in an old farm house close to Leh



Fig. 74 _____
Summer kitchen

Depending on its size the kitchen usually has one or two main wooden posts (*kha ba*) that are topped by a capital (*kha gzhu*) and support the main beam (*ma gdung*). The kitchen is the only room that has a supporting structure since the other rooms are smaller and therefore do not need one. The posts, as well as the ceiling and walls of the kitchen, are very smutty from the smoke which also has a preserving function. The focal point of the kitchen was, and still is, the stove (*thabs*).

Old stoves were built out of a special sort of black clay that was taken from the rivers and got hard as stone when it dried. Such stoves can still be seen today in the old houses in villages although they are hardly built anymore. In the stove there are openings with their rims lifted up for the pots and on the side there is a platform for keeping the butter tee (*gur gur cha*) warm all day round. Firmly connected to the stove is an air pump consisting of a bag made out of goat leather, a tube that leads directly into the glowing fire, and two sticks that regulate the supply of air (Harrer 1978: 84). In a large carved wooden shelf (*lungs*) behind the stove all the pots out of brass and copper and the pottery for the meals and *chang* are arranged. Still today these shiny and neatly polished kitchen utensils are the pride of every household since it is one way to express the wealth of the family.

Other than this shelf a traditional Ladakhi kitchen does not have much furniture. There are carpets for sitting along the walls and brightly painted *choktse* (foldable wooden tables) in front of them.

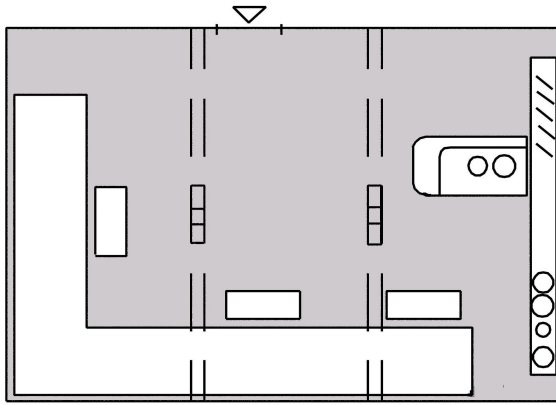


Fig. 75
Floor plan of a typical Ladakhi kitchen

The seating arrangement follows a strict order. The most important seat is the one closest to the oven which is reserved for the grandfather (*meme*) or the grandmother (*api*). The other seats are taken according to age. The woman of the house always sits at the stove where she can easily reach the pots and watch over the food. Another reason why the stove is so important is that it is said to be the residence of the hearth god (*thabs la*), since the smoke rises up and establishes a direct connection with the sky.

Traditional Materials and Techniques

The typical construction of Ladakhi houses is a combination of stone and air dried mud brick (*pag pu*). The foundation (*rtsikrmang*) and first floor is made out of stone to give the structure stability and protect it from moisture. The second floor is then built in mud brick, whereas in some very old houses and especially those closer to the Kashmir valley also the rammed earth technique (*gyapak*) is being used. There are also houses exclusively made out of stone, or nowadays more and more often just out of mud. The decision as to what materials to use mainly depends on the ease of direct availability, since transportation was and still is connected with a lot of effort. Wood is never used for wall structures since it is very scarce.

In his research on fortifications in Ladakh Neil Howard describes how construction methods have changed over the centuries and he states that “... archaeological evidence from the fortifications of Ladakh suggests that in different periods the Ladakhis built with distinctly different masonry techniques and employed distinctly different fortification principles; and that each different period has a characteristic combination of masonry techniques and elements of fortification” (Howard 1995: 79).²¹ It can be assumed that such changes have taken place in smaller structures and housing as well, but since houses are much more subject to changes and adaptations this has not been proven so far.

The foundations (*rtsikrmang*) of a traditional farm house are about 80 to 100 cm wide and dug in trenches to a depth of 1 to 1.5 meters. They are made out of quarry stones that are hammered into shape. Also the walls of the first floor consist of stones. Larger and straight-edged stones of more or less the same height are used for the external and internal surfaces, while small pieces fill up the gaps. Since the bulk of the mud mortar is concentrated in the center of the wall it looks as if no mortar is used at all. Nowadays walls are much thinner, most of the time only made out of one brick layer (one foot wide), which in turn causes many problems (more about this in chapter *Build- ing Techniques and Material*, p 274ff).

The floor consists of trampled muddy soil (*sa zhal*) covered with a layer of blankets. Sometimes, but very rarely, it is covered with wooden planks. The only constructions where wood is used are the ceilings and the roof. Wood is very scarce but not absent altogether. Only the wood for the principal pillar and the main beam that is used to hold up the wide spanning kitchen ceiling has to be imported from Kashmir and therefore these parts are the most expensive ones of the house. The other wood that is used for the ceiling comes from in Ladakh. The only wild trees growing throughout the area are species of willow (*lchan-ma*) and juniper (*shugpa*).

²¹ In short Howard specifies different ways of construction for different periods:

- a) up to the early 16th century: random-texture mud-mortared stone
- b) About second half of the 16th century (royal style of the reigns of bKra-shis-rnam-rgyal and Ts'e-dbang-rnam-rgyal): shuttered mud = buildings of mud, moulded between wooden formers, or shuttering.
- c) last three quarters of the 17th century: banded-texture mud-mortared stone - these method became common for all important buildings from the 18th to the 20th centuries.
- d) all important buildings after 15th century: timber lacing of stonework (except in shuttered mud buildings - it was not used there).

Poplars (*yerpa*) and birch (*stakpa*) grow only in a few places. The main cultivated species are willows, poplars and apricot with mulberry, walnut and apple at lower altitudes. During the last three decades the J&K Forest Department has established extensive plantations of willow and poplar trees in many places (Mallon and Roger 1995: 109). How important wood is for Ladakh is expressed by the fact that in the Ladakhi language there is no general word for “wood”, but when you speak of wood, you always have to specify exactly what kind of wood you mean.

The typical Ladakhi roof layers consist of several trunks of poplar trees with a maximum length of about 4.5 meters which therefore limits the size of the rooms, unless there is a middle post. The distance between the beams varies widely but on average it is about 60 centimeters from center to center. On top of these beams comes a layer of willows (*talū*), and above this a broad layer of *yagtses*, an especially strong and durable bush, that does not rot even when damp. The quality of *yagtses* is highly praised among Ladakhis. On top of this bushes goes a layer of mud (*kalak*), which is sealed with a special layer of high quality clay (*thoksa*). This clay usually comes from a specific region near Spituk, which is said to be the best and most water resistant mud in Ladakh.

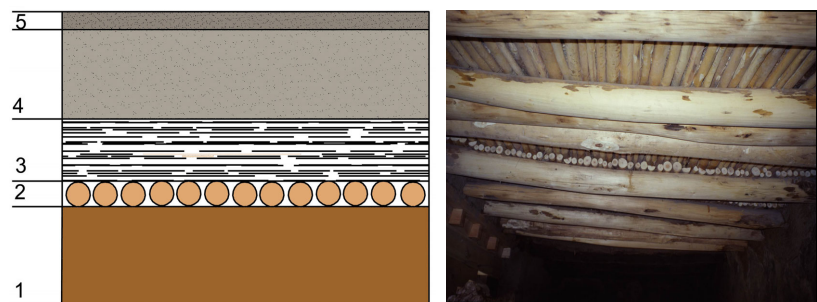
Fig. 76

Traditional roof:

- 1 beam (poplar tree)
- 2 willow twigs (*talū*)
- 3 bushes (*yagtses*)
- 4 mud (*kalak*)
- 5 clay (*thoksa*)

Fig. 77

Roof beams from below



These construction methods have not changed significantly during the last 200 years, which can be seen from the description of William Moorcroft, one of the first explorers to the region, who came to Ladakh in 1812:

They (i. e. the houses) vary from one to two or three stories in height, and some are loftier, the walls are in a few instances wholly, or in part of stone, but in general they are built with large unburnt bricks with light wooden balconies; the roofs are flat and are formed of small trunks of poplar trees, above with a layer of willow shoots is laid, which is covered by a coating of straw and that again by a bed of earth. (Moorcroft in Jina 1995: 21)

The window openings are covered with wooden lintels (*ya-them*). In former times ordinary Ladakhi farmhouse windows did not have much decoration, but households who were better off liked to express their wealth through the decoration above the windows. Today this is used for almost all houses. The carved wooden decoration is called *bakna tukul*. *Bakna* stands for “big nose” (*na* meaning nose) whereas *tukul* derives from the word “key” (*kulik*).²² When one carefully examines the elements just described, this explanation seems to fit well with the visual image.

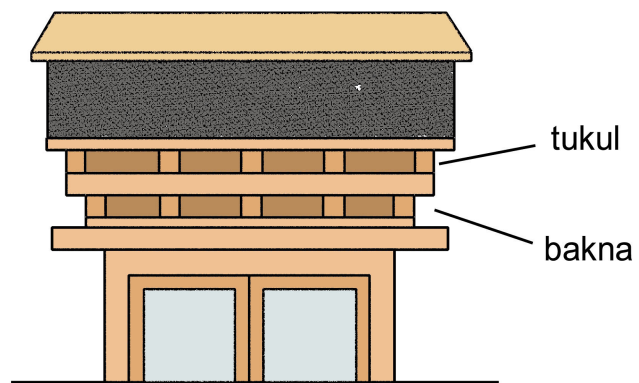


Fig. 78
Window of Sankar gumpa

Fig. 79
Drawing of a typical window with bakna tukul, a layer of bushes (yagtses) above and a board for rain protection. This decoration was adopted from the monasteries and it is now used in many variations in ordinary houses.

Rites and Ceremonies Related to Buildings

When examining buildings in Ladakh it is very hard to separate between the symbolic and the practical aspects of the buildings. Building materials and construction techniques are not restricted to structural uses only but any beam or post can have an important symbolic meaning attached to it. Regarding the spatial hierarchy there is a division into a horizontal hierarchy which refers to the human being and a vertical one which is preserved for the gods. There are many such details of the construction process that are still nowadays very important to Ladakhi people and that Western architects or builders from other parts of India do not know and therefore usually do not care

²² Translated and interpreted by Mr. Tashi Rabgias (*interview*, 1st Aug. 2000)

about. This leads to a bad perception of the building as a whole and sometimes undermines the success of the undertaking from the beginning on.

Of specific importance is the orientation of the house according to the four cardinal points. It starts with the entrance situation of a house. The entrance should preferably be east, it could also be placed to the north or west, but it should never be situated on the south side of the house. Tashi Rabgias, a well known Ladakhi Buddhist scholar, gives an explanation for this fact: "The reason is the 'God of the Dead' or in Sanskrit the *Jamaratscha*. *Jama* means 'dead' and *ratscha* is 'the king'. You may also say the 'King of the Dead'. He always resides on the south side of the house, and if you place the entrance there, it would mean that you enter into the mouth of the 'God of the Dead'" (interview, 1st Aug. 2000). According to Mr. Rabgias also the *chod kang*, the house temple, should never be on the south side but rather west or north. The same is true for *chorten*.²³

Other things that have to be taken serious are, for example, that a room should never be completely square or that the ceiling beams should always have an uneven number. Once people had told me about this rule I automatically started counting the ceiling beams whenever I entered a room and I was astonished that not once did I actually find a room with an even number of beams. Although various people told me these things during interviews I could not find out any specific reason for it other than that an even number of beams meant bad luck for the household.

Every stage during the process of building is subject to rituals and ceremonies. The foundation and consecration rituals are of course most extensive during the construction of a monastery or a religious structure. High *lamas* need to be present and the whole process starts with the circumambulation of the site while the "Owner of the Soil" is asked to stay away. Rice is thrown for the Earth Goddess and offerings are buried. The seeds in turn should bring prosperity to the community. After various other offerings at the end there are consecration ceremonies and the ceremony of the „Opening of the Door“.

²³ In India - and also in Nepal - religious ideas and models drawn from the normative texts of classical Indian architectures, that were more engaged in explaining of how to build on a specific site rather than in explaining the construction process, reached even the most remote villages. Carpenters and joiners from the towns came to the villages to train craftsmen and they themselves erected some of the most important buildings (Toffin, *TDSR*, 1994: 17).

Only if all the necessary rituals are fulfilled in the right way the building becomes a sanctified *lha khang* – a God-house (Van Dyke 1994).

Of course, with profane buildings ceremonies are less refined but nevertheless they are taken very seriously. Buddhist families still council an astrologer to determine the best year and date for building. Muslims usually don't do this and Abdul Ghani Sheik, a Muslim scholar in Ladakh, told me a quite funny but not surprising story in relation to this. When he built his guesthouse in 1980 it was a very good year, because astrologers advised Buddhists not to build in that year and most of them didn't. So he was happy to get very good masons and laborers because there was no competition.

Tashi Rabgias (*interview*, 1st Aug. 2000) told me more about the importance of the initial ceremony, the "Digging of the Belly", that has to be performed at the beginning of a construction process. Before the digging for the foundation is started, the "Owner of the Land", in Sanskrit the *Womipate*, has to be asked to move to some other place. In Ladakhi this spirit is called *sadak* (*sa bdag*), where *sa* stands for "earth" and *dak* for "owner". When digging into the belly of the *sadak* a good *lama* has to be involved in order to prevent the spirit from getting angry.²⁴

Whenever a stage of the house, for example the first floor, is completed, a *lama* has to come to perform a ceremony. This ritual is called *rapnes* and has to be performed by a senior monk. Since Ladakhis are ready to spend a lot of money on this visit of the *lama*, it is clear that they take his performances very seriously. In addition there is a big festival with neighbors and friends, which is called *ganton* (*ghangs don*). This is a Ladakhi tradition that is celebrated by Buddhists and Muslims alike. People exchange *kataks* (ceremonial scarfs) and offer special gifts or money. Tashi Rabgias is concerned that *rapnes* nowadays is not always taken very seriously anymore and that sometimes it is not performed in a good manner. Still he was having a good time when he told me this:

²⁴ The foundation rituals usually start with the marking of the „critical area“, a spot where no harm will be done to the soil-god. The „critical area“ is calculated according to a very complex system of offsets from the center and the boundaries of the future building. This way the *lamas* will make sure that the *sa-bdag* is not wounded and thus ready to leave and release the site to human care. If this ritual is not performed the *sa-bdag* will haunt the inhabitants because he is still there, feeling disturbed and in anger (cf. Van Dyke 1994).

I have seen old houses that have a wall of mud brick just about one foot thick. Still they have lasted for over 150 years sometimes. So I think this is because they did a very good rapnes in these days. There is a nice story that I can tell as an example: In Zanskar many new houses were constructed about 20-30 years ago. One time there was a lot of rain and you could hear on the radio broadcast that many houses were washed away. Some time later I talked to a friend who had been there and asked him what had happened. He told me that it were without exception new houses, that had been washed away. So I also said that they must have performed a very bad rapnes there (laughing).²⁵ (interview, 1st. Aug. 2000)

Although rituals and ceremonies still seem to be very important in connection with every building process, the skills and the competence of the *lamas* performing these rituals seem to be less important than the “truths” they bear inside. If the master of the ritual has sufficient power and authority, it will secure the observer’s faith. Improvisation is not only allowed but welcome, since every situation asks for a specific response. The process of the ritual thus depends very much on the personal understanding of the *lama*, while evidence of the appropriate following of mandatory rules is not an issue. This open and lively approach based on believe can be disturbed when interpreted in a non-traditional way, meaning that a modern analytical way of thinking based on evidence and explanation may introduce the danger that *lamas* are turned into ritual technicians rather than traditional diviners.²⁶

An important event during the building process is the setting up of the prayer flags. On the four corners of the roof bundles of twigs are arranged (*tar chok*), where the ropes with the prayer flags are fastened and spanned from one *tar chok* to the other. They are the most colorful elements that give the Buddhist houses their special friendly impression and charm. Prayer flags are pieces of cloth with spiritual texts or drawings on them which are usually fixed on a string and fastened on top and around monasteries, houses, rocks, *chorten* etc.

²⁵ Tashi Rabgias was talking about a very bad weather situation in Zanskar in July 1993. There were three days of constant rainfall, which led to the collapse of many houses, and several people were injured.

²⁶ Some of these problems have been summarized by Mary Van Dyke upon her observation of the rituals connected with the construction of a Tibetan monastery in Switzerland in 1966/67 (1994: 98-101).

Only the colors blue, white, red, green and yellow are used. Blue stands for the sky, red for fire, white for water, green for the fields, and yellow for the soil. The wind should take the prayers, that are written on the flags, straight to the gods.²⁷

The protection against evil spirits (*btsan mdos*), demons and ghosts is still a prominent concern, especially in farm houses. Symbols are attached to the walls of the houses. They often consist of parts of animals, straw and string that is stretched and transformed into ornaments where evil spirits should get strapped. It is common to use phallic images, painted and/or carved, to drive evil away. Such symbols are mainly found close to the door, either in a painted version next to it or in a carved version hanging above it, to hinder evil from entering.

Rene Herdick (1998: 8-10) has examined a number of protective elements during his research in Yangtang and Lamayuru. One that is very well-known is the “earth-door sky-door” (*sago namgo*) element, that protects the human “middle world” from other worlds by keeping the gates to the heaven and the underworld securely closed to ward off bad influences. It is either applied visibly on house walls, featuring the head of a (male) sheep, or in the form of heads of sheep or other animals that are buried in the floors of rooms. Dotted lines can be seen on walls or over entrance doors where they should lock out evil spirits. *Tsag* are red-painted stones that protect the house and place it within a cosmic overlay.

Fig. 80 _____
A figure with bow and arrow is protecting a house in Alchi

Fig. 81 _____
A sheep head covered with prayer flags is hanging over the house entrance



²⁷ Putting up prayer flags is a Tibetan tradition. Its invention dates back to the times when most Tibetans were nomads and used to put up a flag on top of their tents. They also used such flags during wars. When Buddhism was introduced in Tibet in the 7th century the flags were integrated into the ceremonies and prayers were written on them (Rabgias, *interview*, 1st Aug. 2000).

Town Planning

Entering from the direction of Kashmir we pass through a small gateway and find ourselves in a long, wide and straight bazaar, the houses regularly built and uniformly whitewashed. This has been erected since they took the country, as is now the place that is most frequented. At the farther end of this bazaar one passes into the old part of the town, among houses separated by narrow winding passages. As one rises on the slope of the hill one meets with a few houses of a higher class .. (Drew quoted in Jina 1995: 59)

This is how Frederic Drew described Leh Town when he entered Ladakh via Kashmir during his travels for the Geological Survey of Great Britain between 1862 and 1872. He could not have any presentiment about the problems and struggles that Leh has to face nowadays. Drew experienced Leh as a busy trading post on the silk route but the layout of the town then was harmonious and well arranged. The many villages of which Leh is made up today had not yet grown together and so they had not lost their systems of spatial ordering.

Spatial Ordering of Settlements

Since cultivatable land has always been scarce in Ladakh the fields are the top priority in a Ladakhi village. Therefore, the ground is layered in terraces and sophisticated irrigation systems make optimal use of the limited amount of melt water coming from the mountains. The village itself with its built structures is situated on land that is useless for farming, which means either on rocky or sloped ground, in order not to consume any precious soil. Thus, the arrangement of a village in general has three vertical steps: The gentle slopes of the valley are terraced for cultivation, above this there is the village and further above the monastery. Where soil is very scarce the villages are placed on steep slopes which means that the houses are virtually piled on top of each other. The thoroughways are often covered walkways, sometimes leading through the houses above. A typical example of such a layout is the old city of Leh. Frederic Drew, described Spituk village, close to Leh, as follows:

At Pitak there is an isolated rock a few hundred feet high, on which all the older buildings are situated. The monastery is on the summit at one end, and there is a fortification of two towers connected by a double wall that must have helped to make the rock a strong position. Formerly all the houses were, for protection's sake, built thus high up; this was very commonly the case throughout Ladakh, only in the last generation or so have the people taken generally to building in the plain. (Drew quoted in Jina 1995: 58)

In Ladakh villages are arranged according to a very specific system of spatial ordering that is analogous in different areas.¹ According to the functions of religious and symbolic buildings and sites for ceremonies and festivals the villages are arranged in a specific system that is related to the social and religious structure. Every village has a strong connection to its monastery and there are territorial gods (*lhatho*) that are designated to this monastery or the village.

The Capital Leh



Fig. 82
View of Leh: the castle (left)
and the monastery (right)

The aesthetic and harmonious impression of the capital Leh is dominated by the high enclosing mountain range and the impressive palace and monastery that are situated on Tsenmo hill high above the town. Leh is situated in a side valley of the Indus, about 9 km away from the river, at an altitude of 3,500 meters. Leh is actually the only real town in Ladakh besides Kargil. All the other settlements are villages that are almost entirely dependent on subsistence farming.

Therefore, town planning is a very young undertaking in Ladakh. Even in Leh, which is a conglomerate of several villages, town planning has never been an issue since there was a communal perception of spatial order and town development was a slow, adap-

¹ Reinhard Herdick made a very interesting comparison of the social ordering of public places in the villages of Lamayuru and Yangthang. In each case there are three horizontally functional areas following one after the other: a) a public area for New Year's festivities, b) a public area for marriages in which the entire village participates, and c) the village temple with space for gatherings (Herdick, 1998).

tive process. Although Leh has never been more than a big village in size it used to be situated on a significant crossing of the caravans for trading activities and therefore it could be found on practically every old map of Asia. During the Namgyal Dynasty, King Bhagan gradually made Leh the center of his political activities and in the 16th century Sengge Namgyal, the “Lion King”, transferred the royal residence from Shey to Leh, where he built the nine story high castle called Lehchen Palkhar at the Tsenmo hill. The construction of the palace was started in 1600 and its completion took three years.

There are not many historical references about the appearance of the town but according to the sources available it can be assumed that the first Western traveller who reached Ladakh in the 19th century was William Moorcroft. His expedition to Ladakh started in 1812 and he remained there until 1825. This is how he describes the town which was then fully enclosed by a wall:

Le´ the capital of Ladakh is situated in a narrow valley, formed by the course of the Sinh-Kha-bab (i.e. the Indus) ... It is enclosed by a wall, furnished at intervals with conical and square towers, and extending on either side to the summit of the hills. It is approached by double lines of the sacred structures or manis, frequently noticed in the journal, and houses are scattered over the plain without the walls, on either hand. The streets are disposed without any order, and from a most intricate labyrinth, and the houses are built contiguously, and run into each other so strongly, that from without it is difficult to determine the extent of each mansion. The number, it is said, is about a thousand, but I should think they scarcely exceeded five hundred. ... (Moorcroft in Jina 1995: 21)²

From then on the number of inhabitants was quite constant over the years and severe changes only started to occur during the last five decades. Today there is no enclosure wall anymore. The center of the town is still the Main Bazaar street which is headed by the big Mosque, the Jama Mashid. Behind it starts the narrow and extremely dense agglomeration of houses in the Skyyanos, the Old Town. The Old Town is very much subject to decay since most of the population, mainly Muslim traders, moved out to build guest houses or larger and more spacious private houses further out of town. The difficulty is that the Old Town is located on the very steeply rising flanks of the hillock,

² At almost the same time, in 1814, James Baillie Fraser started his journey to Ladakh and reached Leh via Kashmir. He wrote about Leh: ... *The town itself once contained about 1000 good houses, but report states (sic!) it to have fallen off, and it is now reduced to about 700. These generally consist of several stories, the lower story built by uniting two thin walls of stone filled with mud between them; the upper is entirely formed of the latter material, as is the roof, which is flat, forming a terrace. They are said to be well constructed, there are well stocked bazars and several shops (12 or 13) kept by the Cashmerian Mussulmans, but not Hindoo bunyas, or shopkeepers ... (Fraser in Jina 1995: 24).*

thus the floors are commonly staggered having two or three stories or sometimes even more. Today, the deserted houses are not taken care of anymore and they slowly dilapidate. Even the large and delicately decorated feudal houses at the foot of the castle are largely falling into ruins. In contrast, most of the religious structures within the historic core have been maintained or rebuilt and are thus in fairly good condition. The appearance of the Main Bazaar has drastically changed. Large windows and iron sliding shutters replace the formerly delicately carved wooden shop doors. Large shopping complexes are scattered throughout the town, hastily constructed out of poorly processed concrete in a very low standard. There are only two shops preserved that give an impression of the former appearance of the Bazaar.

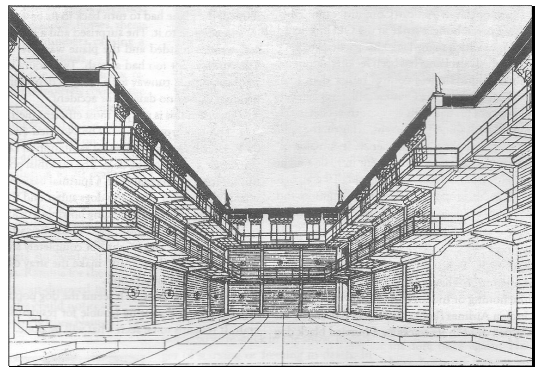


Fig. 83
Drawing of a new Shopping Complex in Leh

The whole core of the town around the bazaar is very dense and open public spaces are scarce.³ The only big open area close to the Old Town is the Polo Ground which is also used for political assemblies and cultural festivals.⁴ There are several cemeteries for Muslims and Christians scattered throughout the town. The Buddhist cremation grounds are to the north of the town.

³ The arrangements of parks and green areas is of specific concern, since without water they tend to be dusty and dry and are often transformed into garbage disposals. Therefore the arrangements of free areas has to follow a very different approach. E.g. in Leh there are four designated open spaces such as the S.M. Norboo Memorial Park, the Mangla Mehta Park or the park adjoining the Government Girls' High School. However, all three of them are seldomly used, dry and not very attractive. Most used is the fourth opening, the Polo Ground, which is used for playing Polo as well as many other social events.

⁴ Polo was long played on the Main Bazaar, but when too many shops were demolished in the course of the games a new Polo Ground was constructed a little further out. Polo was introduced by the Dards from Gilgit and today it is the favorite sport of Ladakhis. Another popular sport is archery.

In 1989 INTACH (Indian National Trust for Art and Cultural Heritage), a Delhi based organization, carried out a study to analyze the situation of the town and the possibilities of preserving the old core of Leh. Buildings were listed and elaborate guidelines were worked out to stop the ongoing decay. But as a matter of fact these study was just another waste of money, time and paper since practically nothing has been implemented and no action has been taken in this direction so far. There are other studies for the improvement of the Town like the Leh Master Plan from 1978 and another renewed Master Plan from the year 1996, both of them worked out by the J&K Town Planning Organization. The results of all these efforts have been highly disappointing. The budget given by the central government has been entirely eaten up by salaries and administrative costs and there is nothing left for the implementation of the mentioned strategies.

Although INTACH (Khosla 1989) started a project to draw up a plan of at least the historic core, there is still no accurate plan of the whole town of Leh that is to scale. To sum it up: The planned development of Leh town has been a disaster during the last decades not only for Leh but for the whole region.



Fig. 84
View of the Old Town

Fig. 85
The small alleys of Old Town

Rapid Urbanization Problems

As indicated above, the real big changes for Leh started with the presence of the army (1949) and intensified with the opening for tourism (1974) that effected the capital much more than any other area of Ladakh. Because of the strategic importance of the region for India a huge body of administrative structures has been built up in Leh. Together with tourism there are new job opportunities that draw young people in great

numbers from the villages into the town. With fast urbanization severe problems have occurred in many respects, the most urgent of which is the immense rise in population.

Tab. 3 shows that the population has more than quadrupled within 24 years from 5,517 in 1971 to more than 23,000 in 1995.⁵ There is no exact number of inhabitants for 2001, but according to projections from the recent elections it is estimated by the Hill Council to be about 26,000. However, there is no evidence that all the new settlements that quickly come up around Leh are already integrated into this number. Between 1981 and 1991 the population more than doubled, partly due to the inclusion of some villages and the new Tibetan refugee settlement. It is estimated by the J&K Town Planning Organization (TPO) that Leh will reach a population of 54,000 by the year 2016 and according to the Census of India it is currently the fastest growing small town in the Indian State.⁶

Tab. 3
Population growth in Leh

1911	1961	1971	1981	1995
2,895	3,720	5,517	8,718	23,000

Today only 61.73 % of the population are originally from Leh, while 38.17 % are migrants (J&K TPO 1997). The migration of able-bodied and educated people from the villages to Leh in search of job opportunities has not only put tremendous pressure on the already inadequate infrastructure of the Leh area, which has more and more developed into a disorganized conglomeration, but it also deprives the villages of labor power, thereby adversely affecting the productivity of the agricultural sector. Urbanization has also drastically altered the male/female ratio in Leh town. The number of women per 1,000 men has declined from 1,011 to 733 over the past two decades (Dawa 1999: 373) since it is mainly young males who come to town in search of jobs.

Leh town continues to be a sprawling improvisation of unplanned development. Physical growth has occurred in two dimensions:

⁵ Data from the Census of India and from the J&K Town Planning Organization. The last two censuses were implemented in 1971 and 1981. All other data result from analyses and estimates of the J&K Town Planning Organization (1996: 17).

⁶ In Leh District, which includes several villages in the vicinity of Leh, the population rose from 43,587 in 1961 to 89,474 in 1991, which is an increase of 105.27 % within 30 years (data from J&K TPO, 1995).

On the one hand a great number of hotels, guesthouses and new private homes came up on fertile grounds in the immediate vicinity of the center, on the other hand new settlements have started to mushroom into the dry desert areas around the outskirts of the town. Especially the very green and fertile areas like Skara, Sankar or Changspa are the favorite places of tourists who want to enjoy the tranquility while still being close to the center. As a result vast areas of former agricultural land have been used for building tourist infrastructure. In addition it is now common among young families who live in Leh to move out of their parents' house and build their own home on one of the fields they inherit. The R&B Division of Leh, that is responsible for the implementation of the master plan, finds itself unable to interfere in this matter. Mr. Nazir, the responsible engineer of the R&B Division, puts it this way: "... The problem is that we have to find a compromise with the people. It is considered as a fundamental right, that you can do with your own land whatever you want to. We cannot forbid people to build on their land because we want to declare it as a green zone. People would not accept this" (*interview*, 7th July 2000). Houses are built extremely large and often rooms are rented out to tourists or to people from the villages who come to Leh seasonally to work in tourism related fields.



Fig. 86
View from Leh gumpa towards north-east in 1978; mainly fields and a few farmhouses



Fig. 87
View from Leh gumpa towards north-east in 2000; many large new houses have come up in this very fertile area of Leh. It is also the preferred location of guest houses.

In the middle of the 1990s there were already about 30 hotels and 49 guest houses in Leh with a total capacity of 3.052 beds (J&K TDO 1996: 89). The growing number of hotels and guest houses has encroached upon the rich agricultural land. There are generally three kinds of accommodation available:

- a) the public lodging sector, which provides accommodation run by the government. This is mainly for government officers, engineers etc. on tour but can be used by tourists as well.
- b) Private entrepreneur-run hotels – the owners exclusively live on tourism.
- c) Guest houses that are run by local families to earn a second income in addition to farming or a government job.

The ongoing construction-boom causes not only huge problems of land use but also threatens the delicate eco-system of the town. Hundreds of residents took part in a demonstration on 20th June 1998 to protest against the frequent power shortages and constant drinking water problems in Leh. Many pristine water resources have been tapped exclusively for particular hotels. To overcome dry periods the hotels fill their overhead water tanks causing a chronic shortage of drinking water in Leh. Through tourists and tourism-related seasonal migrants like shopkeepers etc. the population in town almost triples during summer. Two main natural springs, the Ganglis Semenum and the Sangto Tokpo that provide most of the drinking water are also intensively used for irrigation and even feed four reservoirs (*zings*) for periods with a scarcity of water. In total Leh gets 269,000 gallons of water per day from springs but in the peak summer season 500,000 gallons are needed (J&K TPO 1989). Three big government water tankers drive around town the whole day providing supplementary water from distant springs. The water is taken away from agricultural fields which leads to problems with the farmers.

At present no sewage and no drainage system exists in Leh. So far this was no problem since the traditional type of the Ladakhi dry toilet functions well even during periods with a lack of adequate water supply and in severe cold winters. In hotels more and more Western-style water toilets are in use, and if there are septic tanks at all they are often leaking. This leads to water-borne diseases such as frequent diarrhea and viral hepatitis. The issue of garbage disposal is another threat for the healthy environment since through the high quantity of imports, wrappings and non-rotting waste have considerably increased. The Notified Area Committee (NAC) is the department responsible for garbage disposal in Leh town, but it is too ill-equipped to tackle the situation and at present there is no acceptable system. A single NAC tipper truck takes the garbage to Shukshling, an open area on the northern edge of Leh, where it is burnt, releasing poi-

sonous fumes into the air. Whatever is left, metal, ashes and unburned rubbish, simply stays there. The wind then carries bits and pieces to fields, houses and backyards.⁷

Another permanent annoyance for the people of Leh is the inconsistent provision of power. The per capita energy available in Leh District is 135 KWh/a but 4 to 5 times more would be needed to provide a regular supply. About 90 % of the power derives from the Stakna Hydel project (commissioned in the year 1987) and about 10 % from a Diesel power station (Morup 1997: 187). Due to the severe climatic conditions prevailing in the Ladakh region, there are acute problems of freezing and ice-formation in the hydel structures. As observed in the Stakna Hydel Project over more than the last six years, the hydel project with its gravity canal system can be run only for a period of 9 to 10 months, i.e. from March to December (ibid.: 186).⁸

Town Expansion and the New Colonies

It is close to impossible to purchase land in the fertile areas around Leh which have belonged for generations to the old and established Leh families. However, there is a great necessity to provide accommodation for the many migrants. People who come to town without a job and without a roof over their head usually rent rooms in the existing homes. But very often it is cheaper to grab some land along the roadside, come by with some mud bricks and build a small one-room-structure, sometimes covered with tent fabric and sometimes with iron sheets. When a job is found and the income rises these structures are enlarged and sometimes over the years turned into respectable two story houses. In this way illegal settlements sprawl everywhere along the roads and on the unstable and sliding hillocks to the north and the outskirts town. The sandy soil, which is characteristic of these completely dry areas, has nothing in common with the fertile sandy loam that can be found in other parts of Leh.

⁷ About five years ago the Tourism Department made an effort to solve the garbage problem and brought two incinerators to burn the rubbish. However, they still stand around unused due to the NAC's incompetence and due to high costs and lack of personnel needed to make them function.

⁸ There is one new 2 MW diesel plant in Choglamsar which was opened recently. Other Hydel Power projects are in the planning phase – the most feasible of which seems to be a hydel site on the Zaskar river about 7 km upstream of Nimo. Further insulation and special tunnel type water conductors could reduce the freezing problem but it is very hard to get rid of it completely since there will always be the freezing problem of the Indus river.



Fig. 88 _____
New colonies: first comes the wall around the site, than it is slowly filled



Fig. 89 _____
Illegal housing on a hillside



Fig. 90 _____
One-room structures in a new colony

Since water is scarce and consists exclusively of melt water from the mountain ranges to the north it is all used up in certain areas, leaving not one drop for the sandy high desert areas to the south. Land is of little worth there, which makes it a favorite place for the settling of migrants. There is no drinking water, no roads, no electricity – no infrastructure whatsoever. Since the living conditions are extremely hard in such areas the Government Department started to interfere with the situation, trying to achieve some improvement. The land around the settlements (in Ladakh they are called “colonies”) was parceled out, roads were constructed, electricity provided, some tube wells dug and government tankers engaged to distribute drinking water. Still, the living conditions on the dusty plains are critical and new structures keep sprawling wherever a small plot is unoccupied. Low income rental facilities are provided, thus contributing to the density of the settlements. Also many of the service facilities are now drawing closer and closer to the new colonies that are concentrated in the south-east of the town, like the Sonam Norbu Memorial Hospital, the bus station, the radio station and various schools and government departments.

There are several areas with new settlement activities around Leh (see Fig. 91). Closest to the center is the unplanned housing area of Skampari, which is situated on a sandy mountain rim to the north-east of the town beneath the road leading to Nubra valley. With every passing year the settlement process there is getting closer to the mountain range. At the moment the government is planning a new colony in Skampari. The plots should mainly be given to people from the Old Town of Leh, whose houses are now used for government offices and administration services. However, far more extensive settlement activities are taking place on the south-eastern plains of the town. Separated from the mountain range through an army ammunition camp, this Housing Colony has been one of the first colonies organized by the government. Building activity there started about 25 years ago. In the course of a long building process many

houses in the Housing Colony have grown to considerable size and living conditions vary greatly from one house to the other. A more recent development are the Colonies expanding from the Choglamsar Road further south in the direction of the Indus, like the Murtsey Colony or Ibex Colony, where first constructions started about 8 years ago. Many areas there are still wasteland although most plots have already been marked with a mud brick or stone wall. Small one-room structures are quickly coming up everywhere and some of the structures are already quite extended. Further down a Tibetan refugee settlement is growing fast, whereas the actual center of the Tibetan refugee community is in the village of Choglamsar, about 9 km south of Leh. The situation there is very similar and Choglamsar is expanding quickly due to its vicinity to the capital.

Since most of the land around Leh town is reserved for military use (from the last settlements all down to the Indus) the further expansion is greatly constrained resulting in an ever higher density and chaos in land use. The suggestion of INTACH, as a possible remedy, is to establish a twin settlement to Leh across the river Indus, along the bank of the proposed Igophy canal, which is expected to create great irrigation potential.⁹

It has to be said that the official government representatives, like the Department of Engineering or the PWD, have been completely incapable to handle the situation. Land is parceled out for one colony after the other, but there is no guarantee that these will be provided the most basic facilities for appropriate living standards and a sustainable future development.

⁹ There are planning schemes for three new irrigation canals using water from the Indus in the vicinity of Leh: the Igoph, Durbuk and Lakjungthang canal. According to the Masterplan of Leh (J&K TPO 1996) these should create irrigated agricultural land of 12,000 acres, 690 acres and 828 acres, respectively.

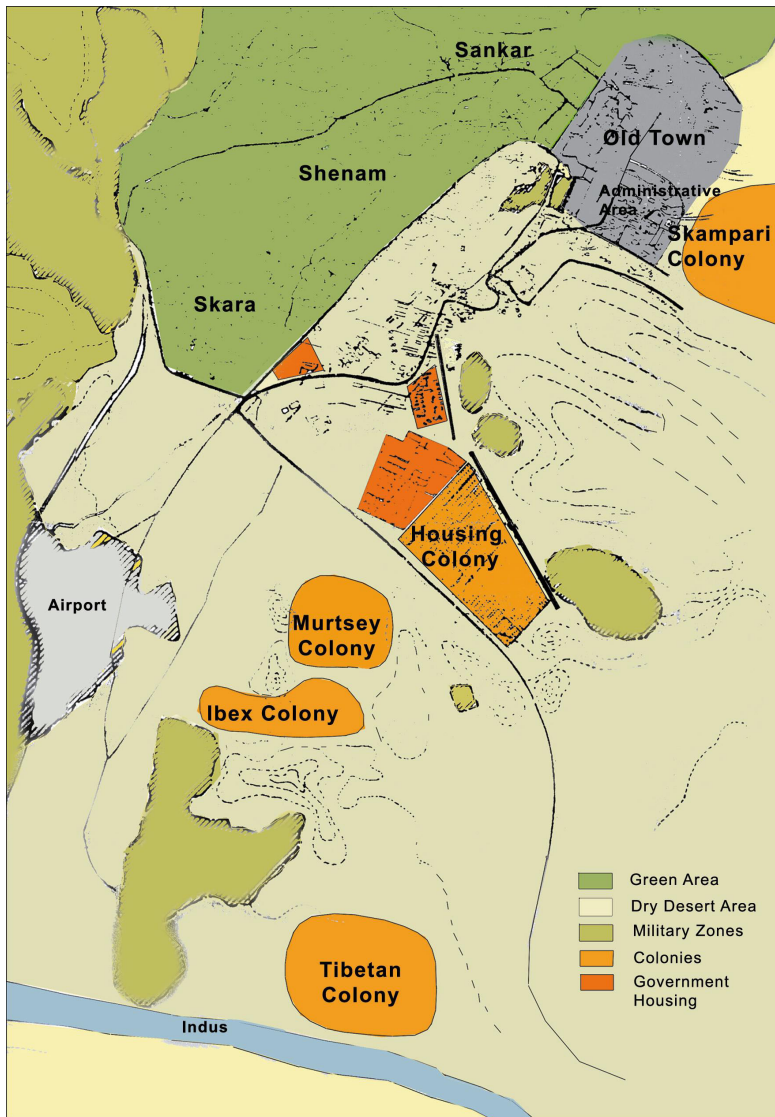


Fig. 91
Whereas there are many fertile and green areas to the north of Leh, like Sankar, Shenam or Skara, the new colonies are mainly situated in completely dry and unfertile land. A large part of the land around Leh is restricted for army use.



Fig. 92
people build everywhere – in this case they obviously hope that the electricity post will disappear sooner or later ...

The Solar Town Project

Look toward the sun, and the shadows will fall behind you
(English proverb)

In order to find new solutions for urbanization and to better the living conditions of migrants, the Ladakh Autonomous Hill Development Council (LAHDC) came up with the idea to establish a new colony, a "Solar Town", as an alternative growth center. Solar Town, also called *Nima Ling* (*Nima* = sun, *Ling* = plain), should be a sample project for all new colonies in terms of efficient planning, environmentally sound construction and higher quality of life. At the same time it should relieve the direct vicinity of Leh town from further densification and expansion. The project should provide a total of 1,300 living units for about 5,000 inhabitants, who will be composed new migrants from the villages, government employees, and members of the growing Tibetan refugee community. The idea for this project first came up in 1997, planning started in late 1998, and construction will prospectively start in summer 2003.

The Site

The building site for Solar Town is situated about 7 km south of Leh, between the villages of Saboo to the north and Choglamsar to the south. Choglamsar sits at the banks of the river Indus and its population consists mainly of Tibetan refugees who were provided with this land by the Indian government. Thus, the future inhabitants of Solar Town will be both Tibetan refugees and Ladakhis, who migrate from their villages closer to the capital in order to find work.

Before 1960 Choglamsar did not exist. It started to develop when the first Tibetan refugees began to trickle into Ladakh. The landscape and living conditions they found in Ladakh were very similar to their own ones back in Tibet.¹ In Ladakh, there are eleven refugee camps in the Leh area, and a further nine in Changthang. In the middle of the 1990's between 150 to 450 inhabitants could be found in each, which was a total of about 3,500 people in Leh (Sonamling) and 2,700 in Changthang (Kyle, *Ladags Melong*, 1994: 41).

¹ On March 10th, 1959, five days after the start of the Lhasa Uprising, the Dalai Lama escaped from his summer palace, the Norbulingka. When the Chinese discovered his departure, they shelled and fired into the crowds, killing thousands and destroying most of the Norbulingka. At this point many Tibetans started to flee the country.

Choglamsar, the headquarters and residence of the Chief Representative of the Tibetans, is one of the biggest refugee camps in Ladakh.

In 1971 Choglamsar was a small village with 453 inhabitants plus 1,481 refugees in camps, in 1981 it already counted 2,173 inhabitants plus 1,630 in camps.² There are no exact data available for the number of refugees today but it can be assumed that the number did not rise significantly anymore.³ Each camp has a high level of autonomy, but overall rule is exerted by the government-in-exile, seated in Dharamsala.⁴



Fig. 93
Solar Town site: view from Stock village. The construction site is the plane, dry area beneath Saboo-village which is the green area in the background.



Fig. 94
Solar Town site: view from Saboo village. The construction site is the stony area in the foreground.

The 68,5 ha site of Solar Town is located on a slightly sloping alluvial fan, oriented to the south-west towards the village of Choglamsar and the Indus river. There are two *mani* walls that both run roughly in a north-south direction. One is situated at the south of the site (110 m length) and one at the southwestern edge (150 m length).

² Data from the Census of India (1981) and the Assistant Commissioner in Leh.

³ In the Ladakhi camps over 60 % of the Tibetans still work as *coolies* or laborers. In the early years of exile, most Tibetans across India could find work only in construction and road gangs. The highly visible merchants and restaurant owners in Leh represent only a tiny fraction of the Tibetan population. Average incomes still remain below Rs 800,- per month and family. The road to Manali, across the high plateau, was built by Tibetan labor. While in other settlements this has now changed as people have acquired jobs in business or farming, in Ladakh coolies often work 10 hours a day, 7 days a week during the summer construction season, earning about Rs 60,- a day which must last them through the long winter. Both spouses must find employment, day care is difficult to find, older people are responsible for herding, water gathering, cooking and child minding.

⁴ The Dalai Lama heads the seven-member cabinet, the *Kashag*, and the 46-member Tibetan Peoples' Assembly, the Tibetan parliament in exile. The *Kashag* stands above the various government departments such as the Home Department, Department of Education, Department of Religion & Cultural Affairs, Department of Health and so on. It is the Home Department that has particular jurisdiction over the camps, whereas the Settlement Officers, together with their representatives in the camps, are primarily responsible for their social and economic functioning.

Only a few times in a year small waterways caused by snow melt run down the slope towards the river Indus (Prakash 2000: 1.3). There is no vegetation, no sub soil water, and ground water can only be found below 30 meters under the surface.⁵ Most of the melt water is used for irrigating the fields of Saboo village leaving the site for Solar Town completely dry. Water supply will thus be a problem and, according to recommendations from INTACH, the lifting of water via tube wells at the banks of the Indus might be one solution.⁶

To the south of the new site there is a colony built by Tibetans which has rapidly expanded over the years. Actually, some of the very new structures are currently being built on the site which is designated for Solar Town since obviously the people are not informed about the plans of the Hill Council. This informal settlement activities will certainly become a problem when the actual building process for Solar Town will start.

The Tibetan Colony does not differ much from the other colonies around Leh. The only differences I could observe are that the houses in general are smaller, mainly one-story structures, and almost all of them are whitewashed (this is not so common in Ladakhi colonies). Tibetan families seem to keep more animals and for this purpose most houses have a small enclosed yard attached. Since the Tibetan building traditions are very similar to the Ladakhi ones I see no difficulty in creating a satisfactory environment for both in one colony.⁷

The Concept

The Public Works Department (PWD) contracted the architectural office Sanjay Prakash & Associates (SP&A) to develop a masterplan for Solar Town.

⁵ This information was given by the Mahaboodi Meditation Center which is situated next to the site. Engineers have dug two tube wells for the Meditation Center and examined the ground water level.

⁶ The advantage of this system is that at the river banks ground water can be found in a depth of only 1-2 meters and that the water is more adequate for drinking than the water drawn directly from the Indus. For many years this system of lift has been successfully employed by the army and over 200,000 gallons per day were provided (Khosla 1989). Solar pumps would be environmental friendly options.

⁷ Unlike some of the settlements in other parts of India and Nepal, the Tibetans' relationship with the Ladakhi people and the governing authorities has been quite harmonious. A major reason is that the people of Ladakh live similar lifestyles (due also to the same geographic conditions) and follow the same spiritual leader.

Sanjay Prakash, who is based in Delhi, is a well-established Indian architect and expert on solar design.⁸ However, he is not from Ladakh and knows the region only from several visits. Thus, I think that prior to his planning schemes an APD-study would have been most useful and could have drawn his design towards the most urgent needs of the people.

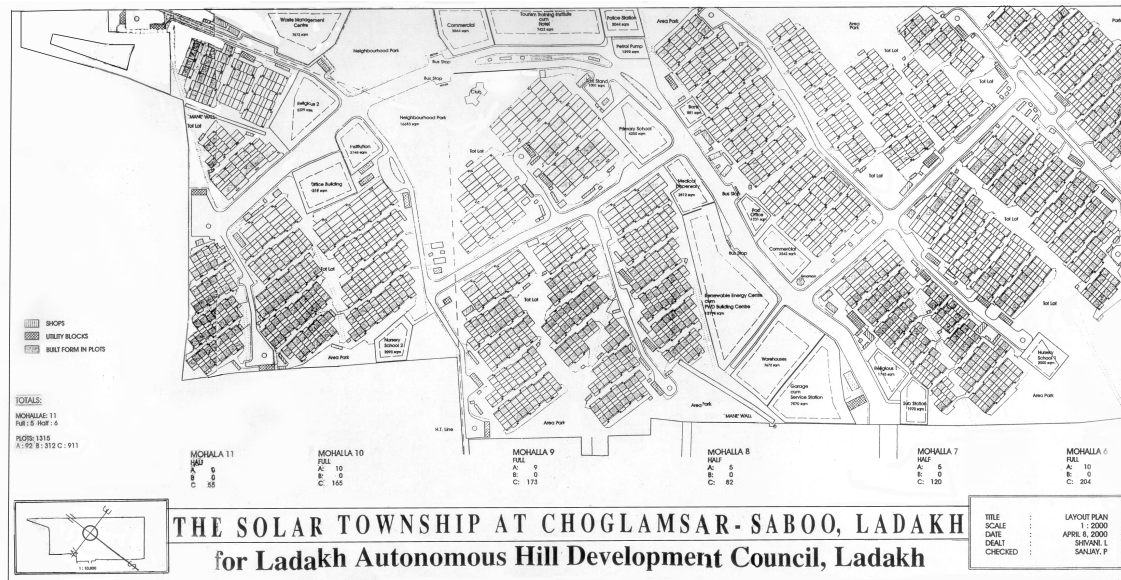


Fig. 95
Solar Town Masterplan. Architect: Sanjay Prakash, Delhi

The basic concept of Solar Town can be described as follows:

Like in many housing colonies that have been emerging around Leh during the last years, the future inhabitants of Solar Town will have the possibility to build their houses out of their own efforts and according to their own ideas. But in order to raise the very low living standards of ordinary fast growing settlements, special guidelines, provision of infrastructure and organizational considerations should turn Solar Town into an example for better development.

⁸ In his masterplan Sanjay Prakash took up the natural flow of the waterways (*nallahs*) for the street grid. He developed some suggestions for an open drainage system but otherwise there is no special planning of infrastructure. The plots are all oriented to the south and shadowing is limited to the most necessary. He also planned primary and secondary schools, a school for tourism, religious buildings, shopping areas, office space etc. An array of rules and bylaws should ensure the correct implementation of the project. Detailed information on this project with bylaws and drawings were worked out in a booklet by Sanjay Prakash & Associates (2000).

The primary and most important correctional measure will be the erection of a "Building- and Energy Center" right in the heart of Solar Town. This center should be a place where future inhabitants can get information about solar systems, environmentally sound technology and sustainable materials by means of various demonstration buildings. At the same time it should be a center for the exchange of information, for workshops and seminars, education of construction workers etc. The quality and organization of the building center will be responsible for the successful realization of the whole concept. Thus, it is not only a matter of technology but also of anthropological, social and economic considerations. Only a balanced coordination of all these components can guarantee a successful project. If such a cooperation works well, Solar Town will have all the prerequisites to become an internationally representative example in the field of ecologically sound urban development.

Solar Considerations

The orientation of villages according to the sun is nothing new in Ladakh. A solar solution for the provision of energy is quite obvious: Leh has about 320 sunny days a year with an average daily radial intensity on a horizontal surface of 5.53 kWhr/m². Therefore it has the ideal prerequisites for the use of solar energy.⁹ The traditional construction method with mud bricks, which is still widely used nowadays, also contributes to the successful performance of solar building concepts.

The very dry high desert climate creates summer temperatures of up to + 35 °C whereas winter temperatures drop down to – 20 °C with an average volume of rain of only about 100 mm/year. According to measurements by LEDeG (1998: 14), for the period 1995 to 1998, the average minimum temperature in January was -14 °C whereas the average maximum temperature was –2 °C. The warmest month was July with an average minimum temperature of 11 °C and an average maximum temperature of 26 °C and an absolute maximum temperature of 33 °C. There are also high variations in day and night temperatures.

The people in Ladakh complain about the extremely cold winters they have to cope with. In fact, on average there are about the same temperatures as Central European countries like Austria, Switzerland or Germany. However, the big difference is that there is no well-functioning heating system available, making the winters extremely

⁹ Data from LEDeG (1998: 3)

harsh for the population.¹⁰ The wind is usually coming from south-west with a velocity varying between 1 and 20 km/h but seldom more (see LEDeG 1998: 21). Thus, wind power is not something that could be used very efficiently in Ladakh, which is also due to the fact that because of the different mountain ranges there are considerable variations in the direction and speed of the winds.

Since the late 1970s a few local and foreign NGOs have been trying to make use of solar energy in the region. Passive solar devices, Trombe-walls, greenhouses etc. have been more or less successfully introduced over the years. Although Ladakh would have the potential to become a real exemplary region in terms of solar energy, the development has been stagnant for years now. Although local NGOs do have some financial resources, they are lacking the necessary know-how to set up efficient projects. Not only in technical matters but also regarding the organization and implementation it has been demonstrated that foreign intervention, restricted to the necessary, can be very helpful. In this case the support of anthropologists and sociologists is especially desirable and necessary.

¹⁰ There is one extremely cold region in Ladakh which is the area around Dras. It is said to be the second coldest place in the world with temperatures falling down to -50°C .

Fig. 95

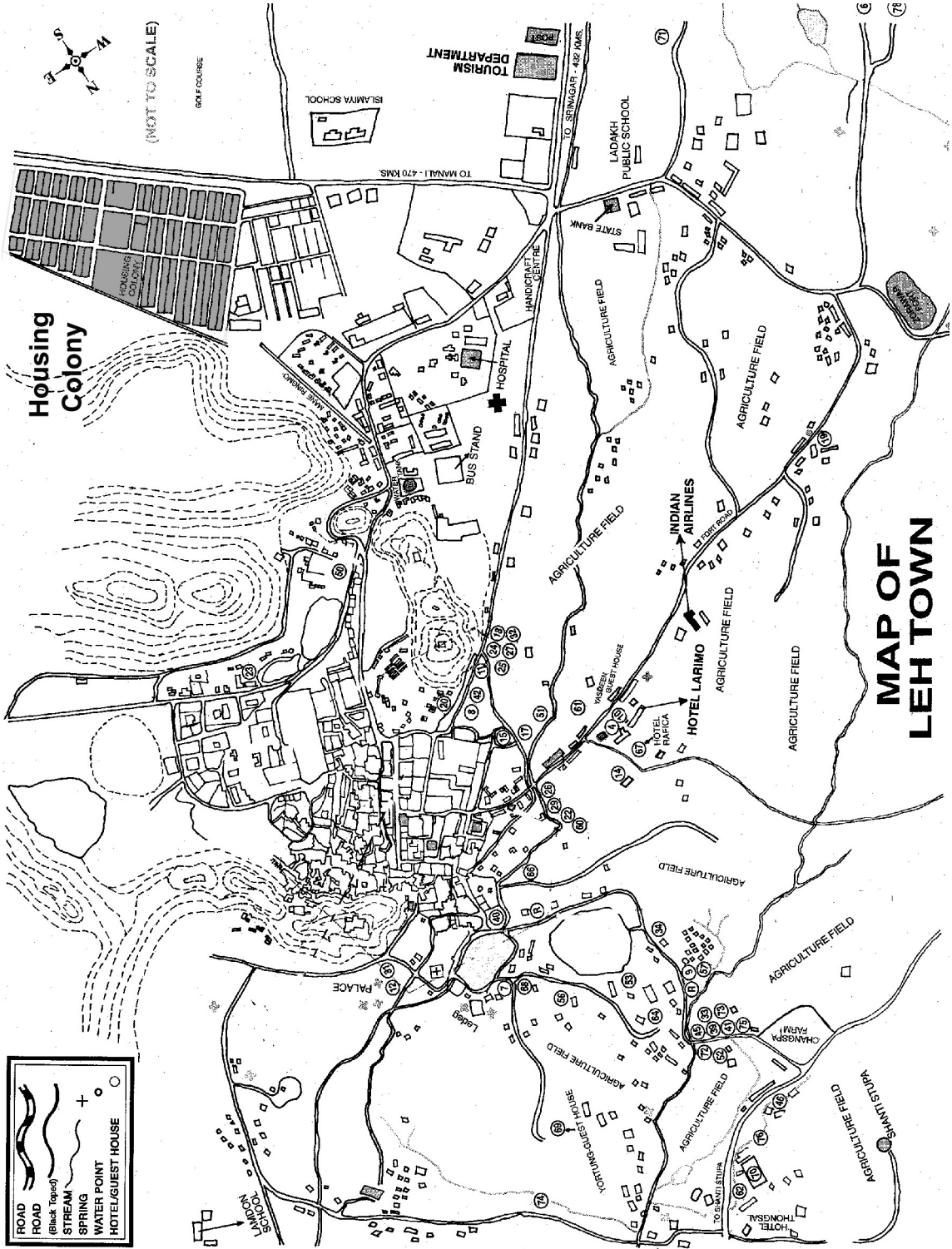


Fig. 96 _____

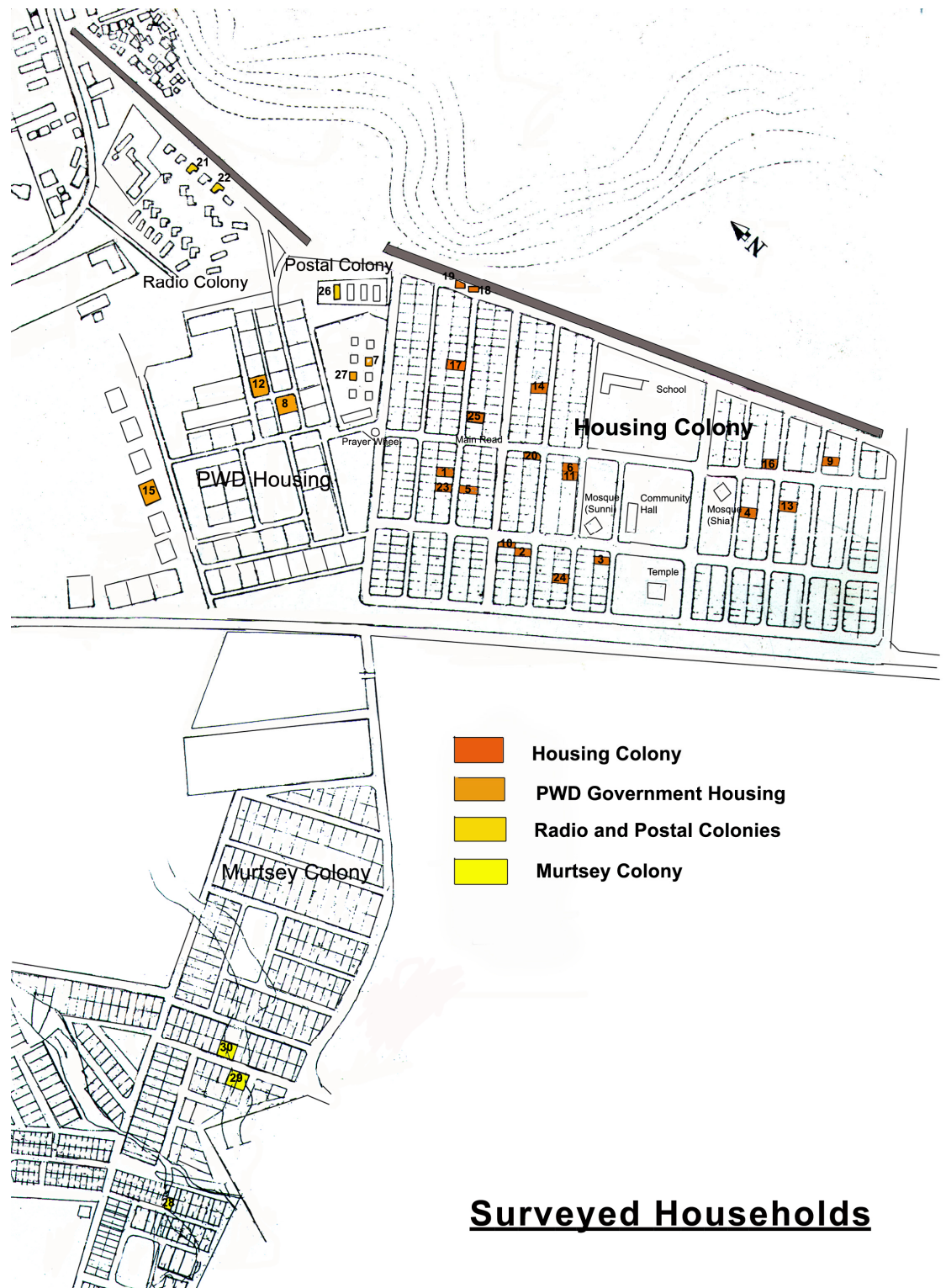
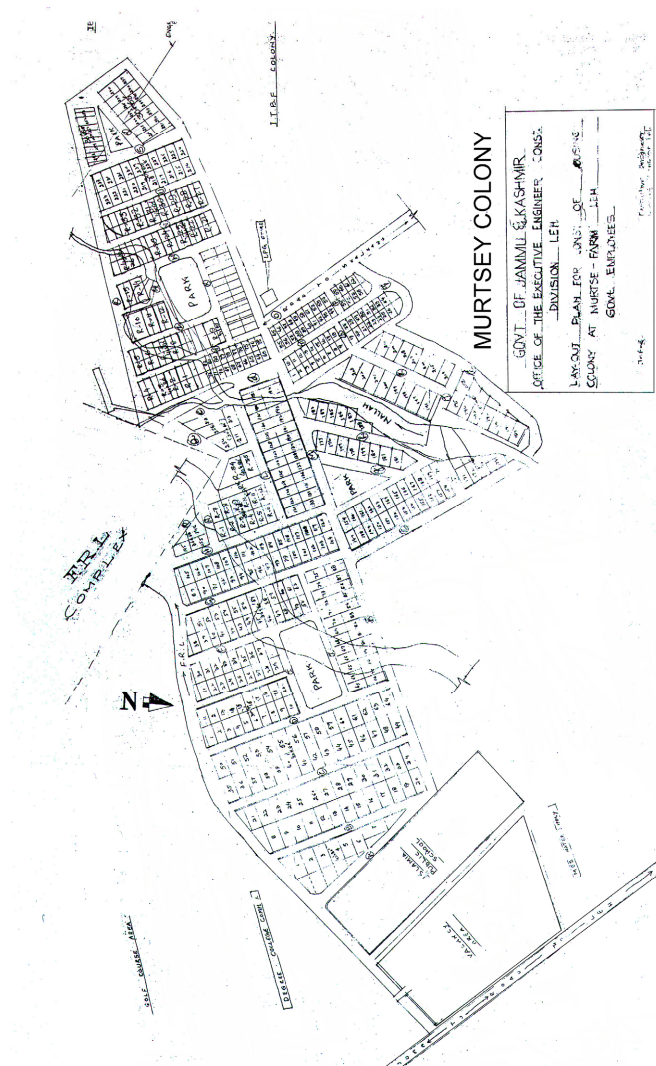


Fig. 98



Fig. 97



The Anthropological Pre-Design Study

This thesis deals with the Solar Town project, a new settlement close to Leh that should be the future home of about 5,000 people. But it is not about the planning of Solar Town. It is about the way of how to collect field data and analyze them in order to create major guidelines prior to the actual planning process. It is an “anthropological pre-design study” (APD-study) the purpose of which is to create the necessary preconditions for a successful planning project that builds upon the major expectations and the wants and needs of the people.

I find it important that such a study can be carried out within a maximum of three months time - two months of fieldwork and one month for the evaluation of the collected data – since otherwise no government or NGO would be willing to finance it. If the APD-study can be finalized within a certain time frame it will only consume a fraction of the cost of the whole project but will be most helpful and valuable in the ensuing decision making process.

The future inhabitants of Solar Town were not yet there to be questioned and worked with, thus I found it most logical to introduce my research in an already existing living environment with similar conditions that the future Solar Town would have. I searched for an environment where people who migrated to Leh from very different backgrounds had settled down. The aim was to question them about the likes and dislikes of their housing situation and their desires for improvement.

For this undertaking the Housing Colony, located about two kilometers south of Leh, seemed to be the perfect place. It is the oldest of the many new colonies around Leh, with the first houses there being built about 25 to 30 years ago. Since then the settlement has had quite some time to develop itself according to the people’s requirements and therefore it was a good environment to examine the problems and advantages that had developed over the years.

The data-collection-process in the Housing Colony was divided into three parts: a) the collection of statistical data about the people who live there (there is no official statistical data available on the Housing Colony), b) the collection of information regarding the current housing situation of the people in comparison with their housing situation in the village and

c) gathering information about the future expectations and the wants and needs regarding housing. The output after the analysis of this data is a collection of design recommendations for new, similar settlements, like for example Solar Town.

In my analysis of the housing situation and the recommendations resulting from this I do not deal with bylaws or political guidelines – I deal with architecture and the built environment itself and the possibilities to improve it according to the people's wishes.

I think the best method to pass on my experiences made during the field study in Ladakh and to make clear both the approach and the context for people who are themselves engaged in housing projects and hopefully see this as a helpful guideline, is to write down my impressions as I witnessed them, in an open and narrative approach. The main reason for this is that the most important information I was able to retrieve was often lying in the small and seemingly insignificant things that people told me about and in their feelings and assumptions that are inseparably connected with living and working in this environment.

Study Approach

Anthropology's future lies in helping humanity to realize ... a vision of its place in the world. (Roy A. Rapaport 1994: 166)

When I came to Ladakh I had a questionnaire and a schedule in my suitcase, which together were meant to be the guarantee to make the best use out of a limited time frame of two months. It was in the middle of June 2000 and Leh was still very quiet since the tourist season does not start before July. Although I had been to Ladakh three years before I was relatively unbiased since this first trip had only lasted for three weeks and anyway at that time my mind had been programmed towards the trekking experience. Thus, I had only little background information about Ladakh and even less about the housing situation there. However, I found this to be a realistic approach, since those people who are thrown in the sudden situation of planning and building in developing countries very often do not know anything about the environment they should work in, either. Thus, my aim was to prove that two months would be enough time to gather the most important and valuable background information for a better planning process.

Getting Started

The first week of my timetable was titled: Orientation week. I was crisscrossing throughout Leh in a trance-like condition since the thin air did not allow my body and brain to store all the oxygen it needed, and it took a few days to get adjusted to the high altitude. Thereby, I got a good overview of the layout of the town and for the first time I became aware of the vast number of settlements that spread out all around the edges of the town – areas that are completely dry and flat, pure high desert, nothing else. In between my walks I visited various NGOs, first of all LEDeG (Ladakh Ecological Development Group) where I soon learned about the Solar Town project, which seemed to be ideal for my purpose. Now I concentrated my efforts on finding a living environment that would provide a good place for carrying out an APD-study in order to establish design guidelines for the planning of Solar Town. During further walks through the colonies I also came by the Housing Colony and stopped at the market street to talk to two girls who stood behind the desk of a shop and spoke a little English. I somehow liked these chaotic surroundings and asked the girls if it were possible to rent a room somewhere around there. But they either did not understand the question or did not take me seriously. Two days later I came back with Dorjee, a Nepali who was working in a telecommunications store and who had offered me his help. He himself had lived with a family in the housing colony for quite some time when he first came to Ladakh and he offered to introduce me to his former hosts. It was a surprise when I recognized the astonished look of one of the shop-girls again, when we entered the house. She was named Sonam, and was the 16 year-old daughter of Yangdul, who received us in this especially warm and welcoming manner that is so typical for Ladakhis. Both of them did not understand a word of English, but Lobzang, the 12 year-old son, had learned at least a few words of English in school. We had a few cups of butter tee and the deal was settled. I had found a family to stay with in the Housing Colony.

I found it the ideal place to do my research since the Housing Colony is one of the oldest “new settlements” around Leh and one can find people there who migrated from many different villages of Ladakh to the town – a similar situation as would be given for the future Solar Town. Since most people had been living there for quite some years, they knew about the problems and difficulties they were facing in this environment. The typical inhabitant of the Housing Colony lives in a nuclear family with an average of two children. The inhabitants are rather young, since they have moved to Leh in search for better job opportunities or for educational reasons. The majority of people is - in one way or the other - employed by the government, either in administrative departments, in the army, in

schools, hospitals or police departments. Other common professions are shop keeper, taxi driver, craftsman etc. Most people are Buddhists, about 10 % are Muslims¹ (for more information on the structure of inhabitants see p 248 ff in this volume).

I stayed with Yangdul's family for five weeks. After this, I moved to Dr. Sonam Dawas house for another two weeks. Dr. Dawa was the CMO (Chief Medical Officer) of Ladakh and he lived with his family in Skara, one of the very green and respected neighborhoods of Leh. The reason for my moving there – apart from the hundreds of flea-bites I was suffering from - was that I also wanted to experience the living standards of the privileged families in Leh, in order to have a comparison and to see what people long for if they are on the upper ranks of the social ladder. My stay at Dr. Dawa's house gave me an insight into a very different world and I think it was extremely important to see this difference.

Applied Methodology

During my stay in Ladakh I tried to get an overview of the situation with the help of the following methods:

I lived with two different families, conducted 50 interviews, filled in 34 questionnaires and sketched 34 floor plans of houses in and around the capital Leh (see Tab. 5 for a list of all the interviews). In addition I went to various villages (Alchi, Shey, Thikse, Stock, Hemis, Spituk, Phiang, Saboo, Choklamsar) to get an impression of the traditional village architecture and to see the fascinating old monasteries, palaces and forts. I also participated in a one week "Solar Building Workshop" organized by LEHO (Ladakh Environment and Health Organization).

When conducting semi-formal interviews, I worked out the questions in advance and tried to get all the important ones answered in the course of an open talk. During the interviews I took notes and according to these notes I typed down the interview right afterwards.

The majority of interviews in the housing colonies were carried out with the help of a Ladakhi/English interpreter, whereas some others were done in English (see Fig. 96 for the location of the houses where interviews were conducted).

¹ There are no official statistics available. The number is an average of different information given by the people.

The following methodology was used:

a) Participant observation:

- staying five weeks with a family in the Housing Colony (poor area of Leh)
- staying two weeks with a family in Skara (comparatively wealthy area of Leh) to be able to get an insight into the different standards of living

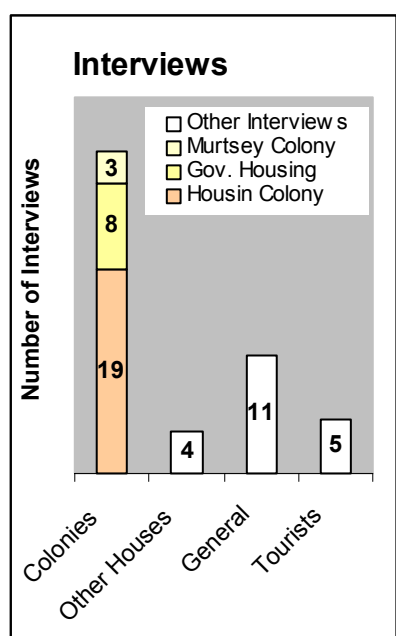
b) Survey combined with semi-formal interviews (see Tab. 5 for a list of interviews):

- 30 interviews in the colonies (see Fig. 96–98)
- 4 interviews in higher standard areas of Leh

I conducted interviews among 30 families in the housing colonies and in 4 households in other areas of Leh (Sankar, Skara, Shenam) in order to obtain a more diverse view about the living situation. A pre-fixed questionnaire was filled in during the course of each interview to provide the necessary comparable data. On the other hand the interview was developed in an open and narrative way to give a lot of room for additional information that was thoroughly put down in notes.

c) Semi-formal interviews:

- 11 interviews with people in official positions, scholars, engineers etc.
- 5 interviews with tourists from different countries



	Average
Number of Children*	2,26
Number of Householdmembers	4,00

* Average number of children of the married couples questioned

Graph 1²

30 interviews were conducted in the colonies, 4 in houses in preferred areas in Leh, 16 interviews with officials and tourists

Tab. 4

The average household size and number of children is much smaller in the colonies than in the villages

² For tables with the actual numbers see appendix, p IX-XIV

Course of the Field Study

a) Week 1 - getting accustomed:

- walking through all the different quarters of the city to get an overview
- obtaining an understanding of the local community, the regular and discernible behavior of the people, their relation to the built environment, the cultural logic of building and the nature of its integration into wider systems
- conducting first interviews with people from governmental agencies, scholars, engineers etc.
- getting familiar with agencies, NGOs, CBOs etc.; trying to find out about projects that are currently in discussion
- finding out and getting informed about the “Solar Town” project through LEDeG, gaining an insight into the structure and philosophy of the organization who initiated the “Solar Town Project” in order to get a feeling of how to best meet the requirements and serve the specific purpose
- determining whether the Housing Colony is a suitable environment for the implementation of an APD-study
- starting to look for a family to stay with in the Housing Colony and getting a basic feeling for the research environment there

b) Week 2 to 6 - empirical study:

- staying with a family in the Housing Colony.
- finding a translator and carrying out 30 interviews in the Housing Colony, surrounding colonies and other areas in Leh (see typologies of the houses where interviews were conducted – Fig. 138: Housing Colony: houses 1-6, 9-10, 13-14, 16-17, 20, 23-25; PWD government housing: houses 7, 8, 12, 15, 21, 22, 26, 27; illegal structures: houses 18, 19; houses in better areas of Leh: houses 31-34; Murtsey colony: 28-30) (see also Fig. 96-98).
- the major task was: finding out about the former living situation of the people back in their villages and learning about various subjects that determine the needs and longings of the people in relation with the building task: e.g. flow of everyday life, role of habits and traditions, new needs caused by the transformation of lifestyles throughout the past years, prestige, status symbols, etc.
- developing possible solutions to meet with future expectations

c) Week 7 to 8 - concluding information:

- moving to the house of the Chief Medical Officer (CMO) in Skara, one of the wealthiest and most fertile areas of Leh. There I had the opportunity to see – contrary to the situation in the Housing Colony – how the families live who are best off in Leh. I conducted four more interviews in households in different privileged areas of Leh to obtain a more extended view.
- attending a seminar about “Solar Building in Ladakh” organized by LEHO (Ladakh Environment and Health Organization). All the most influential engineers of Ladakh took part in the seminar and thus it was a very good source of information.

- carrying out a few more interviews with officials to obtain answers to questions that were still unclear
- carrying out five interviews among tourists from different countries to find out about their impressions of Ladakhi architecture, their expectations and their requirements regarding hotels and guest houses during their stay in Ladakh.

Challenges and Difficulties

Upon coming to Ladakh I had a draft questionnaire in my backpack that I had worked out in advance. After the third interview I had to find out that some of the questions were just not relevant for different reasons. Some could not be answered at all, some were not appropriate in the given environment and some seemed to be disturbing for the people. I also found out that the survey was far too long, not leaving enough time for informal talks that had turned out to be very important. Thus, I skipped some questions as a whole while I changed others.

The questionnaire was divided into three parts: a) statistical data about the respondent, the family and the household, b) data about the former and the current living situation, and c) data about future expectations, wants and needs that people expressed regarding their housing situation (see full questionnaire in appendix).

One very important factor was the task to find a good translator. After about one week I was lucky to find a young Ladakhi, Chakdor, who had worked for several NGOs and whose English was very good. Unfortunately he left to Nubra after three weeks since he got a well-paid government job there. But before he left I had run into Tashi, one of my neighbors in the Housing Colony, who was one of the very few young people in Ladakh with a possibility to study in Delhi. He stayed with his family in Ladakh for three months during the summer holidays and was very bored. He found it a great entertainment to go from one house to the other with me and talk to a variety of people. I was especially lucky since Tashi was the son of one of the most influential persons in the Housing Colony, thus he was widely known, a fact that opened us many doors.

On some days we did as many as four interviews a day. An especially productive period was a four-days curfew ordered by the LAHDC. The reason was the assassination of three Buddhist monks close to Padum whereupon the government feared a new rise in violence between Buddhists and Muslims. For four days people were forced to stay in their houses all day and night long and they only left the house for brief periods in order to

get some drinking water. Although it was a tragic situation as such, for me it brought a lot of benefits, since most families were at home, had nothing to do and were very willing to answer my questions and have some entertainment. During this period I also had the opportunity to interview more men than at other times, since they were usually off for work during the day and thus hard to get a hold on.

Usually we were received very friendly and politely and only twice it was the case that we were not allowed in. But even this was not out of impoliteness but much more out of shyness of women who were home alone. We drank liters of *gur gur cha* (butter tea) and most of the time I had the feeling that people were enjoying our company. Only a few of the older women seemed to be very shy and thus were hardly able to answer any questions so that we gave up after a while and left. It was also of advantage that the family I lived with had a small shop on the main street, a good place to meet with and talk to people. I was known quite quickly in the area as “the one with the black hat” or as “Tashi’s friend” and after a while no one was very surprised anymore to find us knocking at their door – after all, tourists are practically never seen in these areas.

Generally I started by asking questions from the survey and filled in the answers myself. While this was interesting I obtained the most valuable information from stories that people told me spontaneously since they considered them important. I found it most difficult to bridge the frequent mismatch between what people told me that they think and their actual behavior. The accompanying participant observation within my host family was extremely useful to clarify such situations.³

³ For more theoretical background on the separation of mental events (thoughts) from behavior (actions of body parts and their environmental effects) compare Marvin Harris (1996: 66).

INTERVIEWS**QUESTIONED HOUSEHOLDS****In the Colonies:**

PRIVATE HOUSES in the Colonies	Nr.	
Housing Colony	19	
Murtsey Colony	3	
		22

MULTI-FAMILY HOMES in the Colonies

PWD-Government Housing	5	
Radio Colony	2	
Postal Colony	1	
		8

In other quarters of Leh:

Sankar	1	
Shenam	2	
Skara	1	
		4

Total	34
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OTHER INTERVIEWS

Name	Function	Religion
Mr. Abdul Ghani Sheik	One of Ladakh's leading Muslim scholars	Muslim
Mr. Tashi Rabgias	One of Ladakh's leading Buddhist scholars	Buddhist
Reverent E. S. Gergan	Head of the Moravian Mission Church	Christian
Mr. Nazir	Executive Engineer of the Road & Building Devision	Muslim
Mr. Gonbo Anchuk	Workshop Assistant at LEDeG Building Center	Buddhist
Mr. Esak	Resident of private home in Housing Colony	Muslim
Mr. Konchok	Resident of private home in Housing Colony	Buddhist
Mr. Issa Ali	Resident of private home in Murtsey Colony	Muslim
Mrs. Sonam Dolma	Resident of PWD Government Quarters in Housing C.	Muslim
Mr. Tsering Wangchok	Resident of PWD Government Quarters in Housing C.	Buddhist
C. Namgyal	Resident of private home in Shenam	Buddhist

Tourist Interviews:

Name	Country	Age	Profession
Mrs. Mariann	Holland (Amsterdam)	approx. 30	Decorator
Mr. Yogi	Japan (Tokyo)	38	Social Worker
Mrs. Isabel Kolli	Switzerland (Lausanne)	approx. 50	
Mrs. Irene Briga	USA (Provincetown, MA)	approx. 60	Research Assistant
Mrs. Yael Wael-Ofen	Israel (Jerusalem)	23	Law Student

The Housing Colony

Creativity eludes all definition and is not amenable to planning and the decisions of a party or state. (Paul Ricoeur, 1984: 281)

There are no building rules in the Housing Colony, but creativity and an amazing inventiveness to cope with the hardships of everyday-life is present everywhere. The Housing Colony is the oldest of three colonies that sprouted over the last 25 years on the southern outskirts of Leh. It was built on land that is of no particular value, since all the melt water from the mountains is used up by other areas of Leh and thus this region is completely dry and dusty with no vegetation at all. People from many different villages of Ladakh, who moved to the capital in search for jobs, settled there. Only later some of the land was officially given to the people by the government. Still, there are many illegal structures around.

The Location



Fig. 99
The Housing Colony as seen from the south

The Housing Colony is situated about two kilometers south of the center of Leh. Before the settlement existed, this area was called *Melong Thang*, *Melong* meaning mirror and *Thang* meaning plain, since it was just dry and completely flat land. There are two long *mani* walls on the way from the town center to the Housing Colony.¹

¹ There are two large *mani* walls leading to the colonies. The one in the center of the open plain, known as *Rongo Thang*, was built as a memorial to Queen Skalzang Dolma by her son Deldan Namgyal around 1635. It has many hundreds of thousands of *mani* inscriptions carved in stone in Tibetan characters. At its head and end there are the *Chorten* of Enlightenment and of Victory which contain relics. The long *mani* wall further south was built by Tsetan Namgyal in 1785 and was intended as a memorial to his father, King Tsewang Namgyal (*Ladags Melong* 1995: 22).

According to Prem Singh Jina (1994: 151) there were only four or five families in the Housing Colony in 1978. By 2000 Mr. Esak, one of the first residents in the Housing Colony, counted about 650 houses in the Colony, about 150 were built without permission. He talks of 75 Muslim families, all others are Buddhists (*interview*, 30th June 2000). Soon after people started to settle in this dry and uninviting environment the government decided to structure the area into plots and to officially give them to the people. Everybody who came to Leh for work could apply and the plots were distributed in a lottery system. All plots have the same size of 30 ft by 60 ft (9.12 m x 18.24 m = 166.35 m²).

The only infrastructure that was provided by the government was the planishing of the roads, which are still all unpaved, and the introduction of an electric light system. Since the Housing Colony, like most other parts of Leh, too, gets electricity mainly from the Stakna hydro power plant the availability of electricity is very unreliable. As the power plant freezes completely during the winter months there is no electricity available during the cold season. Even in summer the average daily availability of electricity is no more than four or five hours, some days longer, some days none at all, some days in the morning, some days in the evening. The worst problem, however, is the scarcity of water. People are standing long lines in front of the few water outlets, either tube wells or water pipes, channeled down from springs in the mountains. Usually water is available only from 7 am until about 10 am. Additional water is distributed during the day by big government water tankers that are crisscrossing the area. There is no such thing as a drainage system, and wastewater or kitchen leftovers are just thrown out onto the streets. During the night whole packs of stray dogs roam the area for food and it is amazing how clean the streets actually look again in the morning. Litter is usually burnt on the street although very often it is just dumped in the *nallahs* or trenches outside the Colony.

Within the Housing Colony there is no such thing as a community center. Communal activities are carried out in and around the Buddhist temple and the two mosques, one Shia and one Sunni. There was one attempt by the government to build a community hall in the central “park” of the Colony – which is actually only dry and unused wasteland – but the concrete structure has never been finished and is now in a completely ruined condition. In the villages it was never a goal to have anything like an assembly building that was especially dedicated for such purposes. If something had to be decided meetings took place either in the *lakhang* (village temple), in a private home

or somewhere on a public place or open area. Most likely this is the reason why the inhabitants of the Housing Colony did not know what to do with the new community hall, which is only one of the many wrong-headed actions exemplary for the government of J&K, whose members derive from a completely different cultural background and do not coordinate their attempts with the requirements of the people. Thus, a lot of money and resources have been invested in a completely wrong direction. Whenever a community festival is going on, some tents are put up which can shelter large crowds, whereas the dancing usually happens on open-air stages. Since the colonies are constantly growing, many schools have been established around the area, providing basic education.

On the north-eastern rim of the Housing Colony there is a *mani* wall, and behind this lies the army territory with an ammunition camp, bordered by a range of mountains. On the other side of the *mani* wall a large number of unregistered houses has filled in the gaps left by the colony plots. The inhabitants of the Housing Colony are quite unhappy with these structures, which are often coming up overnight. They accuse the new settlers to increase the density of the already very compact arrangement of houses and to worsen the problem of scarce resources.

Towards the south-east there is one of the strangest sports grounds in Ladakh, extending on a quite steep slope, embedded within two mountain ranges: On 3,700 m of altitude it is the second highest golf course in the world, which was established by the Indian army on plain sand with the help of some oil to mark the “greens”.

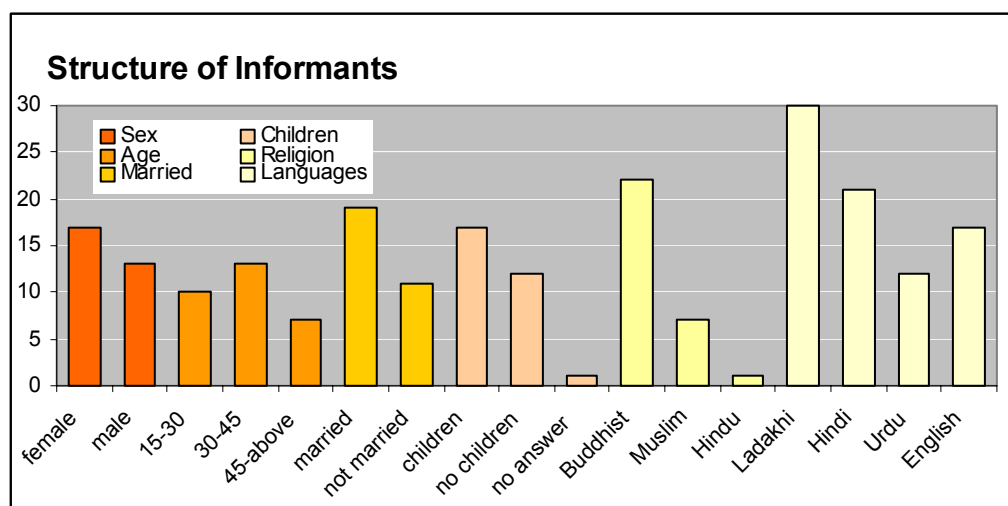
Towards the south, only separated by the road to Choglamsar, one new colony after the other is coming up. There is the Murtsey Colony, the Ibex Colony and the I.T.A.F (Indo Tibetan Army Force) Colony, most of them just in the starting position for spreading out. A little further down towards the Indus there is a settlement of Tibetan refugees (See Fig. 91, 97 and 98).²

² The Murtsey and the Ibex Colony are assigned only to government employees. The Ibex Colony is especially meant for ex-army-employees and the plot size is varying according to rank: 50 ft x 90 ft for high ranking officers, 40 ft x 80 ft for Junior Officers, 30 ft x 60 ft for lower ranks. The plots are provided on a lease basis, and after 20 to 30 years people can buy it. The settlement started about 20 years ago, and additional areas were registered in 1990/93. About 300 houses are now built, but there is a capacity of about 1000 houses in the Ibex Colony alone, whereas the Murtsey Colony has an even higher capacity (Rahman, Abdul, *interview*, 3rd Aug. 2000).

It can be expected that during the coming ten years another 7,000 to 10,000 people will settle in the areas of these new colonies.

The People of the Housing Colony

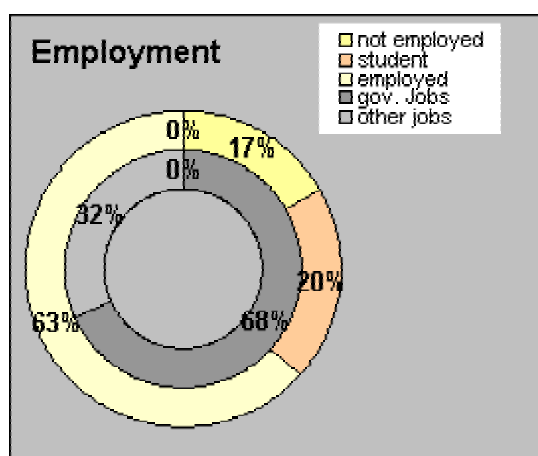
The people who live in the housing colony migrated to the capital from all parts of Ladakh, only four of my younger interview partners were already born there. People come mainly in search for jobs, a minor reason is also to get better education for their children. In practically every family somebody is employed by the government. The most common professions are administrative jobs in diverse government departments, army employment, teachers, medical professions, police force etc. Other common professions that are not connected with the government are shop keeper, taxi driver, NGO employee, craftsman etc.



Graph 2
Structure of the 30 people interviewed in the colonies

Among the 30 households that I interviewed in the colonies during my field research the average number of household members was four. The household size in Leh has been slowly decreasing, averaging 4.2 in 1961, 3.71 in 1971 and 3.68 in 1995 (J&K TPO, 1996). The average number of children of the households in the colonies that I surveyed was 1.48. The reason for this low number is that 41.4 % of the questioned households did not have children at all. If one only takes the married couples they had an average of 2.26 children. The explanation that there are quite many single households and only small families is that it is usually the younger sons or daughters of a family who are not meant to marry immediately but who are sent to the capital in order to earn money. This has slowly replaced the habit to send at least one of the

younger sons to a monastery. Another reason for the small number of children is that in many families in the housing colonies only the women and the children stay at home, while the husbands and fathers are serving in the army or have any other kind of government job far away from their families. Even government teachers are forced to work in whatever village they are sent to, sometimes more than two days of traveling away from home. Thus it often happens that the men only come home once a month, sometimes even only once or twice a year.



	Average
Number of employed HHM*	1,77
Income per HH	Rs 10.600,-

* HHM = Household-members

Graph 3

It can clearly be seen that the government provides the majority of jobs

Tab. 6

This income is comparatively high compared to the income possibilities in the villages

Compared to the people in the villages, who still live mainly on subsistence farming, the residents of the Housing Colony are economically relatively well off. Especially those who got their land officially from the government do have adequate jobs that earn comparatively much money. They get free land to build their houses on and only have to pay an administration fee of Rs 20 – Rs 50 a month.³ In addition they get subsidized fuel and for higher ranking officers government tankers even deliver the drinking water right to the house.

People who are not employed by the government but work in the private sector often cannot afford to build whole houses but often just build small one-room shelters either on the edges of the colonies or on the slopes of the surrounding hills. Unemployment has only recently become a topic, since the job market is glutted, and especially educated people spend more and more time to find adequate employment. People with

³ The payment is very often a matter of corruption and speculation. Although it is officially not allowed to government employees to sell the plot they got for free, it is often subject to shady business. One informant told me that she and her husband bought a plot with a small structure on it from a government employee in the Housing Colony in 1995 for the price of Rs 72,000,-. Today it would be double as expensive.

a minimum income rent cheap rooms in the colonies for an average rent of about Rs 150,- a month, which has become big business and a supplement income for people who settled there. The families who own houses in the nicer and more fertile quarters of Leh usually do not rent out to Ladakhis but rather to tourists, since there is enough demand and it brings a lot more cash.

Most Ladakhis who have moved to the colonies still have strong ties to their families in the villages. On the other hand many interviewees talked about problems since their parents were the only ones of the family who stayed behind in the villages and nobody knew what would happen once they were no longer able to cope with the work anymore. Others said that they still had a house in the country side but that it was slowly deteriorating or that they sold all the land and abandoned farming as a whole. Strong ties still bind the migrants to their villages. This is clearly expressed by the fact that people from a specific village tend to settle in Leh around the *labrang* (bla brang)⁴ which represents their village.

Within the Housing Colony there was no indication that people from the same village settled in a certain part, however, this was mainly due to the lottery system that had been used to distribute the plots. Communication between the neighbors is lively and since there are no parks or gardens, socializing mainly takes place in the streets in front of the houses, at the shops in the main street and at the water outlets. There is no separation in the form of Muslim or Buddhist quarters. The Muslim community is spread out over the whole colony, festivals are often celebrated together with Buddhists and it does not seem that the political insecurity has reached the level of the individual households.

Although there are almost no cars and very few motorcycles in the housing colony, I usually woke up at 6 o'clock in the morning due to the unexpectedly loud noise in the streets. It was mainly the voices of the people who were still used to the shouting way of communicating across the fields, often calling out for somebody from one end of the

⁴ The *labrang* is a specific religious estate associated with a *lama*. The word *labrang* is composed of the words *lama* and *brang* and refers to a place where the *lama* resides. This can be a room in a *gompa* but also in a private house and the size of the *labrang* depends more or less on the socio-economic and political importance of the school it represents. Nowadays many *labrangs* are located directly in Leh (Emmer 1999: 156).

street to a house 5 blocks further up. It is a lively and pleasant sound since our ears are used to much more disturbing forms of noise.

For the Housing Colony my host family was very typical. Yangdol was a woman of 33 years, Lobzang, her son, was 12 and the daughter, Sonam, 16 years old. Every day from 6 am until about 9 pm Yangdol and Sonam worked in a small shop they owned on the main street, whereas Lobzang still went to school. Yangdol's husband was working in the army and was home only occasionally, which meant about every month for two or three days. Three different families lived in the same house. We occupied the whole upper floor, while the lower floor was rented by two different families. The sister of my host mother lived with her husband and two children in one single room downstairs, the two other rooms were rented to a couple with one child, while here too the father was almost never at home. This housing situation, which is very common in the Colony, had developed according to a typical process: The first floor had been built and as soon as enough money was saved a second floor was put up. Immediately, the whole family moved to the second floor and the first floor was let out. The house is quite large (approx. 150 m²). Almost the whole plot is covered by the house and only a very small passageway along the side was left open. This is leading to the common toilet and a new bathroom that was recently erected next to it (see Fig. 138, house 1).



Fig. 100 _____
Sonam and a friend in front of their shop



Fig. 101 _____
Yangdol helping her friend to put on the perag, the Ladakhi head dress



Fig. 102 _____
Chatting with neighbors on the street

Analyzing the Housing Situation

Only a decadent architecture looks obsessively backward... At its most vital, architecture is an agent of change. To invent tomorrow; that is its finest function. (Charles Correa quoted in Cantacuzione 1984: 6)

A well-known proverb tells us: „If something is not broken, don't fix it!“ Is Ladakhi architecture broken? Does it have to be fixed? Or is it functioning just fine as an agent of change? I do not think that Ladakhi architecture is broken, it is just disturbed in its continuous development through strong influences from other parts of India and Western countries. It is clear that this outside influence accounts for many problems that Ladakhi architecture faces today. A lot had been fixed that was not broken at all and the overall quality of Ladakhi architecture has suffered from these interventions. No question - the rich architectural heritage has been facing a decline over the last years. But in many respects there is also a potential to meet new challenges and room for possible improvements that offer chances for a better future housing situation.

If Ladakhi architecture has worked for the people over the centuries, there is no need for radical change now but rather for careful improvement and progress. International influences through tourism and mass media in Ladakh have already brought about significant changes in housing expectations. Today, Ladakhis have new aspirations for improved housing as a result of better education, changes in family size and higher expectations regarding health and sanitation. People want progress – but progress is seen more differentiated now than even a few years ago, since a lot of problems have occurred. The traditional mud-brick houses have required constant renovation as a non-questioned process over centuries – after all, in Buddhism only spirituality is eternal, not buildings. This view has changed among the urban population, where stability and durability is gaining more and more importance and where concrete now allows for a considerable reduction of maintenance work. It is important that the architect or planner understands the advantages and disadvantages of both traditional and contemporary building methods.

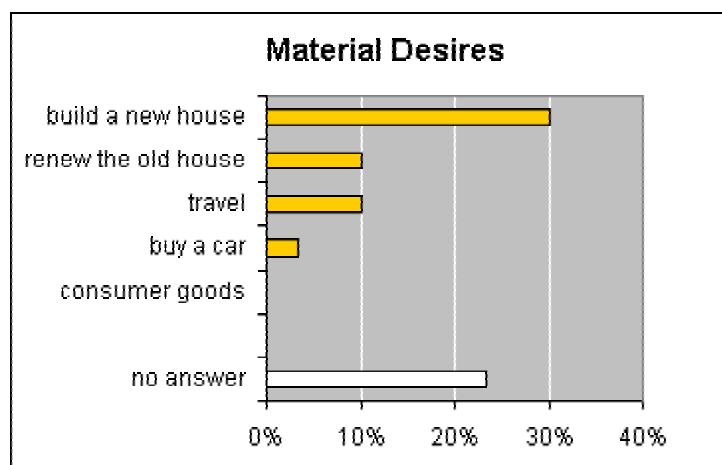
For the first time Ladakhis now have the possibility to decide consciously in which kind of house they want to live. Whereas over centuries no major changes have occurred in the building-process, within a few decades a variety of completely new techniques and materials have become available. These developments have lead from a sustainable

built environment towards progress and change, which have proven to be dangerous processes.

I argue that the key word in this respect is “transformation”, which I see as a fruitful synthesis between the old and the new. Mr. Yogi, a researcher on *amchi* medicine, puts it this way: „With buildings it is the same as with medicine: I don’t think that the traditional *amchi* medicine is the best solution, but the Western medicine alone, which is strongly promoted by the government, is also not sufficient. It should be a new system that is a combination of both” (interview, 30th July 2000).

The Importance of Ownership

In Ladakh, the house still plays a very important symbolic role in expressing the cultural background, although this intention is more and more crowded out by the desire to express the status and social standing of the owner. When asking for the most desired material things, a big and impressive house is still on top of the list.



Graph 4
If the people in the Housing Colony had more money, they would first of all invest it in the house.

Thus it becomes increasingly common for every single family-member to build ones own house and, especially in Leh, this has strong influences on the impression of the built landscape. Valuable farmland is more and more often transformed into construction land. Until a few decades ago this would have been unthinkable since agricultural land was the most valuable possession of a family. The current change of attitude towards farmland demonstrates the severe decline of the importance of agriculture, particularly in areas close to Leh town.

The people in the Housing Colony are quite proud of what they managed to build with the limited resources available and, in general, they are not unsatisfied with their living conditions. It is of major importance to own a house. This also explains why throughout my survey it emerged very clearly that people living in the PWD (Public Works Department) Colony were not very happy with their living situation. The PWD Colony is a housing project of about 20 housing blocks, with several families living in one structure. It is a very economic way for government employees to live there since they get these flats for an extremely low rent. However, the attitude of the people towards government departments is a very disillusioned one with no trust whatsoever, since in their opinion these departments are extremely corrupt. The government builds cheap housing structures very quickly, but there are no long term investments in order to secure the necessary upkeep. After a few years most of the housing blocks are in catastrophic condition.

I interviewed eight people who were living in the PWD Colony and all of them gave a very negative response (Abb. 138, houses 7, 8, 12, 15, 21, 22, 26, 27). This has several reasons: Ladakhis are not used to share a house with people who are not members of their own family, and thus there is a lack of ability to build and maintain the necessary social network for keeping a multi-family-house clean and in fair condition. Nobody feels responsible for the structure, the government departments do no longer take care either, and the living conditions become quite dismal after a while. If four or five households use the same toilet and do not feel any responsibility for its upkeep, it will become dirty and filthy so that in the end nobody wants to use it anymore.

Another problem is the layout of the floor plans. The arrangement of the rooms in no way reflects the Ladakhi way of life. Rather, the floor plan is a replica of the standard multi-story apartment blocks in other areas of India. There is no room for a *chod khang* and the size of the kitchen is not sufficient for a Ladakhi family. On the other hand there is a bathroom in every flat. However, since the flats are extremely small, these bathrooms are not used for body care but mainly function as storage rooms.

Government houses go to wreck and ruin very quickly. Sonam, a girl living in one of the PWD houses, stated in an interview, that the house she was living in was already very old. Actually it was only built about 25 years ago. No Ladakhi would consider this as old for a farmhouse, since a farmhouse would not be in such a filthy condition even if more

than a hundred years old. For all these reasons most people see government housing only as a temporary arrangement until they can afford to build their own house.

Building Regulations

The work of the government departments is not always very efficient – which can also be seen from the building rules. But building regulations might be even more important in Ladakh than in Western countries. As revealed throughout the interviews, if they had the possibility to make money, most Ladakhis would not hesitate to build a ten-story hotel complex, with little regard to the appropriateness of such an intervention. People have got used to the idea that earning money is of great importance, and now the desire to make money seems to be above everything else. The collective cause is secondary if there is a chance to make money. To regulate building, there are some rules that are summarized in the Jammu and Kashmir Government “Guide Lines for Interim Constructions and Reconstructions Buildings within the Limits of Scheme Area of Leh Town”. It is amazing to see that even within one state it is not possible to create building rules that are in any way appropriate for the conditions in Ladakh.¹ And even if the rules were thought through carefully – which is not the case – the Road & Building Division (R & B Division), the department responsible for this task, would not be able to control their implementation.²

The same is true for the Housing Colony. When the plots were given to the people they received a government plan (Fig. 103) at the same time, showing where to place the structure on the plot, the size of the house and a suggestion for the floor plan. But only

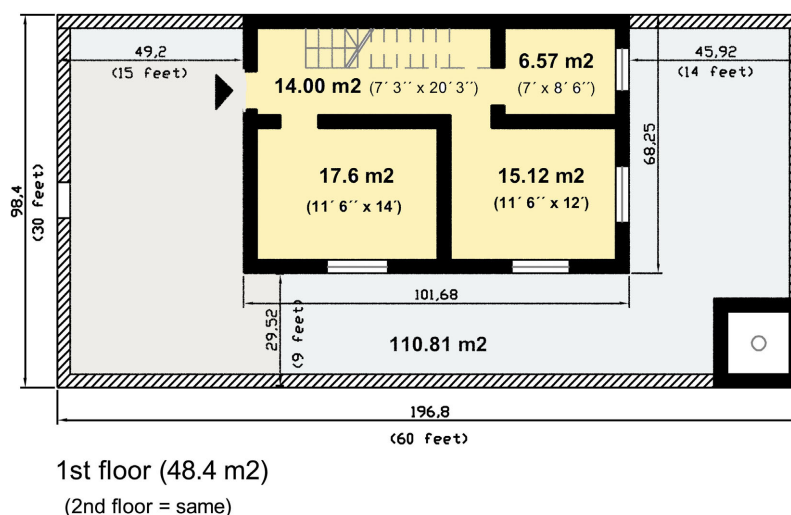
¹ For example, the building guidelines give suggestions for the size of different rooms: „Habitable rooms 80 sft with a minimum width of 8 feet, kitchen 40 sft with a minimum width of 6 feet ...“ This information is completely useless for the Ladakhi way of building since the kitchen is the most habitable room and therefore these dimensions are out of question. Another rule is: “Bath room com W.C. 30 sft”. I have never seen a bathroom-toilet combination in a Ladakhi house other than in guest-houses or some rare very rich households. “Every kitchen should have a chimney – the chimney shall be constructed out of burnt bricks or any other incombustible material”. This is a complete nonsense since burnt brick is not available in Ladakh and it is also not desirable to fabricate them, since wood for the burning process is far too scarce. “The floor of every latrine, privy or urinal shall be made of an impervious material and be sloping towards the private septic tank approved by the Public Health Engineer or towards a Municipal Sewer wherever available for sewage disposal ... “ There are neither municipal sewers nor anything other than dirt floors in Ladakhi toilets – again, some guesthouses being an exception.

² Until about five years ago there were quite strict rules for the construction of guesthouses. According to Abdul Ghani Sheik (*interview*, 23rd June 2000) you had to draw plans which then circulated between the PWD and various other departments. It took months, sometimes years, until plans were approved. This changed when someone went to court in Shrinagar because it took so long to get an approval and won the case. The result was that after that nobody wanted to get into trouble anymore and the regulations were given up as a whole.

very few people really took reference of these rules and there was no control whatsoever after completion.

Fig. 103
Standard plan suggested
by the government

standard house
(government plan)



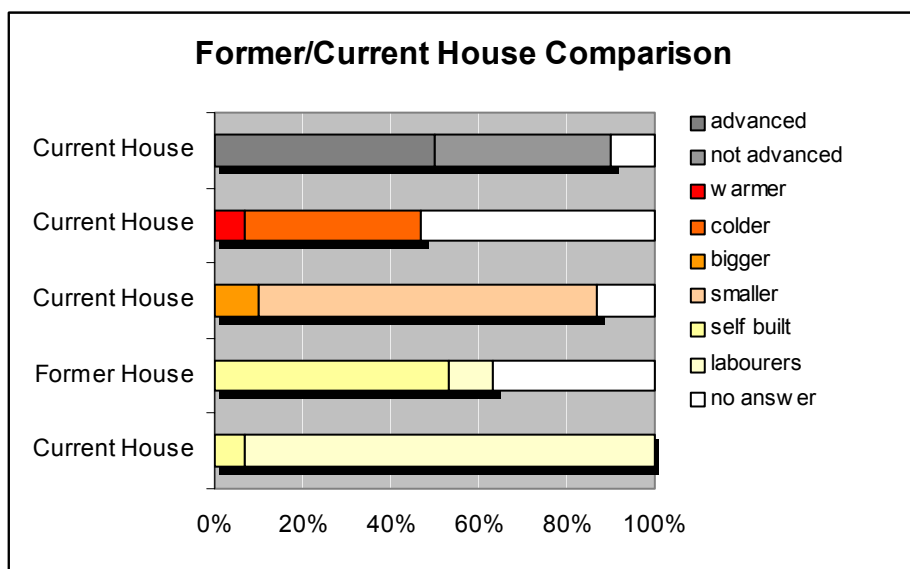
Out of the 11 houses I examined in the Housing Colony only two were built according to the government plan (Fig. 138, houses 6 and 13), two others took up a few of the ideas with strong alterations, (Fig. 138, houses 4 and 25) while all the others built completely free as it suited them.

Upon asking the people why they did not build according to the government plan their argument was mainly that the suggested structure was not big enough. The average size of one story of a house has approx. 70 m²³ which lies much above the government plan of app. 50 m². This is because many people build very big houses so that they can rent out rooms and earn some extra money (Fig. 138, houses 2, 3, 5, 9, 18, 33).

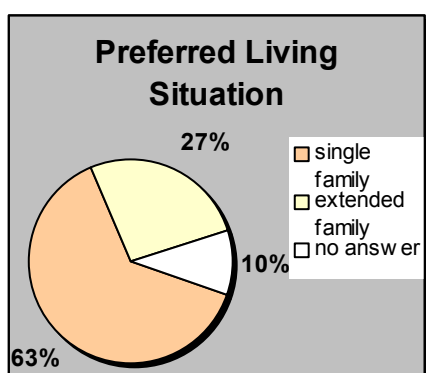
Of course, the few people who did build according to the government plan are not happy with their situation. They claim that there was insufficient control by officials and that the building density in the Housing Colony would not be so severe by far if more people had accepted the rules.

³ Average taken from estimated floor level of all houses visited in the colonies

Comparison: Former/Current Housing Situation



Graph 5
In this graph people compare their former living situation in the farmhouse in the village with their current situation in the new house in Leh. The house in Leh is seen as rather advanced, although the thermal comfort is much lower than in the farmhouse in the village.



Graph 6
Most people in the Housing Colony prefer the single family life over the extended family life

Although most people say that their house in the village was much larger than the new living space they have in Leh (Graph 5). Their new houses in the colonies are still big with many rooms, while the function of the rooms is often not very clear. If you ask a Ladakhi how big his house is, he will tell you the number of the rooms it has. In the opinion of a Ladakhi a good house must have at least two stories, since the ground floor is not considered as an appropriate space for living. This notion stems from the tradition that in farmhouses the ground floor is usually reserved for the animals, whereas the actual living quarters are situated above. In the Housing Colony the ground floor and the upper floor usually have exactly the same floor plan. The only purpose of building a second floor and moving up there is that it is considered as better to live higher up – and there is also the chance to rent out the ground floor. The size and the arrangement of the rooms in a house often do not correspond to its function. In

this case tradition can be seen as a restraint on the way to improvement. Reducing the size and thus building more stable houses that are more appropriate with respect to the harsh climate would be an important innovation.

In this regard I consider it as necessary to move away from the over-emphasized quantitative value towards a more qualitative one, especially since the quality of the houses has declined considerably throughout the last decades. Although 50 % of the people questioned said that they would consider their house in Leh as advanced compared to their former house in the village, 40 % stated that it is not advanced (10 % did not answer). At the same time, only 7 % said that their new house is warmer, while 40 % said that their old house was warmer (see Graph 5). 53 % of the people did not answer this question at all which shows that this is a quite difficult question because it is hard to compare. In the villages there were no cerosene stoves (*bokharis*) available as they are now very common in Leh. They make the heating of the house a lot easier. However, it is amazing that although these heating possibilities were not present in the villages, most people stated that the houses were warmer there. Thus, there is a discrepancy in what people consider as advanced and what really does provide a higher quality of living. In their minds advanced refers more to the use of new building materials or more fashionable construction methods. In this regard they view their houses in Leh as advanced, although the thermal comfort is less satisfactory than in the farmhouse in the village.

A major improvement in living quality could be possible if people measured the value of a house by the real comfort of living and not just by its size. The size of the buildings could easily be reduced since most of the rooms are empty anyway, therefore more effort could be put on the insulation and the improvement of the thermal quality of the few rooms that are in use. But in order to gain acceptance of this idea among the people it is most necessary that such progress is made visible to everybody. The improvements also have to carry the expression of status, which so far was always manifested in the size of a building.

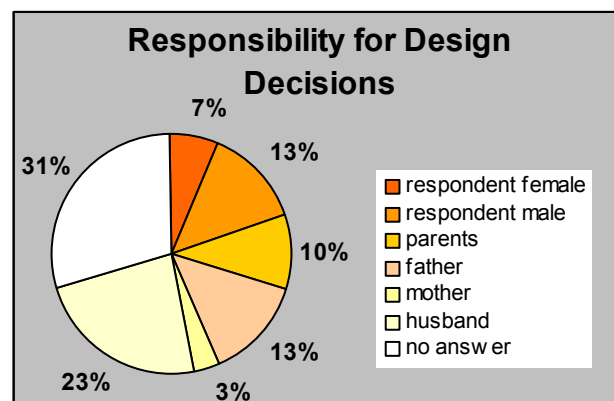
Another important fact in this context is that the size of a household in Leh is much smaller than it was in the village. Most people in the Housing Colony feel better in a single-family-household than in an extended family (Graph 6). Only 27 % of the questioned people would prefer to live in an extended family like they did in the villages, while 63 % prefer the situation as a single family (10 % did not answer). The reasons

for this are diverse. Especially women say that life in a small family is easier. They tell about conflicts and struggles between the generations that they want to avoid and one woman was complaining that in big families people drink a lot of *chang* (local beer), get drunk and start to fight. A small family can more easily be kept under control. The women seem to enjoy the quiet life with much less work than they had in the villages. There is no field work and no big family to care for, thus they have a good amount of time to sit on the streets and talk to their neighbors. I also did not have the impression that it was a problem for the women that their husbands often stay away from the families for long periods of time due to their jobs as government- or army employees.

The Role of Women

Although women are the ones who spend most of their time in the house, the building and planning decisions are still mainly the responsibility of the male household members. It was also noticeable that the parents, especially the fathers, still had quite some influence on the house building processes of their children.

Graph 7
To this day it is mainly the male members of a households who are responsible for decisions regarding the design and building process



The reason for this continuing influence of the older generation is that the knowledge of building has been transmitted from one generation to the other for centuries. Nowadays this is not really necessary anymore, since most of the building work is now done by a mason and some construction laborers and the house owner helps only occasionally. Only 7 % of the people questioned said that they had build their new home with their own hands whereas 93 % had employed laborers (see Graph 5). Whereas in the villages it was mainly the family and the members of a *paspun* who helped out with the construction process - and paid labor was practically unknown - today most of the responsibility and also of the decision making is entrusted to the mason. It is hard to get a good mason and this profession is highly respected. The same is true for carpenters.

Most of the masons come from Kashmir, while the other laborers usually are from Nepal, Bihar or other parts of India. For Ladakhis, doing labor on a construction site is seen as a very low-ranking job, and hardly any Ladakhi gets engaged in it.⁴ This practice of engaging paid labor has highly influenced the way of building in Ladakh.

Building a house in Ladakh is not a one-time act, but a process. There is no special design plan like in Western countries, where you know from the start how the new house will look like. Construction in Ladakh starts with the ground floor and the toilet and it can take years until a second floor is added. In the colonies many people live for a long time just in one room, since they don't have much money when they move to Leh, and only slowly but steadily they improve and enlarge their home (see Fig. 138 House 2).



Fig. 104 _____
Starting with one room only is a common practice in Ladakh

For this reason, and also because mud is a very adaptable material, the buildings are very flexible and can be changed as needed according to the family situation.

In the colonies the traditional pattern of the house has changed, the typical inner courtyards have gone due to a lack of space and the streets have become places of communication and playgrounds for the children. In contrast to the life in the village, where especially in summer most of the life and work was going on outside, in the colonies the outside spaces are not very attractive and rarely used, since people complain that everything is dusty and dirty outside.

Since men are usually away for work for long periods of time it is mainly the females and the children who use the houses for living and working. Modernization has changed many social norms regarding family structure and gender roles, which has created both opportunities and constraints for Ladakhi women.

⁴ Whereas a good mason earns about Rs 300,- a day, laborers usually earn only between Rs 100,- and Rs 120,- a day, and female laborers much less.

It is important to pay attention to the role of women in the Ladakhi society and how this has changed in order to understand how the spatial organization has been modified in response to this shift in social organization.

A major change regarding the rights of women was that the LAHDC, shortly after its foundation in 1995, decided that women should be co-owners of land along with their husbands. This was meant for all land allotted by the Government in the colonies. It was seen as a first step in the region to empower women socially and economically. Compared to women in other parts of India, Ladakhi women have traditionally enjoyed a better social status since menaces like dowry, female infanticide and stigmatization of widowhood and divorce were very uncommon.⁵

Today the polarity in gender norms is growing and the different levels of authority are more and more distributed regarding to the income of a person, whereas many uneducated women lack earning potential. On the other hand it is now considered as a privilege for a woman to be married to a husband with a good income and not having to do any field work or hard house work. This perception is very much influenced by Indian movies, television series and magazines which glorify the role of the rich house wife (Hay 1999: 174).

Whereas in the villages women continue to have many children, since larger families are an advantage for agricultural tasks, in and around Leh the average number of children per woman has decreased significantly (see Tab. 4) since large families are a financial burden and child care is increasingly becoming a problem when both parents work. Modern methods of birth control and abortion are now available to married women in Ladakh and many women are making use of these options. Educated women with government jobs are highly respected but rare as it is still not easy for women to get well paid jobs.

This is also the reason why major decisions in the home are still made by the male head of family, since this influence is directly connected with the ability to earn cash in-

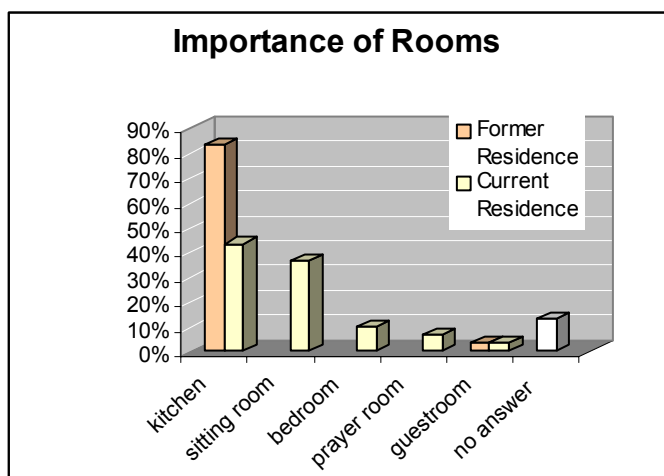
⁵ Whereas married Ladakhi women has been highly respected within the family since besides housework they also contributed a lot to the fieldwork, the role of female nuns has always been problematic and only now there are several initiatives that try to secure the same privileges of their male counterparts also for nuns. *Chomos* (Buddhist nuns) most of the time do not have any religious training. Even today these women are often treated as little more than unpaid family labor and many have to work as general laborers for income.

come. The widening gap between the educated and the uneducated can also be felt in the household.⁶

The Use of Space

The Kitchen (*chansa*)

In the Ladakhi farmhouse the kitchen is the room that combines many vital functions like cooking, eating, living and sleeping. Thus, without any doubt, the kitchen is considered the most important room. In the new houses around Leh this situation has changed (see Graph 8). Although in many houses the big Ladakhi kitchen is still the center of all family life, more and more often its function is separated in a small kitchen space, which is only meant for cooking, and a bigger sitting room. This separation nowadays is seen as advanced and it is usually the people who consider their house to be “modern” who have this arrangement.



Graph 8

From this graph it can clearly be seen that the kitchen was by far the most important room in the farm house in the village. In the current residences in the colonies other rooms have gained importance, above all the sitting room, which is now often separated from the kitchen.

One reason why kitchen and sitting room are increasingly separated is that status and representation have gained in importance. Since the kitchen is seen as a quite untidy and not very clean area of the house, people more and more often tend to hide it from their guests.

⁶ For a summary on gender issues see *Gender, Modernisation, and Change in Ladakh* by Katherine E. Hay (1999: 174-194).

Another, probably more important reason, is that cooking is not considered as the highly valued work anymore that it was in the villages since work that is not paid generally lost in importance. This strongly effects the woman of the house whose traditional place has been at the hearth, but still always in the middle of her family, who is now somewhat isolated in her own kitchen department. The woman now spends a lot of her time in a usually tiny, very low and quite dark kitchen room, with insufficient ventilation. She is doing most of her work in a standing position whereas in the big kitchen she mainly used to cook while sitting on the floor.

The positioning of the kitchen within the floor plan is a very subtle problem for everyone confronted with planning decisions in Ladakh. Since status and representation is of major importance and should not be undervalued, new desires like having a separate kitchen and sitting room should not be suppressed. At the same time planners should try to avoid the disadvantages that such a division can create and instead put emphasis on the possible advantages that are undoubtedly there. A disadvantage is the relatively unhealthy environment that is created in very small kitchens due to unsatisfactory ventilation and the dense spatial organization and social separation of the woman from the rest of the family. On the other hand the separation of the kitchen also offers a chance to keep the cooking environment more hygienic and clean than if integrated in a room that is frequented by many people. Other cooking materials can be used that are easier to clean and a better system for providing fresh water could be established. Above all, and a planner should take care that a minimum size is kept, enough natural light is available and good ventilation is guaranteed. Even the social isolation of the woman could be reduced by better planning solutions such as openings to the sitting room, only partial separation from the sitting room, curtains instead of doors etc.



Fig. 105 _____
Spacious Ladakhi kitchen



Fig. 106 _____
Small and filthy kitchen department as common nowadays

Another characteristic feature of the kitchen in a village farm house was the division into “summer kitchen” and “winter kitchen”. Whereas the summer kitchen was on the second or third floor, usually directly connected with the inner courtyard such that the major activities like cooking or spinning could easily be moved outside, the winter kitchen was situated on the ground floor. The winter kitchen did not have any windows other than an air vent above the oven. It was kept warm by puffer zones in form of the stables with the cattle to keep the temperatures above a certain level. The moving between the summer- and the winter kitchen is not common anymore in the colonies. People in the villages still do it, although even there the arrangements of the summer- and winter rooms hardly differ anymore. Nowadays most of the time the winter kitchen is just a little smaller, as are the windows, but otherwise there is little difference. Sometimes the summer- and winter kitchen are even on the same floor. Now it is more the ritual and the tradition to move the whole household at a certain time of the year that keeps up this system rather than a matter of thermal comfort.

In the Housing Colony I only visited one household that still moved into a winter kitchen on the ground floor during the cold months (see Fig. 138, house 24). In this particular case the winter kitchen was much smaller than the summer kitchen and it had only one window which was sealed with a polythene foil in winter. The reason why the summer- and winter kitchen system becomes more and more obsolete nowadays is the use of a *bokhari*, a small iron stove that can be fueled with kerosene, wood, coal or cow dung, where the fire is kept burning almost all winter long to keep a room warm. Most houses heat up only one room, but more and more often two or three rooms are fitted with a *bokhari*. Since a *bokhari* can be placed in every room, the spatial ordering in winter becomes more flexible and people are not bound anymore to one single room, i.e. the kitchen with the stove.

Whereas in the traditional farm house both cooking and heating was done with the same mud stove, in the new colonies around Leh these two functions have been separated, since for cooking almost exclusively gas stoves are used and for heating *bokharis*. Mud stoves (*thabs*) like in the old farm houses are hardly seen in Leh anymore.⁷

⁷ Mud- or stone stoves continue to be in use in the majority of village kitchens. In travel literature on Ladakh up until the 1940s one finds only the mud built stoves mentioned to be in general use (see Clarke 1999).

One unique feature that became very common in new Ladakhi households in Leh, due to the separation of kitchen and sitting room, is a phenomenon that I call the “faked kitchen”. This means that the sitting room is furnished like a kitchen but not used as such. This occurrence is to a large extent connected to the importance of the stove. It is very interesting that although the traditional mud- or stone stove is more or less no longer necessary in terms of its technical function, its very high spiritual and ritual function still plays an important role. The stove is the residence of the *thabs lha*, the household deity, since smoke is rising to the gods which makes the stove such an important element of the whole household. At the same time the stove expresses the rank system of the household members, since it is always the most respected, usually the oldest one, who is sitting closest to it.

The continuing importance of the stove has led to an unusual system in new houses in Leh. Although *bokharis* and gas stoves are used for heating and cooking, big and delicately decorated iron stoves can be seen in the kitchens/sitting rooms of almost every house. Usually these stoves are not in use anymore, or rather most of them have never been in use, but they are an element of decoration that at the same time takes over the symbolic functions of the traditional mud stove. The *thabs lha* is offered butter on each New Year’s day whereby the stove has an important ritual dimension, both marking the home of, and honoring, a deity. A new metal stove is the pride of the household, often decorated with the “Wish Granting Jewel”⁸ in the middle, whereas the level of decoration is both a reflection of one’s wealth and a status symbol in itself. Thus this stove it is not necessarily placed in the kitchen anymore but in the room where it can be seen by most guests.

It is also interesting to note that the fabrication of these stoves is a unique example of a new Ladakhi craft. It was born out of the ready availability of oil drums that were imported by the army in the 1960s, and drums are still used as the main material today. The metal work is a hybridization between the iron stoves introduced into the region by Western missionaries and the traditional mud built stoves. Between 1965-70 stoves became larger and the decoration much more ambitious and elaborate.

⁸ This is a magical emblem which leads to the fulfillment of all desires, both material and spiritual.

It is about at this stage that one can talk of a new “art form”.⁹ It is noticeable that stoves that have been made in the late 70s, after the first influx of tourists, often bear the date of the making in Arabic numerals, sometimes immediately below the “Wish Granting Jewel”.

This obviously glorifies the significance of the first contact with Western modernity. On the other hand the iron work of stoves is a craft which has not developed because of tourists or for tourists – it is much more performed for an internal “audience”, while it borrows some decorative elements, and the material, from Western examples.

In conclusion, it can be said that for Western planners in Ladakh that the new metal stove serves as a remarkable example of the significance of status, symbol, and ritual, which penetrate all spheres of Ladakhi life – and thus also its architecture.

In addition to the stove, the main kitchen shelf (*lungs*) is also an expression for wealth and, like the stove, is paradoxically not necessarily placed in the kitchen, but in the sitting room where it can be seen. This makes the picture of the “faked kitchen” complete. The shelf with the tidy polished copperware and pottery has always been a significant representative element of a household, as the British explorer Marco Pallis noted already in 1936:

... Household furniture is confined to necessities. Besides cooking-pots and wooden bowls and cups for eating and drinking, with perhaps a china cup or two for special occasions, there is always a red glazed pottery charcoal stove for keeping tea warm, in form not unlike a Greek urn; and one or two brass or copper teapots, often decorated with good chasing, sometimes even with applique silver plates and dragon handles, earthenware pitchers for beer, small carpets for sitting on, and low tables for tea, painted gaily with flowers. All these objects are hand-made and of real artistic value ...
(Pallis quoted in Jina 1995: 106)

⁹ The typical Ladakhi Steel stove (*thabs*) is composed of an oblong or “L” shaped steel unit which is between four and ten feet long and about three feet high, punctuated on its top surface by three or four circular holes, made to receive the cooking pots. The stove, following Ladakhi tradition, is usually situated against a kitchen wall with its decorated side facing outward and the main fuel hole at right angles to the wall. From one corner of the stove rises a tubular chimney roughly nine inches in diameter. The traditional mud or stone stove has a similar square or rectangular shape with holes on top for cooking pots, though, in overall height it is lower. Although the mud *thabs* was transformed by the addition of a chimney and oven space, its overall form was retained and translated into steel. Moreover, the decoration of the exterior, though now in steel, continued to follow traditional idioms, both in the choice of motifs and in their manner of execution. Steel stove design has copied the traditional decorations which have always been found on the front faces of more elaborate village mud stoves (Clarke 1999).



Fig. 107
Old Ladakhi mud stove



Fig. 108
Elaborately decorated
metal stove



Fig. 109
Typical "faked kitchen" which is actually a
sitting room

In today's Leh it happens more and more often that people sell their old precious metal cooking-ware to tourists and replace it with cheap plastic or tin dishes that can be bought in any shop now.¹⁰ A fixed part of every Ladakhi household are the thermos bottles for the *gur gur cha* (butter tea) and the pressure cookers for cooking rice, which are in many ways good introductions, since fire wood and cooking gas can be saved.

People in Ladakh still sit mainly on the floor. Although households in the better areas of Leh sometimes have tables, chairs and sofas, they are mainly there for prestige reasons and are seldomly actually used. It is common to sit on thick rugs on the floor along the wall behind small carved wooden tables (*choktse*) in front. It is very important that most things are kept off the floor, although there is not much furniture around. Especially religious objects would never be placed on the floor and this includes books with religious pictures in it. When I moved in with my host family I placed all my books on the floor since there was no furniture in the room at all. It only took a short moment that *Yangdol*, my host mother, came back with a small table and neatly placed all my books on top of it. The most precious possessions of a household are the festival clothes of the household members, the jewels, and the *perag*. The *perag* is a head-dress for women that is covered with turquoises and passed on from the mother to her eldest daughter on her wedding day. It is only worn at weddings and on high festival days (see Fig. 101). These clothes and jewels are usually kept in lockable chests or in suitcases in a locked room.

¹⁰ Metal craft does not have its own tradition in Ladakh but was introduced from Nepal, where metal art already developed in the 4th century. In Ladakh most Nepali craftsman settled in Chiling, where they produce mainly jugs for tea and *chang*. The delicate copper ware was sometimes decorated with silver or in rich households with gold.

The Guest Room (*don khang*)

It is curious to find that in the more advanced households the largest and most delicately kept room is often the guest room, which is only used for a few special occasions a year. Typically, the guest room is a large room with sitting carpets on at least three sides of the walls and several *choktse* in front. It is kept very clean and usually not used for every day life at all. It is a place where higher visitors are welcomed. As a foreigner one has a status which is not always very clear – when I visited families I was most of the time invited into the kitchen or the sitting room, but sometimes I was also lead to the guest room. However, being seated in the guest room was usually very boring, since you are seated there on your own and sometimes sit there for an hour while the hosts only show up from time to time to refill the tea or offer something to eat. It is actually not a very communicative event.

The main purpose of the guest room, though, is the representation of the household during festivals like *lozar*, religious ceremonies, weddings, child birth ceremonies etc. It is noteworthy that even in the Housing Colony, where the plots are small and the space is restricted, many households still have this large room, which stays empty most of the year while they live in much smaller and less attractive rooms. Nevertheless I would say that for the planner it does not make sense to neglect the importance of a representative guest room. However, there might be chances to integrate the valuable space of this room more into every day life thus improving the spatial quality of the living quarters.

The Prayer Room (*chod khang*)

One room that is part of practically every Buddhist household in the Housing Colony is the *chod khang*. It is still of importance that this room is on the top level of the house, although I have never seen a *chod khang* placed as a separated structure on the roof as it was common in farm houses. It is usually a rather small room that is integrated into the second floor, with an altar, Buddha statues, oil lamps, water offerings and other religious objects. The room is mainly used in the mornings and evenings for prayer, while sometimes the activity is reduced to changing the water, lighting lamps or burning incense. The *chod khang* is also the room where the *lama* performs his rituals at various events and where *lamas* who are visitors to the house are accommodated for the night. Richer households quite often do host *lamas* for a few days in their *chod khang*

during their travels to different monasteries etc. Thus, for every planner today the *chod khang* should be an important element to be integrated into a Buddhist Ladakhi house.



Fig. 110 _____
Modern Ladakhi
guestroom



Fig. 111 _____
Chod khang

The Bedroom

A relatively new spatial arrangement is the integration of bedrooms into the floor plan. In farm houses one separate room was reserved for the oldest brother and his wife, but it was seldom used since the kitchen - or the roof in summer - was the preferred room for sleeping. This has somewhat changed in the Housing Colony. Although it is still common that Ladakhis lie down and sleep wherever they might be when they get tired - which is usually in the kitchen - most households do have rooms they refer to with the English word "bedroom". There is a Ladakhi expression, *nitangsa*, meaning "the room where you sleep", which is not often used as well as a Hindi word for bed, *cherpa*, meaning "with four legs". The fact that there is no original Ladakhi expression for these words already indicates that sleeping rooms are a new installment. These rooms are mainly used in summer, since the roofs and terraces in the Housing Colony are dirty and dusty and not suitable for sleeping outside. But in winter most family members still sleep in the kitchen, since it is the only warm room. The placing of beds in certain rooms also seems to be more for status reasons than out of actual need since most Ladakhis whom I interviewed stated that they find it more comfortable to sleep on the floor than in a bed.

In Sankar, one of the better neighborhoods of Leh, I visited the house of Kunzang's family and was surprised to find that each of the five children had a small separate room with a bed and a tea-kitchen with a gas stove. This form of privacy is very new in Ladakh and is only now getting common in richer households, who tend to copy the

examples of high status Indian families in other parts of the country. This was even more obvious when I lived in Dr. Dawa's house, where privacy was a big issue and all family members had not only their own room but also a bathroom attached to each of them.

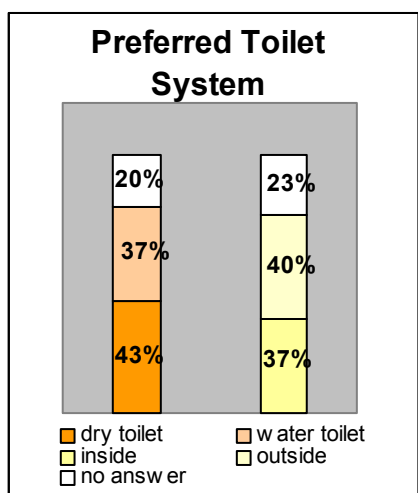
On the other hand, in the Housing Colony privacy is practically non-existent as illustrated by my own experience: Although as a tenant I had my own room when I moved in with my host family, there was hardly an hour during daytime within the six weeks I lived there that I had the room for myself. After some time I found out that it was not the sheer attraction of having a foreigner in the house that drew all the family members into my room but that it was also a matter of politeness to keeping one's company. Privacy was synonymous with loneliness. Since I sometimes did not go to the kitchen, where the other family members gathered because I wanted to work or read, they simply all came to my room as there was no understanding at all, why somebody would want to be on her own. It was also no matter of communication, since I could not talk to most of the people there due to language problems, but it was the sheer presence that was important. Thus the women were knitting, playing with the children, and sleeping in my room. For me, coming from a background where privacy is self evident and respected, this was not always an easy situation. On the other hand it was a great opportunity to observe, to learn and to get to know, to like and cherish my family.

The Toilet

Ladakh's traditional composting toilets are perfectly suited to the environment: they need no water, they are dry and hardly smell, and they support local organic farming. A Ladakhi toilet is a two story structure that can be emptied from the ground floor. The actual toilet consists of a hole in the middle of an earthen floor, usually with some sand and a shovel placed next to it. The fertile compost is emptied twice a year and used for the fields.

Whereas in the farmhouses the toilets are most of the time part of the house, placed at its northern corner on the second floor, in the colonies around Leh they are all separate structures. The people were advised by the government to place the toilet in the corner of the plot that is furthest away from the house. However, I do not think that these suggestions had much influence, but by the people the toilet is now seen as an unhygienic place that should be far away from the living premises. Interestingly, this opinion is

shared by almost everybody, although the distance is more inconvenient: In the cold winter months people have to leave the house in order to go to the toilet.



Graph 9

The dry toilet outside the house is the environmentally soundest solution, and most Ladakhis also prefer it. Still, many people would like to have water toilets although these do not function most of the year because of freezing pipes.

Graph 9 shows that the majority of the people in the housing colony prefer a dry toilet outside the house. When asked why, they answer that dry toilets do not smell and that they are more hygienic. Although this was the main answer given it is also true that water toilets would not work anyway due to the severe lack of water and freezing problems in winter. Still 37 % (20 % did not answer) would prefer a water toilet system, which is mainly known from tourist infrastructure and hotels. These systems use up water, which has to be lifted to the roof somehow, pollute the shallow ground-water and springs of Leh and are often poorly designed so they stink unnecessarily. However, Mr. Nazir, a representative from the Road and Building Division, confirmed that in guest houses water toilets are dictated by the government (*interview*, 7th July 2000).

To the five tourists I have formally interviewed, and many others I have spoken to, it did not matter if the toilet in their guest house was a Ladakhi toilet or a flush toilet. It was of much more importance that it be attached to the room – which is quite understandable considering the diarrhea problems that most Westerners suffer from in Ladakh. A tourist from the US told me that there were three toilets in their guest house. One Western style flush toilet, one Indian style toilet (no seat, no flush) and a Ladakhi one. She said that most of the tourists used the Indian style one since it seemed to be more hygienic to them than the Western toilet. However, almost nobody would use the Ladakhi toilet (Briga, *interview*, 24th July 2000). Western style toilets are not so attractive for tourists,

not so much for ecological reasons (water consumption), but simply because they cannot be kept clean. Between the Indian style toilet and the Ladakhi one there is not so much difference in use and if there were systems for Ladakhi toilets attached to the house without having a smell problem it would be well accepted and save a lot of problems that water toilets cause.

Although dry toilets work well, water toilets are seen as advanced by the Ladakhi people. This is also due to the fact that tourists use them, thus making them a symbol of status. In the Housing Colony I have only seen one house with a water toilet system (Fig. 138, house 25). It was the house of a high ranking employee of All India Radio. The house in fact had two toilets, a water toilet with a septic tank for the summer months, and a dry toilet for winter. The water toilet was an Indian style toilet integrated into the floor with no flush, but a bucket of water next to it. However, the people of the household said that they would use the dry toilet all year round since it was more convenient – still they had a water toilet because they could afford to have one.

I have seen the same toilet system in Muslim houses in the Murtsey Colony and also in some government housing projects, like in the Radio Colony or Postal Colony. It is amazing that these housing projects sometimes don't even have a dry toilet and thus have to boil the water in winter so that the pipes don't freeze. Considering the scarcity of water and fire wood this is, of course, a complete nonsense. It is only due to the desire of the government to build houses that are seen as progressive and modern. The house of Dr. Dawa, where I spent two weeks, had a fully equipped bathroom with a flush toilet. However, this toilet hardly ever worked because the water tank was empty or the pipes congested.

Taking account of the scarcity of water and for ecological reasons the dry toilet system seems to be the only relevant solution for Ladakh for the foreseeable future. However, since Ladakhis now do have higher demands regarding hygienic facilities, health and convenience, such as having a toilet and a bath attached, new solutions will have to be provided that differ from the senseless copying of Western systems that are not suitable for the area. Today a wide variety of well working dry toilet systems have been developed in different parts of the world and many could easily be adapted for Ladakhi needs. There is a high potential for improvement and some NGOs already started to develop solutions like two-chamber-systems with solar chimneys to subtract the smell

etc. So the systems are there – they only need to reach a wider number of people (see Fig. 112).

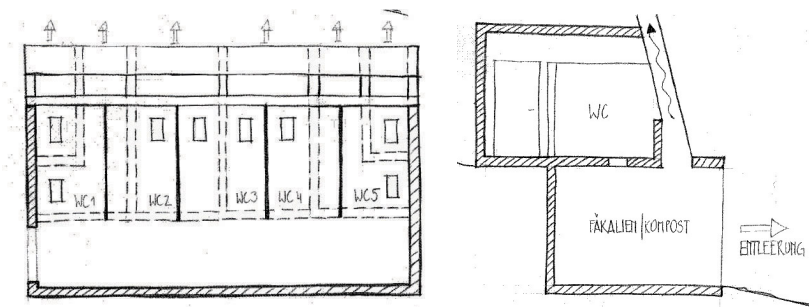


Fig. 112
School building in Shey
(Ove Arup architects,
London): Plan and sec-
tion of the two-chamber
toilet system

The Bathroom

The “bathroom” is a completely new innovation in Ladakh and thus only known by its English term. Farm houses do not have bathrooms. Body care was done outside at the springs and during the cold winters it was not really an issue at all. Due to higher education, the activities of NGOs, who propagate the necessity of hygiene in schools, and the example given by tourists, keeping ones body and cloths clean gained an importance among the people in Leh. Building bathrooms is the latest fashion in the new colonies. Usually these bathrooms are not integrated into the house but are situated next to the toilet, off the ground, and consist of one small room (about 1.5 x 1.5 m). The structure is built out of mud brick and cemented on the inside to make it waterproof. On one side of the floor there is a hole and a pipe as a drainage. Usually the water runs into the courtyard where it seeps into the ground. Tap water is not available, but one can take a bucket of water, usually cold, take off ones cloths, and really wash the whole body – something that for a long time never really was an issue. However, to me it seemed that I was the only one of our three-family-household who really made use of this brand new luxury establishment. It still is luxury to use up one whole bucket of water just for body care if you have to line up for two hours to get some water and carry it home quite long distances. Thus the building boom of bathrooms also seems to be primarily a status gesture. But it is no doubt that the desire for advanced body care is there. This is already a very essential prerequisite to improve the bathroom system and make it more attractive for the people to use. This could be by integrating the bathroom into the house, by establishing water saving kinds of camping showers or water re-use facilities.

It is obvious that the spatial arrangements of the new houses around Leh has changed with the changing live style. A builder or planner in Ladakh must recognize these changes, analyze them, find out the reasons and integrate them into the design concept since the new arrangements, no matter if by the planner sees them as an improvement or not, reflect the current wishes and desires of the people - and finally the acceptance of a project.

Building Techniques and Material

If one compares the traditional construction of a Ladakhi farm house and a new house in the colonies of Leh, major alterations can be observed that are characterized by the use of new technologies and materials. The main problem: Old techniques and materials do not work that well anymore whereas the new ones do not yet work.

Loss of Quality

A severe decline in the quality of the traditional methods can be observed everywhere since new technologies and materials, introduced by the army and tourism, are implemented in a wrong way and thus often create more damage than good. Paradoxically, I have heard Westerners say: "They do not need any new technology. First of all they have to learn how to construct a masonry properly." It is a fact that Ladakhis have been excellent masons for centuries and that a severe decline in this knowledge has only taken place in the last few decades. Mr. Esak, who now lives in the housing colony, remembered the advantages of the old building techniques quite well: "In old times very thick and rich mud was used. It was pressed into the forms with much more care. In one day one man could hardly produce 50 bricks. Now one man produces 500 bricks a day" (*interview*, 30th June 2000). He also explained that the bricks were arranged in a stretcher-header system. There were two rows of stretchers and one of headers, all placed in a quite irregular way and cut at the corners according to need. Whereas in the old farm houses mud brick walls were several feet in thickness, today they consist of one layer of headers and mortar is placed only into the horizontal gaps, not in the vertical ones. Thus it happens that there are air gaps throughout the whole wall.

But also the stone wall has lost its quality: In the traditional farm house bigger stones were used at the foundation and smaller stones for the top floors according to the

thickness of the wall. In between, there were layers of small stones and some big stones were laid over them from time to time for stability. In old times masons used to break the stone directly on the wall to exactly get the size they needed. Also, it was a guarantee for the stability of the wall if they could break the stone on it without damaging the wall itself. Nowadays stones are all broken on the ground and then lifted up. In former days people used to break the stones more accurately and they then took care that they would fit together without leaving big gaps. Nowadays the shape of the stones is not a big issue anymore and big gaps are simply filled with cement that is poorly mixed. Walls have become much thinner. In old buildings a good wall is 2.5 ft wide on the bottom and 2 ft at the top. Nowadays walls are only 22 inches wide. Also, the size of a mud brick in past times was 1.5 ft, now it is only 1 ft (Esak, *interview*, 30th June 2000).

One major reason for the decline of building quality is that building work is now seen as inferior labor and is not done by the Ladakhis themselves anymore. There are laborers coming from even poorer regions of India like Bihar, others come from the Kashmir valley or from Nepal and only very few are from Ladakh. Building work is now paid work that has to be done quickly and there is no relation of the laborers to the family they build the house for. Thus, building a house becomes costly and the costs of the work is saved through the material. However, the major problem is that these laborers hardly know anything about the Ladakhi building tradition and that this tradition is no longer passed on from one generation to the other. Slowly but steadily it will be completely lost.

Availability of Materials

During the building process it is the mason who bears responsibility for almost everything. Drawing plans is not an issue, spatial decisions are made on the spot during the building process. Usually it is the mason who recommends the arrangement of the rooms to the house owner and his opinion is widely accepted. The building process starts with the accumulation of material. This is often quite a long process which can easily take a year until the necessary mud bricks, wooden beams, stones etc. are collected.

Until recently the range of building material in Ladakh was very limited, but when the army started with large-scale imports, the variety of materials suddenly rose exten-

sively. It is not necessarily the case that imported material is more expensive than the local one. Constructing a concrete ceiling, for example, is usually less expensive than the traditional Ladakhi ceiling systems, which require a lot of wood. But this is not always true, since many families use wood of their own poplar trees and willows for construction. Importing higher quality wood from Kashmir, e.g. for the main post or for lintels, is seen as the most costly material. Most materials are available in small shops at the market. There is a special market for building materials next to the fruit market on the opposite side of the bus stop in Leh. The shops, like the different crafts stalls, are agglomerated in different sections, one for glass-importers, for carpenters, for plumbing supplies etc. Doors and windows are usually ordered at a carpenter and made on demand. There is no mass fabrication of any product related to housing.



Fig. 113 _____
Carpenter quarter in
Leh

Fig. 114 _____
Selling glass panels
at a shop

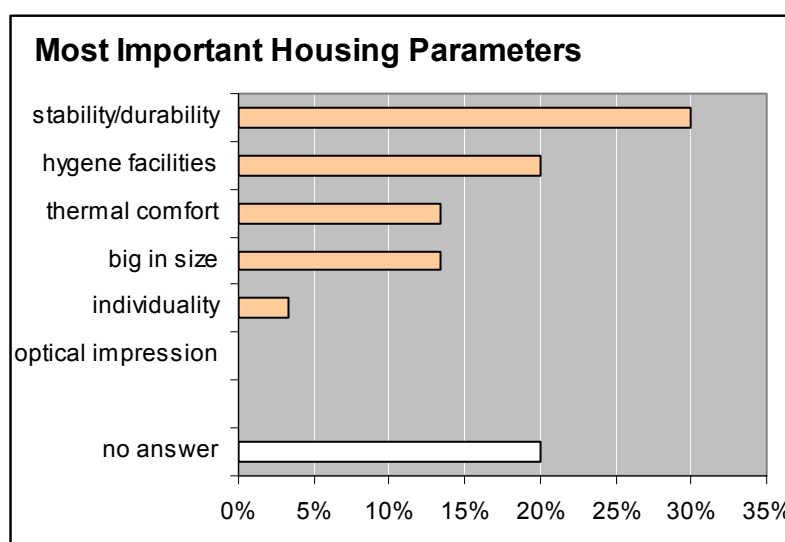
All materials that have traditionally been used in the construction of an old Ladakhi farm house were readily available except for timber, which has always been somewhat scarce and thus was only used where absolutely necessary, like for ceilings, roofs, windows and doors. The scarcity of wood is getting even more of a concern in urban areas since people do not have their own small plantations of poplar and willow trees anymore. Wood has to be imported from other parts of Kashmir, especially the high quality timber for lintels that is not available in Ladakh at all. In the Housing Colony I could observe that the kitchens have become smaller, also due to the fact that the timber post (*kha ba*) in the middle, which is structurally essential for bigger kitchens, is one of the very costly parts and cannot be afforded in the beginning. Concrete, although an imported product itself, turned out to be more economic for roof constructions than timber. Also the lintels above the windows and even the traditional decoration (*bakna tukul*) is now replaced by cheaper concrete fabrications.

Something that is completely lacking in Ladakh is any kind of insulation material. Although straw would provide good insulation, it is considered as too valuable to be used

for construction purposes. Even if it were available in sufficient quantity people would be skeptical, as the opinion of Mr. Nazir from the R&B Division demonstrates: “Straw is not used for insulation. It has not been tested. Nobody knows about its durability. It might rot, insects might be a problem. We don’t know about straw.”¹¹ Practically every other insulation material would have to be imported. As the value of insulation as a material for protection against the cold and for more comfort has not yet been recognized, it is not imported in any form.

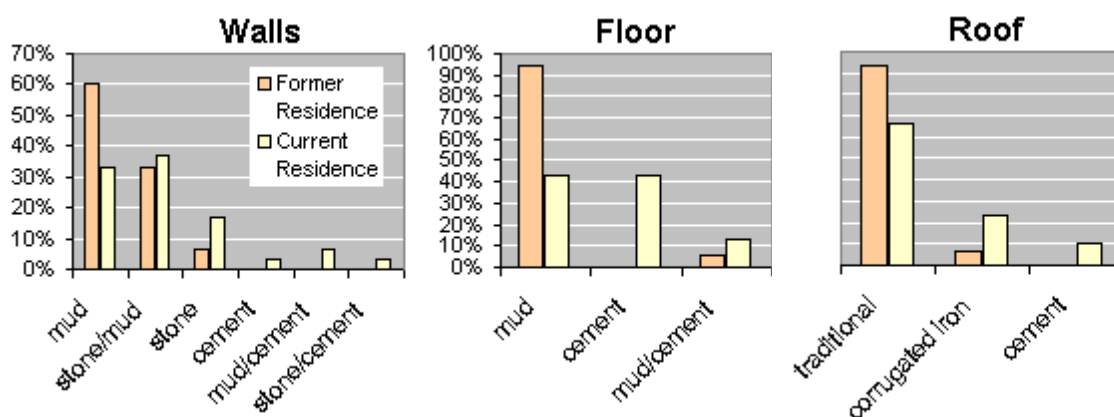
The reason why other materials like concrete, steel, tin sheets etc. are imported in high quantity is that there is a strong desire for more stability and durability in buildings. As indicated Graph 10, most people consider stability and durability as the most important housing parameters, followed by hygiene facilities and thermal comfort. People who live in the town and go to work every day are not willing anymore to spent too much time every year to reconstruct their houses. Mud houses therefore deteriorate much quicker: Kunzang, for example, lives in a well-off family in one of the fertile areas in Leh. She and her family have built a house on one of their fields about 25 years ago but up to now they only finished the ground floor. Now that they wanted to extend and stock up the house it is already in such a bad shape that they decided to build a new house next to it instead, this time planned by an engineer. Later they might restore the old house and rent out the rooms. The reasons for the faster decay of such structures are both worse quality of mud brick techniques and less care for maintenance.

Graph 10
Stability and durability of the house is of major importance to the people

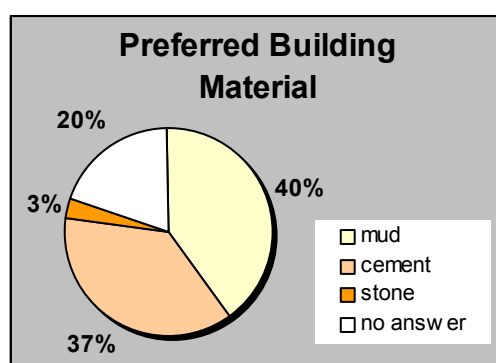


¹¹ Although Mr. Nazir indicated the opposite there are NGOs like LEDeG, who have tested straw as an insulation material and found it suitable and beneficiary in many ways (*interview*, 7th July 2000).

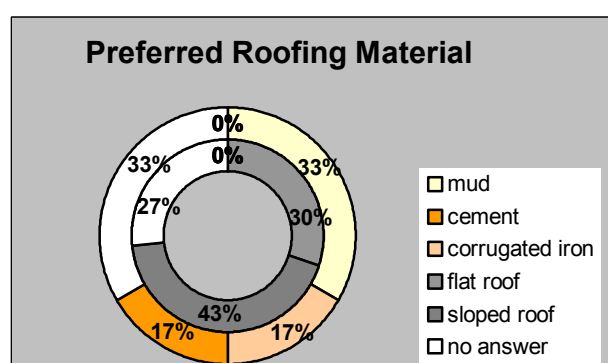
Concrete is often seen as *the* key material to gain long lasting, maintenance free structures, whereas tin sheets have gained this reputation for roof constructions. However, this turned out to be a false assumption, as was often proven and is realized more and more by Ladakhis themselves. Nevertheless, the use of concrete for walls, floors and roofs has risen significantly during the last decades (Graph 11). Also the use of stone is more common again, although it is a quite expensive material, since the transport cost is high and it has to be be shaped to the right size. Again, a desire for durability can be observed. When I asked the people of the colonies about their preferred building materials mud and concrete were about at the same level, 40 % still preferring mud, 38 % concrete, 3 % stone (20 % no answer) (Graph 12). For the roof 33 % would use mud, 17 % cement and also 17 % corrugated iron (33 % no answer) (Graph 13).



Graph 11
The use of building materials for walls, floors and roofs has severely changed throughout the last decades



Graph 12
Many people still prefer mud as building material, but cement is quickly catching up



Graph 13
Corrugated iron and cemented roofs start to replace the traditional Ladakhi roof construction

It was obvious that the opinions were divided regarding the walls and the roof – about half of the people questioned wanted to hold on to the more traditional system, while

the other half wanted more modern materials. There being no tendency into any one direction makes it even more difficult for the planner. While on the one hand people are still in search for new solutions, on the other hand there is already a turn-around-movement noticeable, since the new materials cause problems. There are different arguments for the acceptance or the denial of new materials.

Problems with new materials

The following answer of Tserin Wangchok, a Statistical Officer living in the PWD colony, summarizes very well the general opinion about concrete: „Concrete lasts longer and concrete buildings do not leak as much. 15 years ago there was less rainfall but because of the heavy plantation there is more rainfall nowadays, so leaking becomes more of a problem. But concrete also faces many problems. In winter when it is very cold it cracks because of the cold. Also older people complain that they feel pain in their back” (*interview*, 4th July 2000).

Mud floors actually do already gain a new popularity as people complain more and more about the discomfort and the back-pain resulting from sitting on concrete floors. Also, concrete is much colder in winter, or as Jimat, a young Ladakhi, put it, “ ... it’s like walking on ice”. In government housing projects such as the Radio Colony, where concrete floors are the rule, people no longer sit and sleep on the floor but they have thick mattresses or beds, since the floor would be too cold. Other people who can afford it cover the concrete with wooden planks, again not a desirable overall solution since wood is expensive and scarce.

At the same time the quality of concrete is suffering from severe deficiencies in the processing. Taking the currently low quality of this material into account it has to be stated that it is a false opinion that concrete is more durable than mud or stone. And there is the additional disadvantage that concrete, once it is cracked and damaged, can hardly be renovated or maintained anymore. It is for this reason that Ladakh is covered with concrete ruins that had been broken before they were even in use and now slowly decay without any chance of being restored.

The poor quality of concrete has various origins: The laborers are poorly instructed and here never had any relevant training in the handling of concrete. They mix the cement, usually already with a poor cement ratio, make a one hour break and when they come

back they simply add some water – and the quality is lost. Then the mixture is simply poured into the shuttering without being compacted. Also the cover of the reinforcing is not of adequate quality. In the end this type of concrete is not able to withstand the extremes of temperature and when it gets really cold - and especially when water penetrates into the structure and freezes - the concrete simply cracks and loses all its quality and stability.



Fig. 115 _____
An example of the poor quality of concrete

Fig. 116 _____
Concrete pillars at the corners, mud bricks as infilling wall

A very common technique is also the combination of concrete and mud for walls. Concrete is used either with shuttering or in the form of concrete blocks. It is now common to use concrete for the corner pillars, to secure the stability, and to fill the frames with mud bricks. This construction technique allows for very thin walls of only one brick layer, which has the big disadvantage that the thermal quality of the wall is completely destroyed and the temperatures in winter inside the house are freezing cold (Fig. 116).

So what is it that makes concrete still so attractive for many Ladakhis? Besides the wide-spread opinion that it is more durable, it is mainly the optical impression and the perception of progressiveness that creates the desire to use it. People like the smooth and attractive cement finishing with its straight lines and sharp corners. This is somewhat understandable if one considers that a mud building has to be whitewashed every spring. However, cement finishing might last longer but once it cracks and gets broken it is much harder to restore and therefore older cement buildings look unattractive and poorly kept.

Regarding roof construction similar problems can be observed. Expectation as to the quality of a roof have risen, especially in terms of water proofing, while at the same time the traditional roof construction seems to work not that well anymore. Suddenly everybody complains about leaking roofs. A leaking roof is now so common that in Ladakhi there is a special word for this: *changti*, meaning “rainwater leaking through the roof” (*ti* = water).

In the master plan of Leh from 1996 the Town Planning Organisation of Kashmir gives the information, that the number of rainy days has increased from 13 - 15 in 1960 to about 30 in 1995/96. According to their research the massive irrigation and plantation projects are responsible for this. The report states that „... it may make imperative necessary changes in construction technology in terms of improving quality of building material and having tin roofs.“ Which means that they see tin roofs, as they are widely spread and installed in an angled way in the lower areas of Kashmir like in Kargil and Shrinagar, as the foremost solution against more rainfall (*Ladags Melong*, Wangchuk 1995: 13). Although there are arguments that the annual rainfall has increased due to extensive plantation projects, I see the problem on another level - which again is the loss of knowledge over time. Only some of the older people still clearly see the difference. Mr. Esak ,who moved to the Housing Colony about 15 years ago, knew that in the old farm houses the roof construction was extended over the building by about 6 inches to protect the wall from direct exposure to rain. At the same time there was a different system of preventing *changti*. The roof would slope slightly to the inside and in the middle there was a hole. Under the hole was a big pot that would catch the water or snow and was then emptied from time to time when necessary (Esak, *interview*, 30th June 2000). Nowadays the water is collected in one corner of the roof and the pipe that is running down is very often blocked with dirt accumulating inside. This causes the water to stay on the roof and thus it is absorbed in the roof and walls and it starts leaking. Another important issue is that the quality of the mud differs quite a lot from region to region. These days people in the new colonies tend to use the mud that is readily available but is not necessarily of the right quality for the purpose. For example, some of the older people told me that there are areas around Spituk, where the clay is exceptionally rich and greasy. It is thus ideal to use as a final layer, usually about 4 to 5 inches thick, on top of the flat roof. Allegedly it is possible to construct roofs with this clay that easily could withstand two to three days of constant rain since it sucks up all the water and binds it.

In the course of a university project about Ladakh at the Technical University Vienna several students examined different kinds of mud from Ladakh in the Building Materials Laboratory. We had taken mud samples Leh, Chuchod, Tangtse and Durbuk. The results showed that the mud from all these areas was rather lean mud with a low setting power, which means that it is of quite poor quality for building purposes.¹²

¹² Mean bending stress (N/mm²) / mean compression (N/mm²) of the mud samples: Leh 0.47/1.45; Chuchod 0.5/2.1; Tangtse 0.57/0.97; Durbuk 0,4/0.63.

Today not many people make the effort anymore to get such high quality clay, which is more expensive since it has to be transported. They just use the mud that is most easily available – an obvious loss of quality is the result and a once refined technique does not work anymore. Instead, more and more people think that a sloped roof with a corrugated iron cover is the only way to prevent a roof from leaking. 43 % of the people questioned would prefer a sloped roof, while 30 % would prefer a flat roof (see Graph 13). While there is the widespread opinion that this is the new and best solution for the leaking problem, in fact it is the same as with the expectations regarding concrete: The built examples prove something different. Corrugated iron as a material is waterproof, no doubt, but it is again a matter of knowledge how to work with this new material that determines whether it is an advantage or a disadvantage to use it. I have seen corrugated iron roofs with holes for nails and screws that are drilled in a completely wrong way such that water accumulates around the holes, penetrates into the structure, having no opportunity to evaporate again. This causes not only wet ceilings or walls, but also the rotting of the wooden beams. A different problem that people face with sloped iron roofs is that it is difficult to fasten prayer flags. Thus a new combination was developed that consists of a sloped roof with a row of mud bricks on the edges, which also hides the iron roof when looked at from the street level. Especially in government housing quarters corrugated iron is used for roofs without any other construction underneath and only a thin layer of clay on top for stabilization. People living in such flats right under the roof complain not only about leaking but also about the severely low temperatures that are reached inside the rooms in winter.

Many people now use polythene foils that are placed above the beams to prevent water from coming through but they thereby cause a different damage. Since water cannot evaporate through the plastic layer anymore, humidity accumulates around the wooden beams which in turn start to rot.

Although there are so many negative examples, one finds many people still considering tin or concrete roofs as advanced compared to the traditional structures. It is, like with concrete for the walls, the wide-spread belief, that everything that is new and/or comes from outside is better than the local. Another reason is that a majority of official government buildings are constructed with iron roofs and these are usually seen as exemplary for the people. Even Mr. Nazir from the R&D Department was deeply convinced that iron roofs last much longer and do not need that much maintenance. This might be true for other areas like the Kashmir valley, where a lot of wood - and therefore burned

bricks - are available, thus making the structures as a whole less sensitive to rain than unburned mud bricks. It is a good example for an attempt to transfer a technology from one area to another without adapting it to the local circumstances.

In summary, there is a strong desire for new solutions regarding roofing problems. As a planner I think it is important to go back to the stage before new materials and techniques were implemented and make inquiries into the possibility to simply use better clay again. On the other hand people want progress and do not want to lose their new "achievements". These achievements are not all bad but a planner has to balance carefully of how to use them wisely and how to transform them and not just adopt them unreflectedly.

One issue that became obvious during my survey is that due to the use of concrete and bigger windows, 85 % of the people questioned said that their houses in the city are much colder in winter than their former houses in the villages. This is also a reason why fewer and fewer people are prepared to cope with the cold weather conditions and many of the better earning people of Leh move to Delhi during the most severe winter months. Sonam Wangchuk from the educational NGO Operation New Hope (ONH) is a strong critic of this habit: "Today educated people instead of using their knowledge to improve life in Ladakhi winters build Delhi style cold cement houses, unable to live in these refrigerators migrate with all their earnings to Delhi. Had education worked in any real sense wouldn't the deserts have been greener, modern houses solar heated and people self reliant?" (*Ladags Melong* 1995: 13).

The reasons why the thermal performance of Ladakhi houses is in a state of decline are manifold: In farmhouses it was necessary to build thick walls in order to gain the necessary stability. Now that concrete columns provide the stability at the corners, one row of mud brick is enough for a 2-3 story house. Instead of stone for load-bearing walls, concrete bricks are used for structural reasons, since they are cheaper than stone. Thus, the strong decline in wall size and the complete lack of any insulation material is responsible for the immediate loss of heat produced inside the house.

Another important factor is that formerly windows used to be deliberately small in order to keep the house warm during winter. Since glass was introduced by the army shortly after 1949, windows have become exceptionally large - much larger in fact than what is the average in most Western countries - although the glass quality is extremely poor.

The motives for this big-size-windows can again be related to representation and status. Glass is still an expensive and valuable material, since it has to be transported from Delhi and often breaks or is damaged. The window as a whole is the most costly element of the house, due also to its wooden frames, the wooden lintels and the rich carved decoration above. Thus, the better off a household is, the bigger are usually the windows. Although the bigger openings bring significantly more air and light into Ladakhi houses, the big windows also cause severe heat loss and the overall quality of the houses went down because of them. Single glazing is the rule, many glasses are broken since the quality is poor, there is no tongue and groove system, no putty used to pass the glass properly into the frames and people often use polythene foils in winter to seal the windows.

One very typical element of the Ladakhi house is the “glass room” or *shell khang*, a room that has large openings of glass usually arranged around one corner. These openings have developed out of an element that was mainly part of aristocratic houses and sometimes also monasteries. This traditional form was called *nyima-la-khang* (*nyima* = sun, *la* = god, *khang* = room). It was a wooden corner element with wooden shutters that could be opened on sunny days thus allowing for a very warm and protected semi-outside-space. It is interesting that this element is unique for the region of Ladakh and cannot be found even in Tibet, although in most other aspects the Ladakhi architecture is very similar to the Tibetan one.



Fig. 117
Traditional wooden corner at a noble house close to
Leh palace



Fig. 118
Shell khang in the Housing Colony

The *shell khang* has almost become a distinctive element of the Ladakhi “style”. One interlocutor told me that he would like to have a sun window since it is part of the Ladakhi tradition. Indeed, the *shell khang* nowadays belongs almost self evidently to every better Ladakhi house. This is a unique example how, out of a transformation process, such distinctive new features of identification can develop. Whenever I asked Ladakhi children to draw a house, the *shell khang* was almost always part of it, which is interesting, since children tend to limit their drawings to the most characteristic features.¹³ That the large glass windows are now seen as part of the building tradition has mainly to do with status. In former times wooden balconies were only applied to wealthy, aristocratic households. Big windows are therefore an expression of social status and it is only natural that there is an attempt to place them in a position where most passer-bys can see them, which is usually on the upper floors of the street facade (see Fig. 138, house 3).

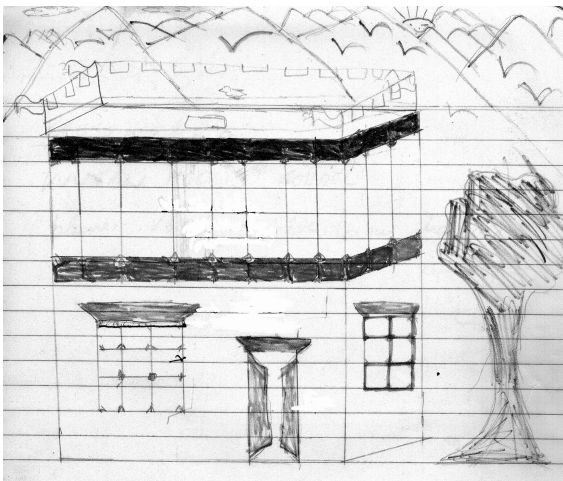


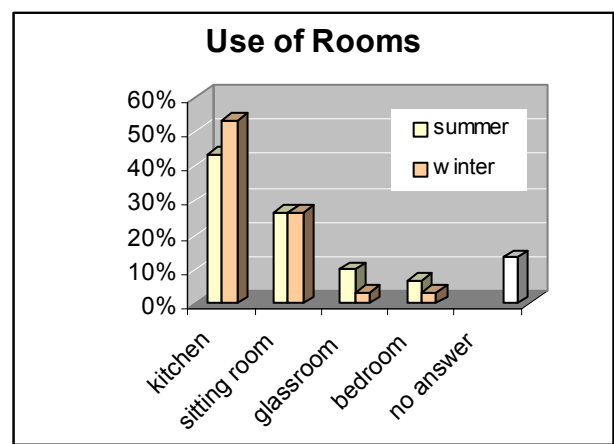
Fig. 119
Drawing of a Ladakhi house done by a child from the Housing Colony (12 years old)

Often the glassroom is considered to be the “best room of the house”, as Sonam said, whereas at the same time she said that it was hardly ever used (See Fig. 138, house 5). This is either due to the fact that it is reserved for guests or to the thermal discomfort. Since the *shell khang* is normally oriented towards the street, i.e. to the “show facade” and therefore not necessarily towards the sun, and since it is also often poorly constructed, it causes heat loss and uncomfortable temperatures. Graph 14 shows that the glass rooms are mainly used in summer, if they are used at all, indicating that in winter they do not provide the desired temperatures they could if properly oriented.

¹³ It is also interesting that most children from the Housing Colony drew at least one tree next to the house although there are practically no trees in the Housing Colony. This then seems to be more a wish than a feature of reality that is expressed in these cases.

Principally I see the development of *shell khangs* as a positive step that offers a wide range of possibilities to work with for the planner, especially one concerned with solar building. However badly the potential of the *shell khangs* is used at the moment, if introduced in the right way and with some minor alterations, they could be turned into an advantage and offer an extremely good possibility for the introduction of passive solar features. In this regard the *shell khang* could be a very good example for a positive transformation due to the introduction of a new material – glass - that would have developed out of the peoples own intention. This standard could be improved by expertise brought in from outside in order to raise the comfort standards. With double glazing, the use of patty, the right orientation towards the sun and some form of insulation during nighttime the *shell khang* could easily become the warmest and most comfortable room during cold winter days, without any additional need for heating devices other than the sun.

Graph 14
The shell khang (glassroom) is not used much at all and even less in winter

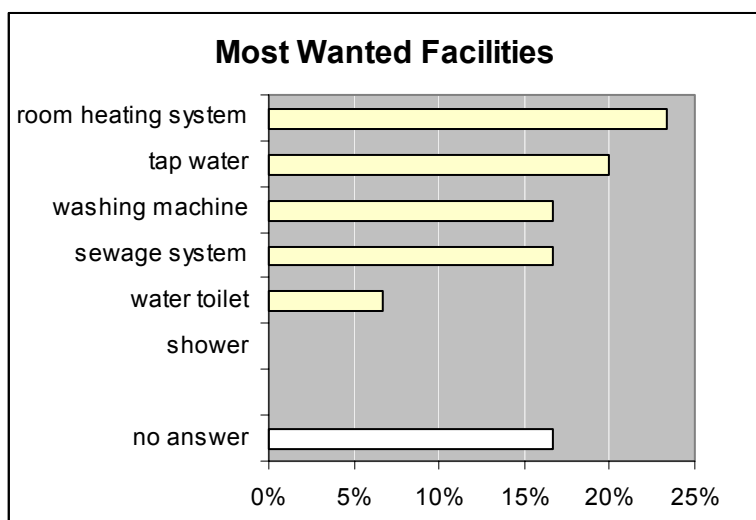


Working with Solar Energy in Ladakh

There are many disadvantages in comfort that the new way of building brings with it. Above all one is very obvious and severely influences the comfort of living in the new settlements: They have a very poor thermal performance and during the winter months they are simply cold. Therefore, a proper room heating system is the number one desire of the people questioned (see Graph 15).

It cannot be a solution to go back to one-meter-thick walls and winter kitchens that would not be possible anyway. Thus it is of mayor importance to search for new ther-

mal solutions that are environmentally sound and, above all, accepted by the population.



Graph 15
Room heating is the most desired facility among the people in the colonies

The current heating devices used in most households do not work efficiently, are unhealthy and need great amounts of scarce fuel. While some households in the villages still use mud stoves for cooking and heating, in most houses especially in Leh the functions of heating and cooking are divided. Whereas gas stoves are used for cooking, heating is done with a *bokhari*, a small metal stove which is placed in the center of a room with a pipe through the roof or an outer wall for the smoke. Still, the pipes are not dense, releasing smoky air inside the room, which leads to widespread lung and eye diseases. Most of the time only one room, the kitchen, is heated, while some households have two or three *bokharis* to heat different rooms. During summer the *bokhari* is stored away. In addition to health risks the scarcity availability of heating material in Leh is a problem. People use mainly kerosene, which is supplied by the army for Rs 3,- per liter, whereas the market price is Rs 7 per liter and more. People spend a few thousand rupees on fuel during the four months from November to February, only to keep one room above freezing temperature.¹⁴

¹⁴ As many as 2,800 tons of propane gas in bottles and 4.7 million liters of kerosene oil were the projected demand for the two districts of Leh and Kargil for 1997-98. A large quantity of diesel oil is required for use by vehicles that ply within the region as well as for the generation of electricity. The quantity required for 1997-98 was about 7 million liters. To meet the heating requirements of Government offices, Leh district had to import approx. 10,000 quintals of hard coke during 1997-98 (Dawa 1999: 372).

In comparison with wood, dung and kerosene, which all produce harmful smoke and gases in the kitchen, propane gas for cooking is a relatively clean solution: When it is burned, there is no smoke and very few poisonous gases.

Only a solar cooker would be cleaner, especially if one is considering the air pollution from the trucks that carry tons of LPG gas bottles up to Ladakh and the CO₂ “green-house gas” that is produced during the burning process. Another danger is that people do not get any instructions of how to change a gas cylinder safely and stories of houses blown up by LPG explosions fill the papers (see e.g. *Ladags Melong*, 1998: 10-11).

New alternative energy solution are clearly needed in Ladakh. The potential for the use of solar energy is extremely high since with an average daily radial intensity on a horizontal surface of 5.53 kWhr/m² the solar radiation is very efficient.¹⁵ There have been various efforts by governmental organizations and NGOs alike to propagate an intensified use of solar energy – with some successes and some drawbacks. Electricity is available in Leh for only about three to five hours a day at completely irregular times, while in winter for long periods there is no electricity at all. The reason is that the major power supply, the Stakna Power Plant freezes (see p 215 in this volume). Therefore, the Power Development Department in Leh propagates modern energy efficient lamps like the compact fluorescent lamp (CFL). They say that if all of Leh switched to CFL about two thirds of the present energy capacity could be saved – but they are far away from this goal.

One of the great success stories in terms of alternative energy in Ladakh was introduced by the Ladakhi NGO SWRC: Within only five years from its start in 1988 the organization succeeded in providing solar light to 35 villages in Ladakh and to a lot more up to now, many of them inaccessible by road. The concept is based on so-called “barefoot engineers”, young and able men from the villages, who are trained at the SWRC Solar workshop in Leh to install and service the solar panels. A contribution of Rs 20,- per household and per month secures the provision of spare parts for the unit and for service.¹⁶ Having three or four hours of solar light a day in the evening is of so much benefit, that self-organization comes from alone in order not to loose this achievement again. There are mini lighting kits for sale in Leh for about Rs 4,000,-,

¹⁵ Data from LEDeG (1998: 3)

¹⁶ Information resulting from an interview with Phuntsog Wangchuk, SWRC, 18th July 2000.

consisting of a solar panel, a battery unit, a regulator and two luminarios both of which can work simultaneously for about two hours. The major obstacle to buying them is not so much the price, but the lack of knowledge about them and about their handling.

Most attempts regarding the improvement of housing and thermal comfort with the help of solar energy were far not that successful. There have been various efforts from different NGOs, first of all from LEDeG, for more than twenty years now with a out major impact on the overall situation. One of the few successful projects, which is quite well introduced in the villages, is the installation of greenhouses. In 1993 there were 266 greenhouses in Ladakh, in 1994 the number already rose to 796 (J&K TPO 1996). LE-DeG took the initiative to train people on the simple construction of greenhouses, which are heated by the sun, in order to obtain fresh vegetables almost all year round.¹⁷

There are some more positive examples of solar building initiatives like the SOS Children's Village in Choglamsar (Fig. 120), where sun spaces are added to the day rooms that create a comfortable climate almost all year round. Another attempt at gaining well temperate rooms is the boy's hostel at the MIMC (Mahabodhi International Meditation Center) (Fig. 122), where the sleeping rooms have been built mainly underground in order to provide a natural insulation. In addition, the concept for the showers, consisting of an overhead tank where water is heated by solar radiation, it works well. Another important example is the Center for Pashmina Production in Chushot (Fig. 121), initiated by LEHO (Ladakh Environment and Health Organization). Insulated walls and a greenhouse that can be attached in winter provide comfortable temperatures that allow people to work throughout the whole year.



Fig. 120 _____
SOS Children's village in
Choglamsar



Fig. 121 _____
Pashmina production in Chushot



Fig. 122 _____
Boy's hostel at MIMC

¹⁷ Before that vegetables like turnips, spinach, radishes, Chinese cabbage, cauliflower or tomatoes could only be grown in summer and Ladakh was dependent on imports of vegetables from the Kashmir Valley.

But there are also many negative examples where time, effort and a lot of money have been spent for nothing and in some cases they even damaged the reputation of solar devices. One such example is the Radio Colony which was established by governmental effort in order to provide housing for the employees of All India Radio. So called “trombe walls” were installed into row houses in a way that was a complete disaster. Trombe walls are walls that are facing south with a glass wall attached to them within a distance of 2-3 inches. The surface of the walls is painted black in order to attract the sun rays and capture the heat that is created within the cavity between the glass and the wall. Through the opening of ventilation holes the warm air can circulate into the room.

This system had been propagated by LEDeG for years - and it still is - although it was never accepted among the people. The trombe wall is a highly complicated system, where many features have to work together well in order to reap any benefits. In the Radio Colony the row houses were built of pure concrete with corrugated iron roofs and no insulation whatsoever. The south facing-facades were constructed as trombe walls, which of course do not have any effect since the little additional heat that can be produced by them is immediately lost through the walls again. Although today only about 15 years old, most of the glass panels have been broken or are so dusty that no sun can penetrate them any more. It does not only look unattractive, it also draws the anger of the people who have the feeling that a lot of money was spent on a luxury good - glass - for no benefit at all. Negative examples like this are common for experiments with the trombe wall. There are many problems connected with the trombe wall: glass is too valuable to use for a gain of just one or two degrees of temperature difference in winter, it is almost impossible to keep the glass clean in such dusty areas, the glass quality is poor and it breaks easily, thereby destroying the system. It is a technique that is complex and needs a lot of effort for a result that is relatively minuscule and hard to capture. The trombe wall is therefore an example for a system that is not suitable for Ladakh but that NGOs just cannot let go and have kept on and keep on experimenting with.



Fig. 123
Trombe wall at the Radio Colony – completely broken, dirty and not working



Fig. 124
Trombe wall at a village house in Thikse – too dusty to let the sun rays through

Another example for a technique that works but is nevertheless not widely accepted is the solar cooker that has been developed by LEDeG with foreign help in several variations. Although it works, it does not match well with the living habits of the people. Tea is cooked very early in the morning whereas dinner is prepared in the evening after a long day of fieldwork. These times of the day are just not appropriate for the use of a solar cooker.

Hot water collectors with a 200 l tank have been developed, where the water can reach 50 – 60 °C at 2 pm. But they do not have a heat transfer liquid to prevent them from freezing in winter and thus are only good for summer when they are least needed. A lot of time, money and effort has been put into projects that are not much more than experiments by Western adventurers but lack the potential for a wider distribution.



Fig. 125
High tech solar cooker at Phe campus



Fig. 126
Solar collector and storage tank for hot water



Fig. 127
Solar panels for pumping water from the Indus at SECMOL campus, Phe

Other, more costly examples of NGO work show that the intentions are by no means bad, but that the planning is often shortsighted and sometimes severely negative effects on the overall scheme are neglected to follow a single cause. A good example for

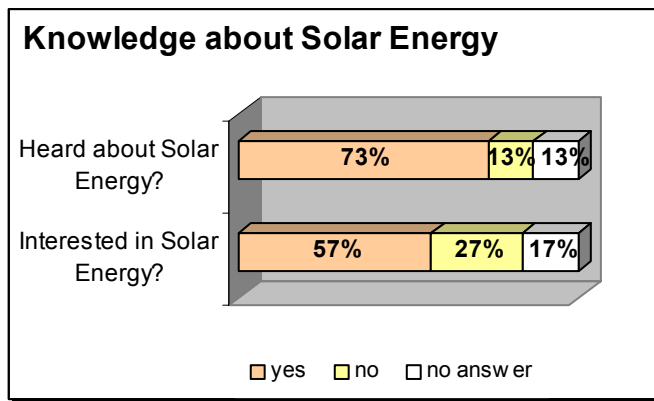
such a problematic approach is a new school building that is currently under construction in Shey. Although the overall task of the building claims to be an energy efficient solution in the broad view, it is anything else than environmentally sound. Already the gigantic scale of the building is unique for Ladakhi standards with a construction period that started in 1994 and is planned to be finished in 2010. The extensive use of wood for the school building has negative effects on the already scarce wood supply of the whole area.¹⁸ However, some interesting ideas for new construction techniques were developed, for example the toilet system with two separate chambers and a solar air vent to support the rotting process and to avoid smells and flies (see Fig. 112).

Acceptance of Solar Devices

In conclusion it can be said that the use of solar energy is not so much a problem of know-how but a problem of appropriateness and acceptance. Things are taught by NGOs that are not even accepted among educated Ladakhis such as engineers. In summer 2000 I attended a Solar Workshop on Building that was initiated by an NGO in Leh (LEHO). The use of straw as an insulation material was strongly recommended and demonstrated, but when I asked one of the engineers after the workshop if he would use straw now in his buildings, he denied. Although he understood the benefit that straw could bring to the thermal performance of the building, he said that he considered it a too valuable material to use for construction. Thus, as long as there is not more straw available it does not make sense to propagate such materials.

It would be much more important to concentrate on some improvements that are likely to gain acceptance and to try to give specific information to the general population. The lack of information transfer and the huge gap that exists between the perceptions of NGOs and the common people should be the main cause of concern. Although 73 % of the people questioned said that they have heard about solar energy and 57 % said that they are very interested in it, only very few have direct access to knowledge about it.

¹⁸ The project was initiated by the Drukpa Kargyud Trust and was planned by engineers from the well-known Ove Arup engineering office in London. The plan is based on the shape of a *mandala* consisting of nine squares with a *gompa* in the middle. A great circle with 8 *chorten* will form the outer enclosure. The buildings will be earthquake proof, meaning that the wall and roof structures are completely separated.



Graph 16

Many Ladakhis would be interested in solar energy but most of them don't know anything about it

LEDeG installed a Building and Technology Center to demonstrate new technologies and create a forum for communication and information. But the main obstacle for the people is that it is situated about 30 minutes walking distance north of Leh, thus people from the new colonies, which can mainly be found south of Leh, would walk for an hour or more to get there. Most of the people in the colonies do not even know about the existence of such a Center. In addition, application forms for subsidies for solar devices are complicated to fill in and people who can hardly read or write are already overwhelmed with this first step. To give an example, Mr. Namgyal, who was just constructing his own house, was very interested in solar features but claimed that nobody would teach him how to do it. When I asked him why he wouldn't go to LEDeG to seek their advice, the answer was: "I don't know where that is. And then they give the information to you, but us they will send home. They have the technology but they don't give it to us. They don't teach us" (*interview*, 25th June 2000). The new project of Solar Town in Choglamsar for the first time has a potential to provide knowledge right on the spot where it is needed, since a Building and Energy Center is planned to be erected right in the core of the settlement, where it should not only be a place of information but at the same time a social and cultural center. Another important issue is that most NGOs do not care much about the cost of the devices they offer, whereas the cost is a major indicator for acceptance. Reverend Gerkan from the Moravian Mission in Leh put it most directly, when he criticized the NGOs for that:

... They (the NGOs) have very good ideas and develop very good technologies. But people don't build it. They all would have to start with the cost All these NGOs – they have been here for 25 years but what is the actual outcome? Do you see their technologies in the buildings around? It is all just ideas, all on paper.... You don't have to just provide ideas, it has to be a whole concept. Go to the houses and ask people if they could benefit from the NGOs. Go there – you will only get negative answers. You have to start with the cost. That is what counts most. (interview, 7th July 2000)

To gain more acceptance among the population it seems logical that NGOs should concentrate in future on the many ideas that come directly from the people, are already widely spread, are cost efficient and would only need some improvement. As such, the sun room, *shell khang*, has certainly a high potential. Some efforts have already been made in this direction, but not without complications: As Sonam Dawa, chief advisor of LEDeG, told me, an initiative to support the building of sun rooms was started by LE-DeG in the villages. The problem was that the people built huge rooms using a lot of glass mainly oriented to the street facade, not caring if this was north or south. Consequently, some of these rooms had the opposite effect of severe heat loss instead of heat gain. Some strict bylaws, such as the reduction of the depth of the room to 8 ft and the mandatory south orientation, brought improvement in this matter (*interview*, 30th June 2000). This proves how important it is to give not only financial support but deliver the essential information with it.

I have seen some very simple private initiatives that were astonishingly effective. Our neighboring family had the simplest but most comfortable and warm bathroom one could imagine. It was a small hut with a cemented floor, tin sheets for the walls and a transparent plastic panel for the roof that was attached to the south side of the house. When the sun was shining, a great amount of heat was gained, making body care, even with a bucket of cold water, a joyful event. Such ideas are easy to replicate for everyone and could be picked up and, if necessary, improved by NGOs.



Fig. 128
Simple, but efficient, bathroom attachment

It is of great importance that the positive effects of solar energy are shown to the people in a most straightforward way: The greenhouse has become widespread, because it provides a most valuable source of fresh vegetables, and a solar lighting kit offers so many advantages that after a while it can't be missed anymore. These are things that are accepted and cherished by the people. A trombe wall that is complicated, costs a lot and does not show any direct benefits is harder to understand, as is the problem with most passive solar devices and also with the insulation of houses to protect them

against the cold. Although insulation and passive solar building techniques can be highly beneficial, other strategies are needed to show the benefits to the people in the form of comparative projects, so that the benefits can be felt immediately. In this regard there is a lot of work to do for NGOs and future planners alike – there is an urgent need to put more emphasis on providing information and gaining acceptance than on the development of yet another technology.

Wants and Needs

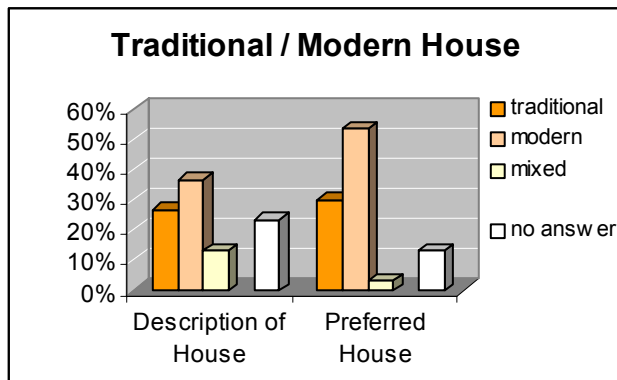
Things have changed quickly and profoundly in Ladakh. Nothing is „pure“ anymore, everything is a mixture: The language is a mixture of Ladakhi, Hindi, Urdu and English, cloths are a mixture of traditional gowns, Indian suits and Western outfits and houses are a mixture of traditional Ladakhi elements and Indian and Western influences. As the Ladakhi language has not been lost but is well and alive and as the Ladakhi *goncha* is enjoying new popularity, the traditional Ladakhi architecture, too, is still very much alive – although many observers speak from a complete decline, especially in Leh. It is not true. One only has to look closer to see that transformation has brought all kinds of changes and sometimes very interesting new forms.

Through influences from other parts of India and from Western countries new ways of building houses have been introduced to the Ladakhi people. TV is a major tool for the spread of desires to places where they have never been before. Advertisements for whitening skin cream implicate that it is desirable to have fair skin, which was never even a thought before. Now every woman wants to have this cream and since you can't produce it yourself, like the yak butter that has been in use for centuries, you need money to buy imported goods. The same is true for buildings. On TV people see chairs and furniture, sloped roofs, smooth finishings etc. People want it, it is considered as „modern“, but since most of it is not available in Ladakh, it has to be imported.

Traditional or Modern?

What makes a house „modern“ in the eyes of Ladakhis? Most of the time modernity is mentally related to rather superficial things that do not interfere with the actual spatial organization of the house. 37 % of the people questioned in the Housing Colony consider their house as „modern“, 27 % say it is „traditional“, 13 % rather see it as a mix-

ture of both and 23 % did not answer this question, indicating that it was difficult to categorize it. As reasons why people would term their house as modern the main factors mentioned were the size of the windows, lockable doors and the use of concrete. When asked which situation they would prefer as many as 53 % indicated that they would rather live in a modern house. Still, 30 % would prefer to live in a traditional house, where “traditional” is mainly understood as “traditional looking” (see Graph 17).



Graph 17
Many people consider their house as “modern” and even more people would like to live in a modern house

That the traditional appearance, especially the elaborate decoration, is gaining new popularity is due to two factors: The slow creation of a new identity and a form of “Ladakhiness” based on traditional values, and the realization that Westerners prefer the traditional style and cherish it. To gauge this phenomenon experimentally I showed three photographs to my respondents, one of a large housing community (Eastern Berlin), one of a contemporary housing project (Austria) and one of a house with traditional Ladakhi elements (Tibet). Whereas almost nobody wanted to live in a large housing estate, the opinions about the Western and the traditional looking housing projects were equally divided. Again, this shows that there is no clear preference on this issue among the population.



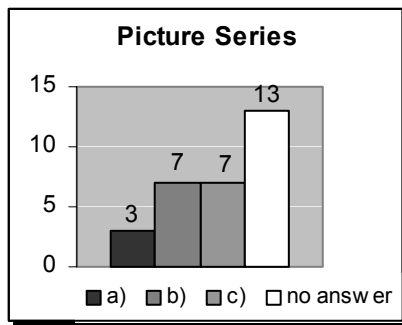
Fig. 129
a) Housing project, Berlin



Fig. 130
b) Housing project, Austria



Fig. 131
c) House in Lhasa, Tibet



Graph 18

The graph shows in absolute numbers that only three of the questioned people would like to live in a big housing project a), 7 would want to live in a modern b) and another 7 in a traditional house c).

The images used are depicted above (Fig. 129-131)

There can be no doubt that Western tourists had a great deal of influence on the appearances of new buildings in Ladakh, since the hotels and guesthouses have to a certain degree become structures of orientation. Ladakhis are aware that tourists are mainly interested in their traditions and that their architecture is an important part thereof. Thus the R&B Division went to action and drafted some building rules concerning this issue. Mr. Nazir from the R&B Division Leh explained the rules:

*Houses have to be **traditional looking**. There are very strict rules about what the windows have to look like. You have to apply the traditional wood carving. Some people do it in cement nowadays because it is cheaper. You can have a tilted roof, but from the outside it has to look like a traditional roof. Some people do a tin roof with an angle, because it does not leak, but on the edges they have to put mud so that you don't see it.*
(interview, 7th July 2000)

How "strict" these rules are applied can best be seen from the example of the government buildings themselves, which practically all have tilted tin roofs that you can see well and clearly without any protection.

The expression "houses have to be traditional looking" is key here. A similar formulation is used in the very strict building code in Buthan: "Houses have to look traditional Buthanese style" (Bruskeland Amundsen 1994, see also part I, p 75). Although, contrary to Buthan, there is no form of control about the observance of these rules in Ladakh, the intention behind them is the same: Style and looks are viewed independently from structural and functional considerations. This approach is to a large extent due to foreign interference and tourist expectations. Tourists very much appreciate the traditional look of a hotel although inside they want all kinds of Western comfort.

During my interviews and conversations with tourists the central thread was that most of them prefer to live in a traditional style guesthouse or hotel, but even more important than this are cleanliness and sufficient hygiene facilities. Yael, a young woman from Jerusalem told me that she thinks “the Ladakhi architecture should have its own style. It should be unique and different from ours.” At the same time she said that “... they shouldn’t change them (the houses) outside, but inside they need more comfort now” (*interview*, 1st Aug. 2000). Mr. Nazir from the R&B Division seemed to be very proud that Ladakhi building rules are so advanced that water toilets are prescribed as mandatory for guesthouses and hotels.

No doubt, everything connected to guesthouses seems advanced and desirable for the local population. For example, water toilets now can be found in the houses of well-to-do Ladakhi families, although they don’t have sufficient septic tanks, are lacking water, freeze in winter and are not at all practical for the region. Hotels even get loans to decorate their houses and paint the interior with ornaments that are not common anymore in any regular Ladakhi building. Thus the Ladakhi style is artificially reproduced and sometimes even newly created for tourist structures and in the advertisements for hotels one can read such paradox slogans: “Live in new traditional Ladakhi architecture!”

There is a certain conflict of what tourists are seeking in Ladakh, which is mainly the traditional, and what Ladakhis are looking for, which is everything that is Western and thus seen as new and advanced. However, since guest houses do have higher standards and at the same time try to look traditional, the traditional element gains more importance among Ladakhis themselves again.

Copying the West

One of the most desired motives for posters that I found hanging in many houses in the Housing Colony, apparently imported from other parts of India in large quantities were images of Western mansions. Big mansions out of masonry or wood seem to summarize the ultimate dream of a better life with slogans written underneath: „With the help of god you can reach everything!”



Fig. 132, 133
Posters of Western style mansions as they are common in Ladakhi houses

This is only one example of how the West is seen in a dream-like, idealized way. What does 12-year-old Lobzang know about the West? “There is Santa Clause – he knows magic!” These are bits and pieces from a different world that Ladakhis like to accumulate in a way that results in a very wrong impression of the way of life in the West. Western implications that can be found in Ladakhi houses are usually not functional but mainly decorative elements used to express progress and fashion. Some Western chairs, Mickey Mouse, greeting cards – very often these things are accumulated around the TV-set, thus creating something like the “fashionable corner”.

In many respects people have completely false assumptions of the average Western lifestyle and of Western housing. Since concrete is seen as an imported and advanced material that comes from the West it is considered to be good. For most Ladakhis it is astonishing to hear that in the West concrete is seen as a very inferior material to build houses with, since it is cheap and not of high quality for housing. To hear that a so-called “eco-house” built out of mud is much more expensive and desirable for most people in the West is something quite unbelievable for Ladakhis. To put things like these straight and to clarify false assumptions could already be a big step in the right direction.

The desire to copy Western habits derives from the feeling of inferiority that can strongly be recognized, especially among young people. If you come to their house they apologize that you, as a Westerner, have to sit on the floor and when I moved to the Housing Colony people seemed to be very astonished, warning me that there would be no standards, no bathrooms and no Western style toilets. Of course, like in every society, there is a natural desire for progress and only few Ladakhis so far have recognized that abrupt change that takes place over night can make things worse. I have heard tourists say that the situation in Ladakh seemed to them like the situation in the West 100 years ago. I do not agree with this, since what happens in Ladakh today is much more of an intrusion than natural development. Big changes, that needed at least one century to develop in the Western world, were brought to Ladakh within a few

decades and have, in turn, created hundreds of new desires. The *goncha* was the only everyday dress for centuries, now there are hundreds of different gowns to choose from. The Ladakhi way of building had its very distinctive features passed on from generation to generation, and suddenly there seems to be an unlimited number of styles, building materials and techniques. Whereas most things were self-evident for a long time, now people have to decide consciously. The result is a strange and sometimes curious mixture of style elements. While the main body of a building in its shape and volume still very much resembles the old Ladakhi farm house, elements that were not common before - like balustrades for balconies, fences, iron grids in front of windows, lighting devices etc. - are clearly added without any attention to integrating them. Other elements are transformations of traditional features, like the windows which have become much larger but still use the old decorative elements – although sometimes made out of concrete instead of wood. The roof, too, often still looks the same from the outside, although it is sloped and covered with corrugated iron sheets but encircled by a traditional attic. Other characteristic building elements are simply faked as they don't have their original function anymore but are now solely decorative elements, like the thick row of *yagtses*, bushes that were placed underneath the roof and darkened with soot at the edges. Since *yagtses* are scarce, this element is now copied by applying dark paint or tar which is cheap and readily available. In most cases one cannot really speak of progress but rather of a strange accumulation of different components.

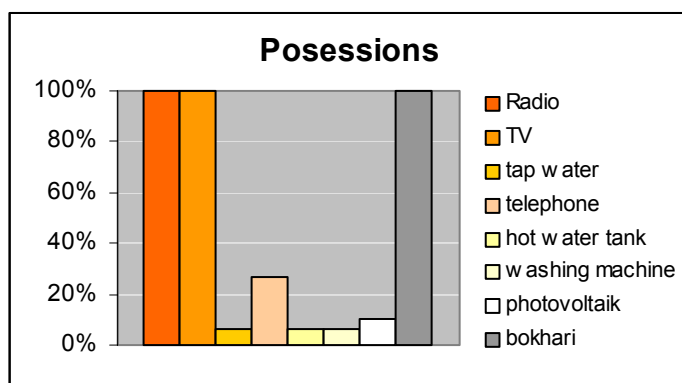


Fig 134, 135 _____
Western influences on
Ladakhi houses

There are some possessions - such as radios, TV-sets and a *bokhari* for heating - that are almost obligatory for practically every household, even in the Housing Colony. Telephone connections are still rare in the Housing Colony and luxuries like tap water, a hot water tank, a washing machine or even a photovoltaic panel for a more reliable electricity supply are limited to the households of the more advanced Murtsey Colony. Hot water tanks consist of black plastic barrels that are placed on the flat roof and are heated by the sun, and the tap water and water for the washing machine is also drawn from such tanks. For the filling of these tanks water has to be lifted up in large canes

whereas for some privileged families with good connections a government tanker directly fills up the tanks every few days.

Graph 19
It is striking that all households questioned were equipped with a TV set, a radio, and a bokhari, whereas tap water and other basic infrastructure is still not available for the majority.



Graph 19 shows that a washing machine is among the most desired features, besides tap water, which seems somewhat paradoxical in areas with such a scarcity of water. However, it is more understandable if one considers that washing clothes is one of the hardest work that women in the Housing Colony have to do. There is never enough water and usually the women, carrying big bags of washing, take the bus to nearby villages like Choglamsar or Shey to wash their clothes in the Indus. Thus, doing the laundry is about a day of hard work. A washing machine that cleans clothes without any manual effort therefore is something very desirable, although people are aware that with the scarcity of water it would not be of much help. It is also interesting that nobody found it necessary to possess a shower. Indeed the term “shower” was not even known in most cases or could not be sufficiently translated. Needless to say that a shower would mean a tremendous waste of already very scarce water resources as well.

Of course there are houses in Leh that have all that and where families live at the same standards like tourists in their guest houses. But there are no such households in the Housing Colony. The Murtsey Colony is somewhat advanced since mainly government employees with relatively high wages who live there, but the really privileged families have their houses in the green and fertile areas around the center of Leh. When I lived for two weeks with Dr. Sonam Dawa’s family it was pure luxury compared to the situation in the Housing Colonies. There were three Western style bathrooms in the house covered with tiles and equipped with a flush toilet and shower – although these facilities often did not work since the roof storage tank was empty. Regarding the furniture there were tables, chairs and sofas and sitting on the floor was not common anymore. There

were regular beds and wooden cupboards brought to Ladakh from Kashmir. The *chod khang* and the guest room were the only two rooms that indicated that this house was in Ladakh. The outside impression, too, had some resemblance with a traditional Ladakhi house.



Fig. 136, 137 —
Dr. Sonam
Dawa's house

Voilà – here we have a Ladakhi living in what the people from the Housing Colony dream of. Dr. Dawa's house is, in fact, very characteristic of how Ladakhis, who can afford to buy everything they can get there, prefer to live. Nevertheless such an example would by no means be a solution for the overall improvement of the housing situation since the principal problems are not solved: the scarcity of water, the low overall quality of building without any insulation, the lack of a proper heating device - the house is heated with several *bokharis* and during the coldest winter months the family moves to Delhi - the use of far too much wood, which could never be provided for a majority of households, the freezing of the bathroom facilities in winter etc. All in all everything advanced in this house amounts to little more than window-dressing, it is not a gain of real quality.

But a planner must have these desires in mind. Why are things copied? Why must everything be Western, with or without an improvement in quality? It is mainly a matter of prestige and status and these are facts that a planner should never neglect in his planning if he/she wants to gain acceptance.

Away from Shelter towards Style

The house has become more and more a surface for the expression of individuality, fashion and style. The house therefore has no longer the single function of providing shelter, it is no longer just a container for people and goods but it is much more a quintessential means for expressing social status and wealth. This is getting more pronounced now that the economic situation varies increasingly with some having much

more than others, which becomes especially obvious in Leh. Hierarchical structures always played an important role in Ladakhi society, but in the past the upper class was limited to the royals, a few aristocratic families and the monastic communities. The large majority, especially in the villages, was economically at an equal level of subsistence agriculture. This has changed drastically, which is of course also expressed in built structures, and the expectations people have in architecture are much more diverse today.

First of all everybody now wants an own house. In Leh it is not common anymore to live together in one household as a large extended family. With the repudiation of the age-old polyandry system by the younger generation, the division of land between brothers came into practice. It is now common for the younger generation to move out and build their own houses on the land they inherit.¹⁹

The progressiveness and quality of a house is measured much more by its optical qualities than by its comfort of living. Although nobody I questioned liked to live in the government housing quarters, Sonam Dolma, one of the residents there, said about the structure she lived in: „I think it is advanced. This house has optical quality, it looks good, it is more impressive. But the village house was much better for health” (*interview*, 12th July 2000). Mr. Esak put it very frankly: “In past times people focused on the quality. Nowadays people don’t care about the quality of the wall anymore. All they are caring about is the finishing. The finishing must be even and nice-looking. What’s underneath is not so important anymore. And the masons know this too” (*interview*, 30th June 2000). Mud is cheap, but concrete is more desirable since it is fashionable. The corners are sharper and the surface is smoother, something that could never be achieved with mud. To be in high demand a product has to be scarce, therefore imported and more expensive. Wood, for example, is an extremely desired product in Leh, where it is much harder to get than in the villages. Wooden floors or panels for walls and ceilings and wooden furniture are in high demand and often wood is faked by synthetic materials with wooden patterns on them.

¹⁹ James Crowden states that he had observed at least one instance where the *khang-chung* was larger and more modern than the *khang chen*. The father who was a teacher and village elder in Padum, instead of going to a smaller house, had in fact built himself a large new house in one of his fields, much to the consternation of his son who had “inherited” the old but still substantial town house. His father would not let him alter or extend the old house because he said it would upset the *lha* (Crowden 1997: 60).

To Ladakhis this does not matter much, since these materials also have to be imported and are of similar value to them.

Some people have refrigerators although they are of little help due to the unstable electricity supply. People have water toilets although they would rather need a second Ladakhi toilet as most of the year the water toilet does not work. People have Western style kitchen blocks although women still sit on the floor when cutting the vegetables. Why do people buy a *tabs* (metal stove) for thousands of rupees that they then never use, whereas on the other hand they are freezing the whole winter since they cannot afford enough fuel for their *bokhari*? Why not invest this money into better construction and insulation which provides much more comfort over years? Because it is a matter of prestige and showing status.

The problem is, that some of these prestigious features work against the quality of Ladakhi homes, since the basic logic, which is naturally and rationally determined, can be disturbed. It does not make sense to use concrete and glass for the price of quality and comfort. Mr. Konchok, for example, knows about the advantages of glass surfaces if used in the right way, since he has long worked for LEDeG: "... during the day we often do not use the *bokhari*. We have very big south-facing windows and when it is sunny it gets very warm in the room during the day" (*interview*, 10th July 2000). However, even in his house the *shell khang*, the fully glazed sun room, is placed towards the northern "show-off-facade" and the room is very big, cold and only used at special festival times like *lozar*.

Practically every house that considers itself a little more advanced has such a guest room which has the best rugs, pillows and tables and is kept very tidy and clean. The sheer existence of so much space for the guestroom, which is rarely ever used, indicates the importance of presenting oneself to neighbors and friends. At the same time it is essential to see that it is not just a matter of showing off, but also a matter of respect for the guest. As respected and high guests it often happens to foreigners that they visit a Ladakhi home where they are seated somewhere in a huge guestroom and then left on their own for half an hour or more, while the host prepares tea in the kitchen. Then they wait for another half an hour until the host comes up with some delicacy to eat. In this case showing respect to the guest comes before talking and entertainment.

It is also a matter of status to have a big house with at least two stories. Traditional Ladakhi farm houses used to be big since the stables and several storerooms were integrated into the structure. In a house in Leh all this is not needed anymore but still the number of rooms is amazing. It is fashionable that every family member has an own room, although everybody still gathers in the kitchen and most of the time also sleeps there. Mr. Namgyal put it this way: "We built one room after the other. Now after 12 years it is time to build a second story. But I also still want to extend the ground floor. You see, here will be a new room." Upon my question, what function this room would have, the answer was: "I do not know yet. But it will be a nice, quite big room" (*interview*, 25th June 2000).

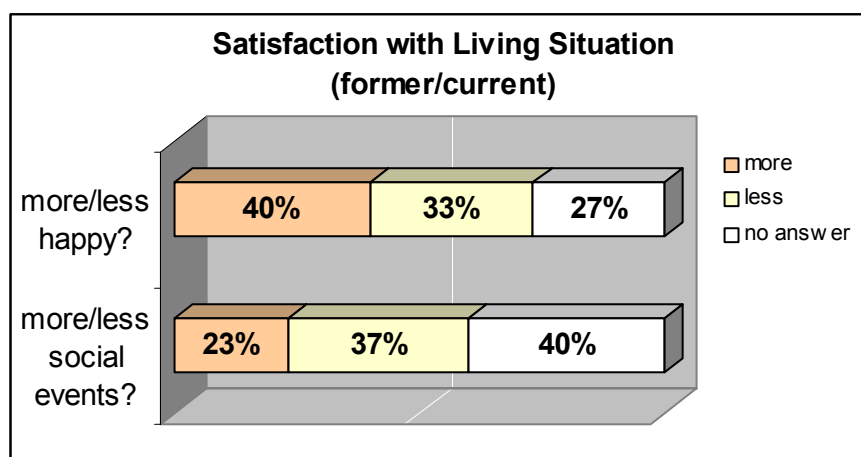
Prestige and status are the key features – qualitative improvements will only be possible if the opportunity to express status is kept up. It is a matter of how to raise comfort and status at the same time. It does not make sense to fight such habits – otherwise there is no room for real progress. But this is in fact what most outside planners ignore.

People are only willing to spend money and efforts on improvements if they can be seen and admired by their neighbors. It is a big challenge for planners from Western countries, who are of course also confronted with the matter of prestige, but more than this, with quality. The misunderstanding of the role of status in regions like Ladakh has often lead to unaccepted and unsuccessful project implementations - mistakes that have been repeated again and again. I consider this fact as a challenge but also a chance for future plannings. Can the profound improvement of housing quality and the desire to express status be combined? Of course, it is easier to enlarge the house by just adding some rooms than to upgrade it in terms of quality. This would require a know-how that is not easily available. But if there were potential to spread such know-how and come up with some progressive ideas that leave room for individuality, people would be more than ready to deal with them.

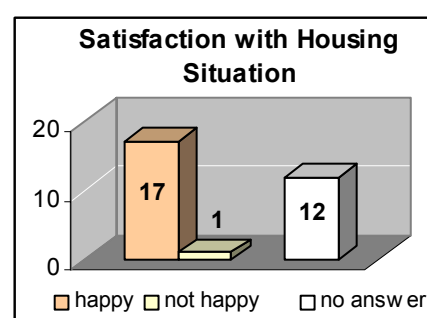
General Satisfaction with the Housing Situation

The general agreement among the people questioned was that they were rather more happy living in Leh than in the village, and it was surprising that even the people in the Housing Colony seemed to be very satisfied with their housing situation.

Graph 20
Most people in the colonies are more happy with their new living situation compared with the one in the village. However, the social life is not so intensive any-more.



Graph 21
Most people say that they are happy with their housing situation in the colonies



These findings might be surprising for us since we tend to compare Ladakhi living standards with our own in the West, whereas the Ladakhis living in the Housing Colony compare them to the standards they had in the village. Especially women stated that they were more happy in the town, which is mainly based on the fact that the work burden they were loaded with in the villages was much higher.

The inhabitants of the Housing Colony agreed on the major disadvantages which were the lack of green areas and water and the dusty surroundings. Out of this hardship some social activities have developed that are very new but much loved among the population: e.g. going for picnic! On Sundays in summertime many families cook rice and vegetables, store it in tin boxes and take the bus to the green areas of the lower Indus valley to sit under a tree at the water and cherish the greenery.

Although most people pointed out their good relations to their neighbors many said that the social life was much more planned now. In the village one family had been visiting another in the evening, they had taken turns, there had been lots of food, tea and *chang*. In the Colony everything is more formal and many people are away for work

during the day. Some women were very happy that we visited them and they confessed that they were sometimes lonely being at home on their own in a big house. However, when asked directly they said that there were lots of festivals going on and that the neighborhood was very good in this respect. During the interviews I had the feeling that my respondents hesitated to complain about anything. To a certain extent this might have been due to a general wish to impress foreigners, but to a larger extent it was also true that living in the town and having a job was considered as something very desirable giving people the feeling that they had no right to complain.

It usually takes more than an interview to get an insight into the many negative sides of living in town. It took me a long time to discover the reasons why the reputation of the Housing Colony was exceptionally bad among other colonies. The Housing Colony is known for people who sell *chang* and different kinds of hard liquor illegally in their houses and often a group gets drunk and starts fighting afterwards. Alcohol is even more of a problem than in the West, since both Muslim and Buddhist households officially rather object to it. These are things that people normally do not talk about but that the majority is very unhappy with.

Summary of Results and Design Recommendations _____

Even if you know, it's better to ask another.

(Ladakhi saying quoted in Norberg-Hodge 1991: 110)

My stay in Ladakh was an experiment. And although a lot of information and new knowledge was accumulated, there is no guarantee that planning based on this information will actually achieve better results. However, the prerequisites are much better, the chances to succeed have become higher. I am deeply convinced that if architects and planners are ready to really talk to the people and deal with the planning environment – if only for a short period of time – basic mistakes can most likely be avoided. It is a responsibility that every architect, planner or engineer should be willing to deal with.

The intention of this work is not primarily to present the results of the field study in Ladakh, it is above all the development and testing of a methodological approach for conducting such a study. It is an approach that will easily be applicable in slightly modified forms in the most diverse cases of building projects, especially in developing regions. Principally the approach will be the same although it will always have to be adapted according to the regional situation.

Whereas the methodological approach and its implementation has been described on detail in the previous pages, in this chapter I will summarize the actual output of the anthropological pre-design study together with some of the basic recommendations for the approach of the design process, especially for the “Solar Town” project. It is a short overview for planners of different NGOs, architects, governmental departments etc. about the most sensitive issues they have to work with when being confronted with the building project. This summary together with detailed background information, will actually be distributed to different people involved in planning work in Ladakh.

In addition to all the design- and planning related questions, I would like to point out that it is primarily important to realize the following: When dealing with the integration of study results into the planning process the architect/planner practically always faces the problem that the expectations of the people often do not correlate with what the planner himself considers as the best solution. Already the researcher who is collecting the basic data always has to be aware that s/he is still in the position of a neutral out-

sider. Once getting a feeling for people's needs, wants and desires, their requirements should be respected as they are and suggestions for improvement should stay within certain limits. After all - architects and planners create buildings, not societies.

Guidelines for planners

Living and Working habits

- Ladakhis like living in their own house. Staying in multi-family units is considered as an inferior form of living. On the one hand, Ladakhis are not used to any form of social organization that is required in such a house. On the other hand, the house is an extremely important means of identification and expressing one's status. Thus it is important to avoid monotonous multi-story buildings. If dense housing arrangements are required, it must be taken care that people can express their individuality thus that e.g. even in cluster-housing a living space is clearly defined as one unit and can be related to one family.
- Planning, building – finished ... this is not the way Ladakhis approach a building task. Building is a process. Usually there is no planning and no finishing. The planner coming from outside has to make sure that the building concept s/he suggests can endure a variety of alterations without being destroyed. Nothing will be built as it is planned – thus it takes a very strong idea that guarantees a certain quality in spite of that. This is a special concern in low energy concepts, since passive building strategies only work well if carefully planned and if every feature is implemented with precision, since the system only works as an integrated unit. There are already many examples of passive buildings that do not work and thus destroy the belief of the people in alternative energy sources. Here it is especially important to seek new, more direct, maybe rather active solar components to improve the situation.
- It is essential that planners do face the facts, although they are sometimes not that attractive, and work with them. It does not make sense to assume that in the future, circumstances will be any better. For example: in Leh and almost every colony around there are wastelands where building is forbidden since they have been declared "green areas" or parks. In fact they are never more than dry and dusty areas that soon turn into garbage grounds and thus are dangerous playgrounds for children. It does not make sense to hope that one

day these areas will be irrigated and become parks – it will most likely never happen. This is not an argument against free spaces which are of course very important. But the planner has to face the prospect that these will be dry areas and that they need a different approach in order to make them attractive for the people. A well designed sports field or play ground does not necessarily need greenery.

- It is also a fact that the ability of craftsmen to work with traditional construction methods has been almost completely lost. Thus the planner cannot count on the functioning of traditional building methods anymore. On the other hand building with materials like concrete or corrugated iron is still quite new and laborers are not sufficiently trained in using them properly. The planner also has to consider that most laborers work with the least effort possible, thus one must base planning decisions on the assumption that during the implementation phase the quality of work will be very low. This is a basic fact that should not be ignored by the planner and while training projects give hope of raising these standards it is nothing a planner should rely on. Instead s/he should work with the given circumstances already in the planning process and avoid materials or construction methods where very careful and exact working methods are an absolute necessity. To give an example: The use of advanced brick formats with split and rabbet could help to prevent the big vertical air gaps between the bricks that derive from slipshod working and not using mortar for the vertical joints. There are many more such possibilities.
- Traditionally Ladakhis had a strong tendency to recycle their goods so that almost no waste was created. However, a lot of new waste has flooded the country over the last decades and people do not yet know how to deal with it. There are many elements, like newspapers, plastic bottles etc. that could be used as valuable insulation materials in an area where other materials are hard to get. In addition byproducts from traditional crafts, like sawdust, which is usually burned, can be used for such purposes. Working with the old habit of recycling can thus be a beneficial process for the planner in many ways.
- It does not make sense to establish complex rules or bylaws. The people in Ladakh are not used to follow common rules other than the ones that grew out of their own village structure and are related to the basic necessities of survival.

This is even more true for the observation of rules that are decreed from outside and can hardly be controlled.

- With the changes in building habits Ladakhis are no longer prepared to put a lot of effort into renovation work – thus more permanent solutions are aspired.

Rites, Myths and More

- Ladakhi cultural traditions and religious beliefs still have strong influences on the way of building and should by no means be neglected. Although building rules deriving from these traditions are not strictly followed anymore by younger people, they still have much influence on the acceptance of a building project. These could e.g. be issues of orientation, like to avoid placing doors to the south of a building, or to place the *chod khang* on top of a building. Other examples are the avoidance of a regular number of beams, or to avoid rooms that are completely square etc.
- Already in the planning phase it has to be thought of that the necessary religious rituals connected with the building process can be performed in an appropriate way.
- For the planner cultural and religious ties can be picked up as a challenge to gain broad acceptance for new ideas. One example: Water-driven prayer wheels, *chukhor mani*, are much liked by the people. Why not use e.g. solar panels to turn the prayer wheels like a perpetuum mobile if water is not available – such a simple measure could raise the principal acceptance for solar energy a lot.

Prestige und Status

- Prestige and status are parameters that are omnipresent in Ladakh. They do not always contribute to an overall improvement in construction, but they are there and should not be ignored. Therefore a planner should aspire to improve those parts of the house that have a high prestigious value, since adequate implementation and acceptance is much easier to achieve.
- Contemporary building elements and materials are considered as “modern” and thus as very desirable means to signal progress. A planner therefore has to find

the right balance of keeping in line with building traditions that are deeply rooted in the way of life and the spatial use of the house, and at the same time allowing for new elements. It is essential to make sure that these new features are a real improvement of quality and not just for showing off.

- The size of the house, especially the additional second floor, is one of the most important expressions of social status. Since the completion of the building is usually a process of many years, more emphasis should be put on quality before quantity. This means that the planner should take care that one part of the house is, for example, built very solid, insulated, with good quality windows etc. before the next step of enlargement of the house is taken. For a long time people did not know and did not have the possibilities to improve their buildings qualitatively, so the only improvement in their opinion was enlargement. This is different now, and the emphasis on quality could also lead to a more efficient use of rooms. A house owner will always have the desire to have a large guest room – it does not make sense to work against that. However, it does not have to be the case that such a guest room is only used three or four times a year, but it could be much more integrated into the living quarters. To summarize what I want to express: The size of the house should not be questioned, and neither should the the system of the summer and winter kitchen be repudiated. But if people still want to use summer and winter kitchens they should be thermally optimized, so that they are not used just out of habit, while in fact they are a waste of space. There are many possibilities for improvement without interfering into basic structures.
- Adding another storey comes before enlargement. Experience and computer simulations have shown that thermally it is much more advantageous to add a second story to a building before starting to extend the ground floor. In Ladakh it is an unwritten law that a house that deserves to be called a house has to have two stories. However, usually the ground floor is completely finished before the second floor is added. This leads to a great loss of heat and it also damages the ceiling structure which is not designed as a roof. A planner should therefore suggest systems where the second floor is added first. This means that a small part of the ground floor is built, a second story is added, the next part of the ground floor is built, and so on. It could be very desirable for Ladak-

Ladakhis to have a second floor already after one or two years already, and qualitatively it would definitively be better.

- Rooms like a separate kitchen or a bath room are little more than status symbols today – here it would be easy to make a start with improvements.
- Passive solar features can be of great use but they are tricky, since they only work if planned well and implemented in the right way. The bigger problem is that most often they cannot be seen (e.g. insulation), which means that they cost money but do not contribute to demonstrate status. Therefore, active solar elements like photovoltaic panels or collectors are easier to implement since they are visible from the outside and their benefits can be felt more directly.
- The *shell khang* or glass room is a room of high prestige and practically every household wants to have one. It is a great opportunity for NGOs to support such desired elements but at the same time they have to make sure that such systems are optimized to really raise the quality of rooms especially regarding their thermal potential.

Summarizing the last few points made, I consider it as extremely important that people can express status in different ways. The easiest way to implement elements of improvement is if they are seen as a possibility to express status. If this is the case, cost is also not the main factor. If it is an object of prestige, people are willing to spend money on it. On the other hand almost nobody is prepared to spend money on comfort alone, if it cannot be seen.

Considerations for Implementation

A lot has already been planned for Ladakh and hundreds of valuable ideas have been developed. But the “moment of truth” comes at the time of implementation. The most elaborate planning does not do any good if it is clear, that it can never be implemented in this way. Therefore the chaotic, and most of the time uncoordinated, conditions during the building process already have to be taken into account in the course of a far-sighted planning process. A building project must be prepared to allow many errors and things going wrong without being conceptually destroyed. Accompanying lectures and

seminars for laborers and future home owners alike are, of course, essential and their careful and appropriate preparation is a separate and extremely important issue.

The planner of a building project has to bear in mind two very important issues for a successful implementation: a) The advantage of new suggestions has to be felt in a most direct way in order to be accepted (e.g. the temperature in a solar heated home has to be much higher in order to directly experience the difference) and b) the new feature must be seen by others and therefore have the potential to become an object of prestige. This means that the far-sighted planner has to think about the implementation and the acceptance among the people. It does not make sense to develop systems that are not likely to achieve any broad acceptance from the start.

Exemplary Application of Study Results

The usefulness of the field study could partly be tested in the course of a student-design project that was carried out at the Institute for the History of Architecture and Building Survey and the Institute for Building Physics at the Technical University of Vienna in cooperation with the Department of Ethnology, Cultural- and Social Anthropology at the University of Vienna (Summer term 2001). I say partly, because the analyzing and evaluation process of the field study had not yet been finished when the design project was under way and the insights gained could only be passed on in a relatively raw and unreflected manner. But it was still very clear that already at this early stage such information was most necessary for the students in order to obtain a few guidelines for the approach of their difficult task. I would like to mention this here, since the difficulties the students had to deal with clearly reflect the difficulties of every planner engaged in a project of this kind.

The student project also underlines some of the demands that I made in the theoretical part of this thesis. Since we are acting in a global network it is now overdue that a thorough education in planning puts two relevant issues on the agenda: transnationality and interdisciplinarity. Both can hardly yet be found on the architectural curriculum. In our student design project we tried to integrate these subjects by working together with anthropologists and by placing the design task into a culturally unknown terrain. It became immediately obvious that it was necessary to view the design issues under a wider perspective and that we had to go back to basic questions of architecture rather than to deal with details such as the material of a window frame or the width of a wall.

The range of experiences made was manifold. We organized a two-weeks-excursion to Ladakh in April 2001 in order to allow the students to at least get an impression of the situation there. 17 architecture students and 3 anthropology students participated. The students were confronted with exactly the same situation that many development workers have to deal with: a lack of time to talk to people, ask questions and get a real feeling for the situation.

In their designs it was not possible for the students to deal with every single one of the subjects that would create good contemporary living in Ladakh – but many ideas are reflected in very different project approaches and in combination the results are promising. Here are some exemplary features that express the anthropological influence upon the design decisions:

- Most students recognized the potential of the sun window as a desired element of every Ladakhi house, they tried to offer new solutions for the *shell khang* and optimized it through computer simulation.
- Profound solutions were offered for “building in phases” rather than designing a complete structure.
- The fact was acknowledged that building laborers in Ladakh do not work in a very careful but rather in a loose and improvising way. Thus, for example, new forms of grooved and perforated bricks were developed that would automatically reduce the risk of poor construction habits. A good example where already during the planning process the planners had the danger of sloppy implementation in mind.
- Most design projects were very oriented on the traditional way of building but at the same time were brave enough to introduce new elements where they made sense. New elements were mainly used in situations where they offered a real improvement, while at the same time the students did not try to hide them but pointed them out as the key elements, e.g. a corrugated iron roof that was clearly visible on one facade of the building was introduced to collect rain water.
- Since the students measured some traditional Ladakhi farm houses during their time in Ladakh, the spatial orientation of many designs was very much based

on this experience. However, progress was achieved where necessary, e.g. when winter- and summer kitchens were introduced, students tried to optimize them thermally for their use in the specific season.

There would be many more interesting observations like these, but the few exemplary statements should be enough to indicate that the students could make efficient use out of the anthropological observations they had been provided with and that it was a valuable base to work with. It was clear that the information given had improved their designs and had guided them to avoid the most basic mistakes.

Student Projects (Models):



Fig. 139
Josef Zierhöld, Christian Lindner: Solar School

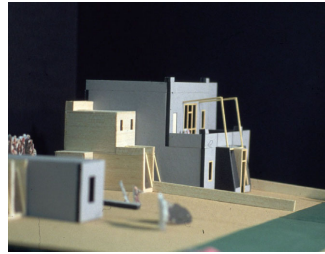


Fig. 140
Patrick Rosenberger, Norbert Scheerer: Row Houses



Fig. 141
Andreas Berthold: Children's Hostel

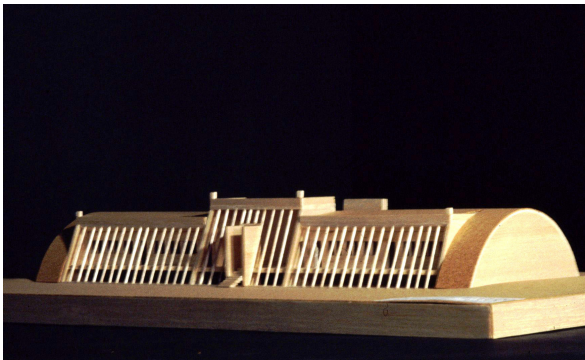


Fig. 142
Eugen Korotwiczka, Gottfried Baumgartner: Solar School

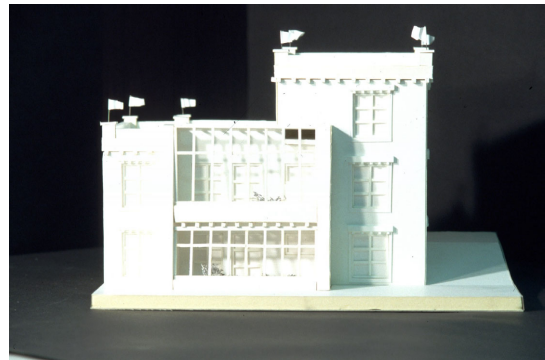






Fig. 143
Maria Karner: Residential Home

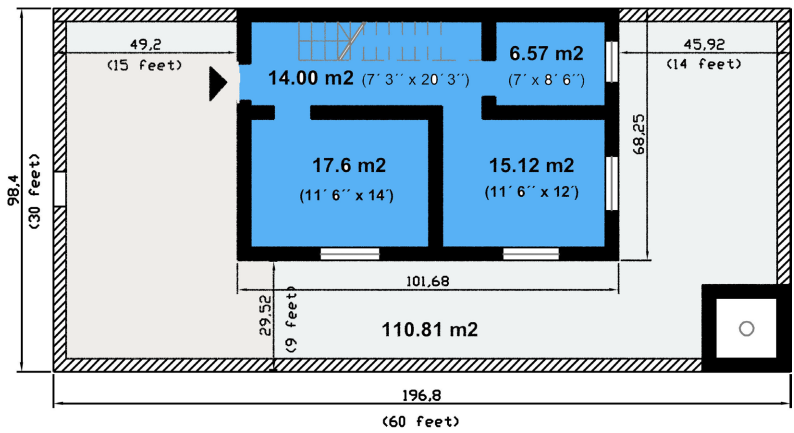
Fig 138 _____

-  Houses in the Housing Colony
-  Government Houses: PWD-Colony, Radio Colony, Postal Colony
-  Houses in the Murtsey Colony
-  Houses in the green and fertile areas of Leh

M = 1 : 200

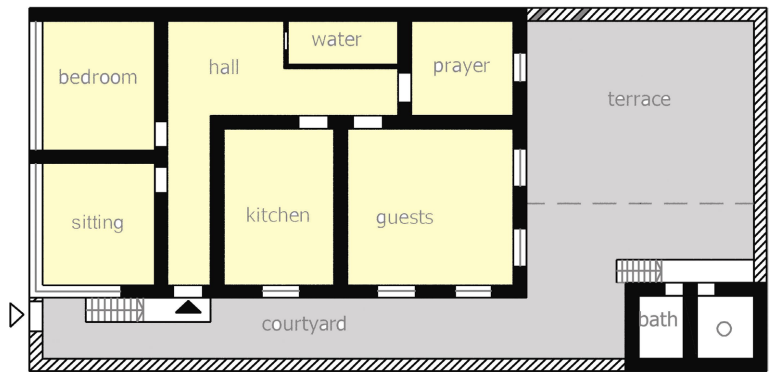


standard house
(government plan)

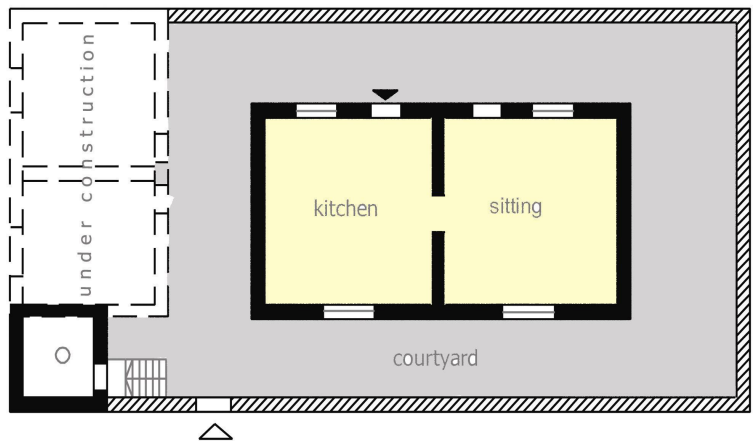


1st floor (48.4 m2)
(2nd floor = same)

house 1

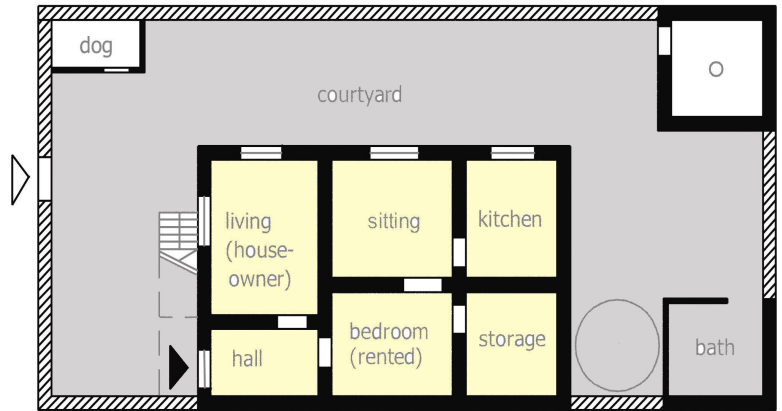


house 2

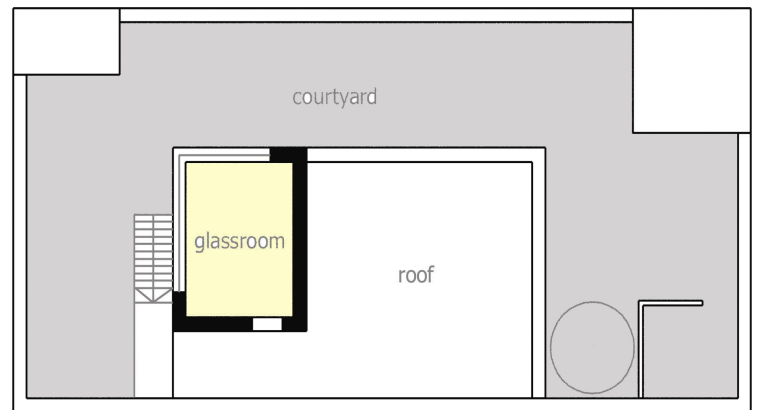




house 3



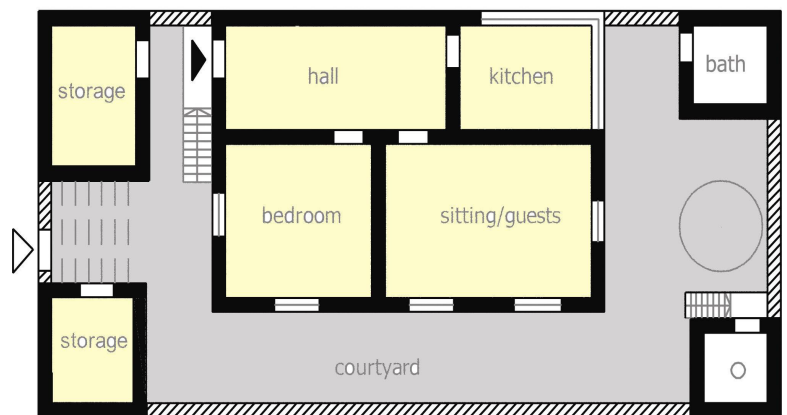
1st floor



2nd floor

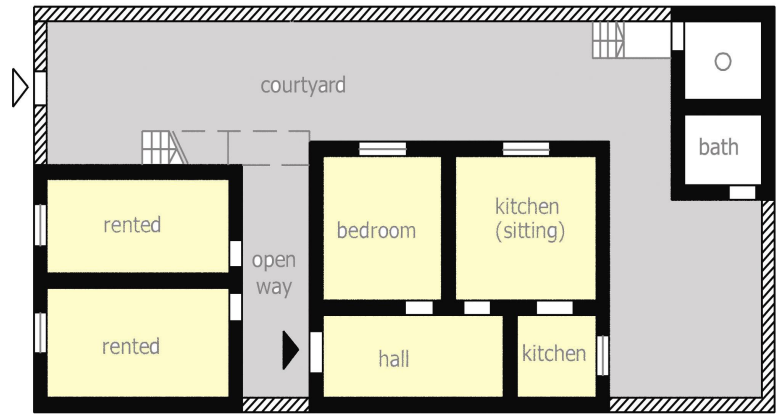


house 4

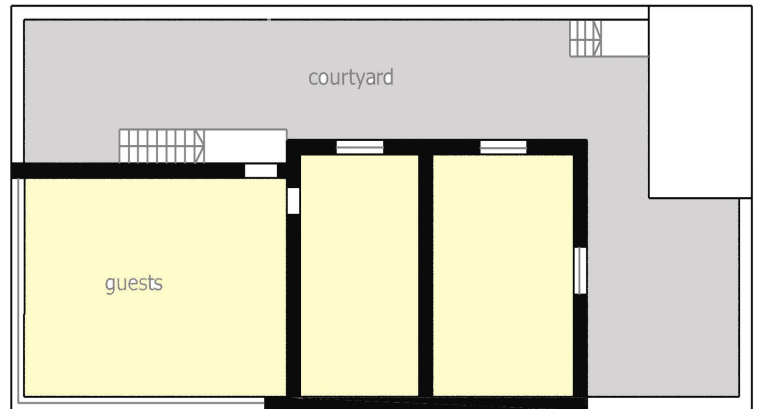




house 5

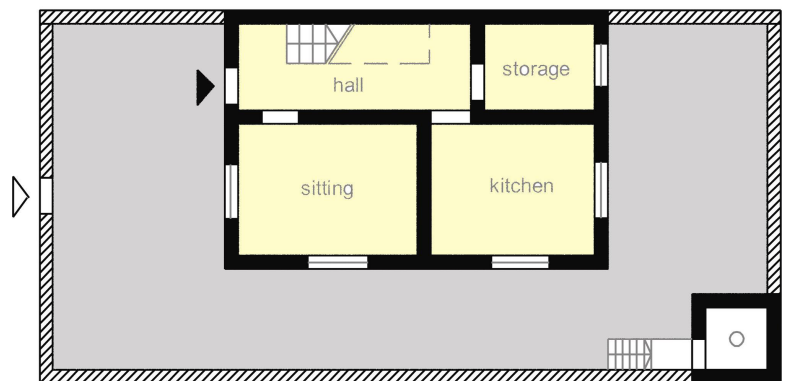


1st floor



2nd floor

house 6

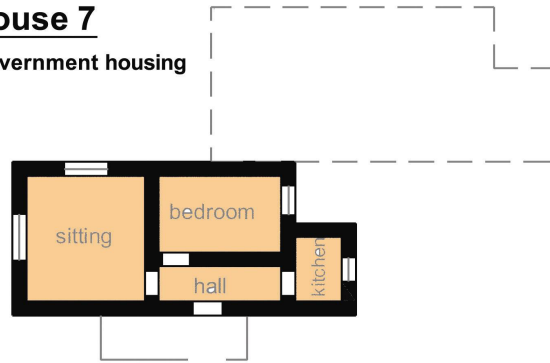


1st floor

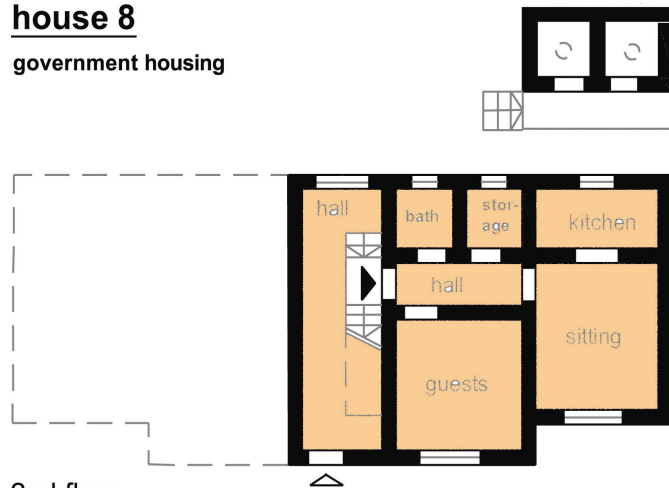
(2nd floor not seen)



house 7
government housing

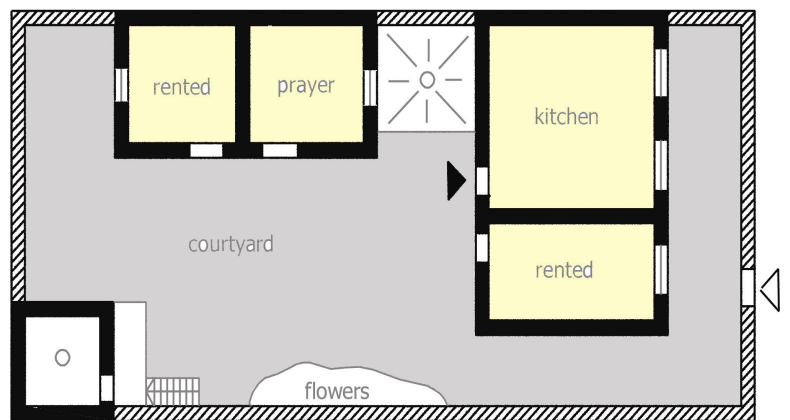


house 8
government housing

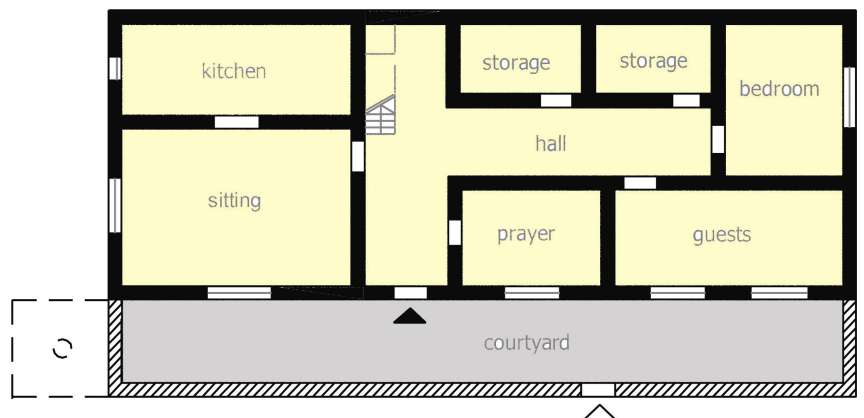


2nd floor

house 9



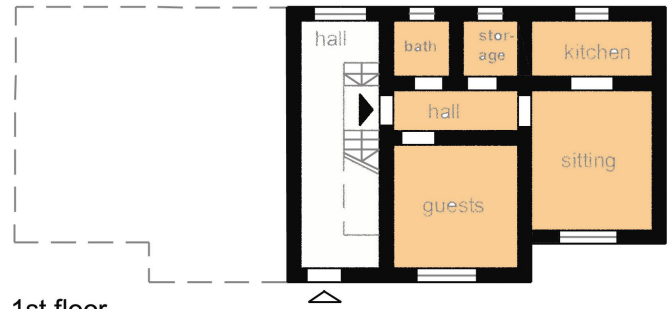
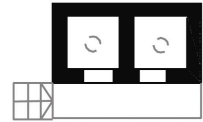
house 10



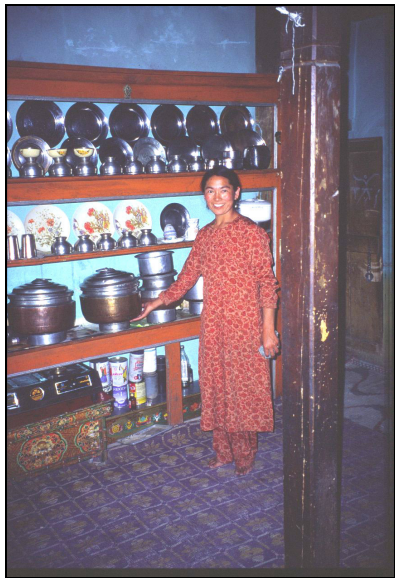


house 12

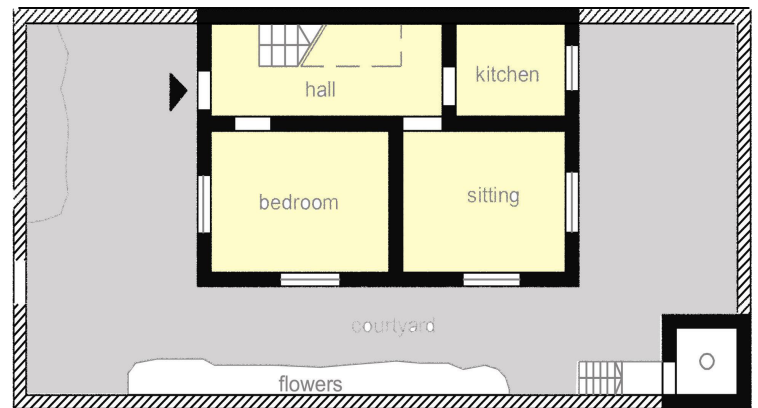
government housing



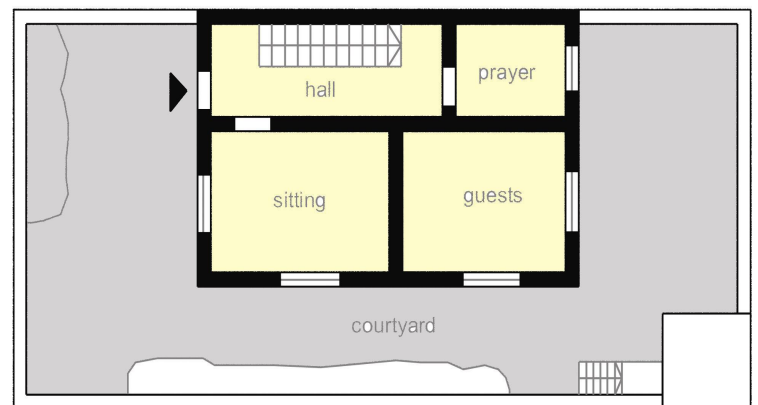
1st floor



house 13



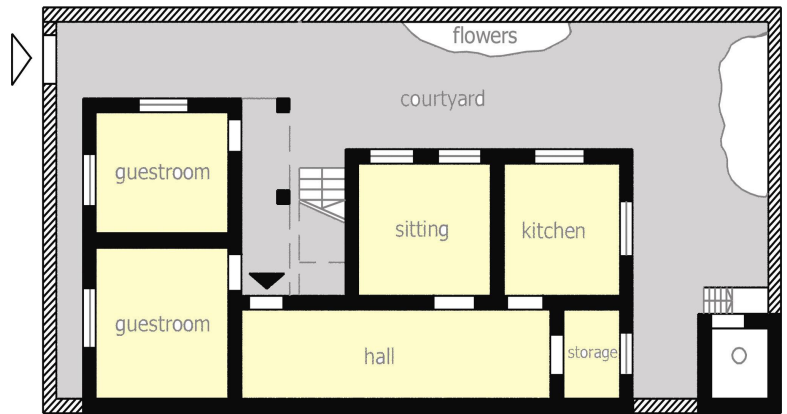
1st floor



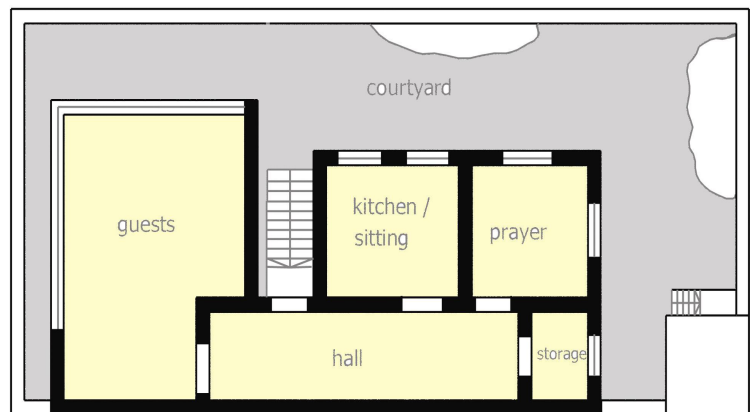
2nd floor



house 14



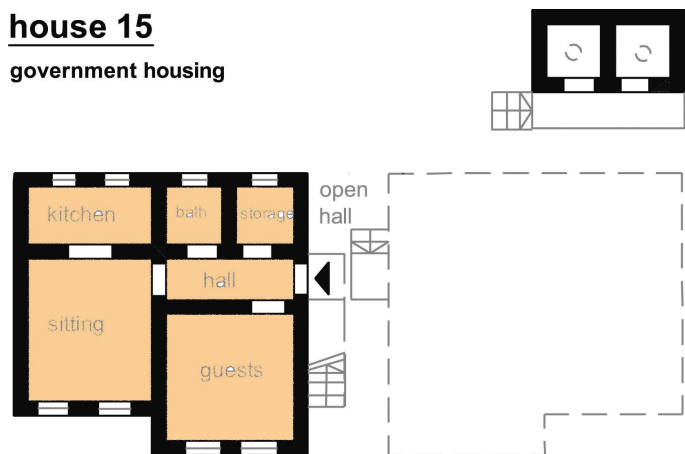
1st floor



2nd floor

house 15

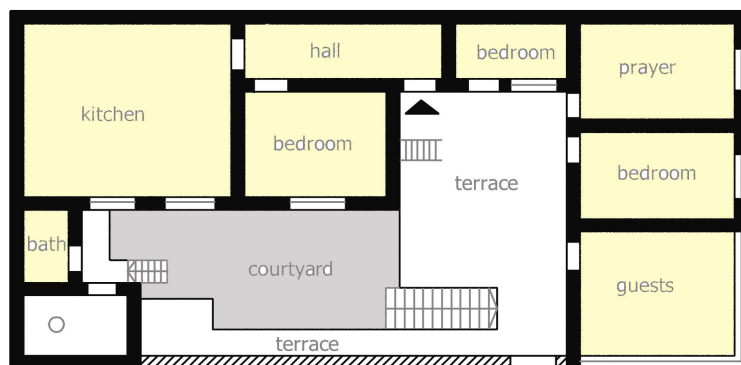
government housing



1st floor

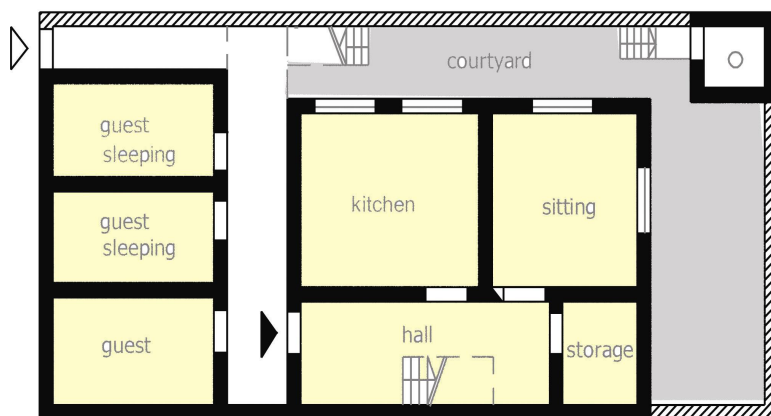
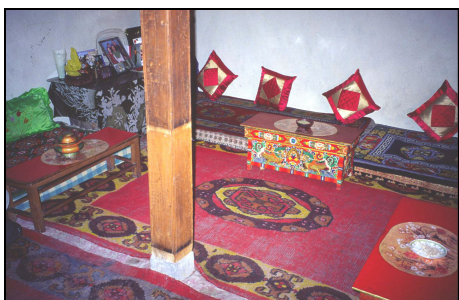


house 16

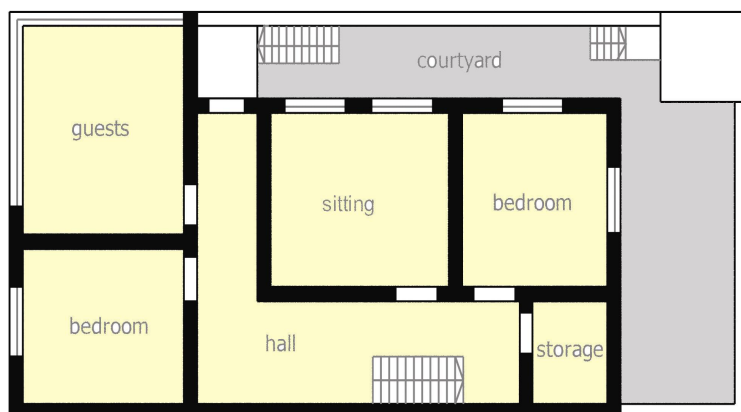


2nd floor
(1st floor not seen)

house 17



1st floor

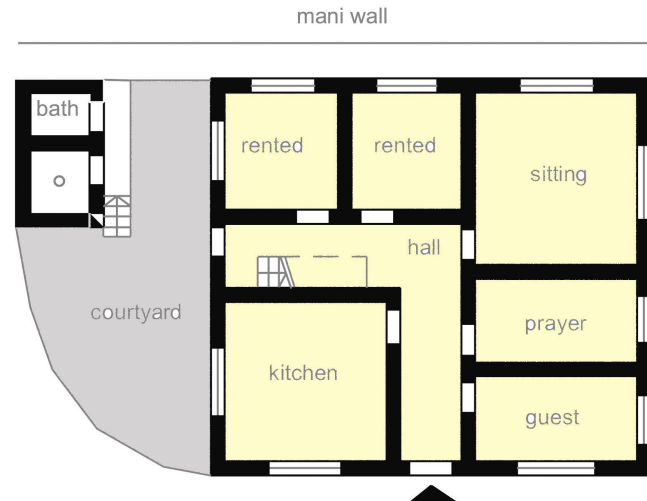


2nd floor



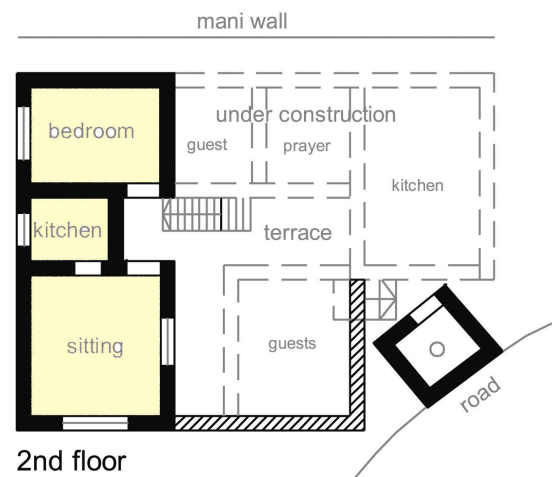
house 18

illegal housing



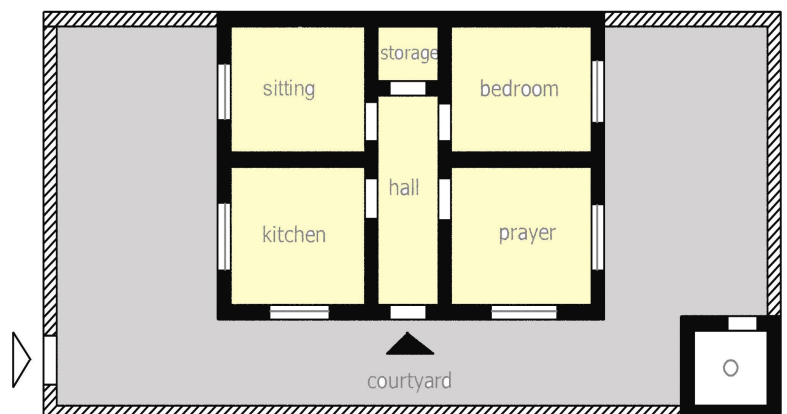
house 19

illegal housing



2nd floor
(1st floor not seen)

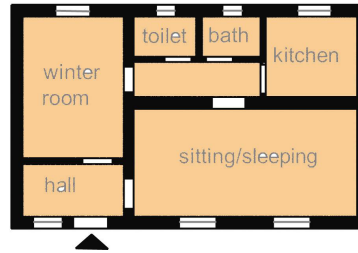
house 20





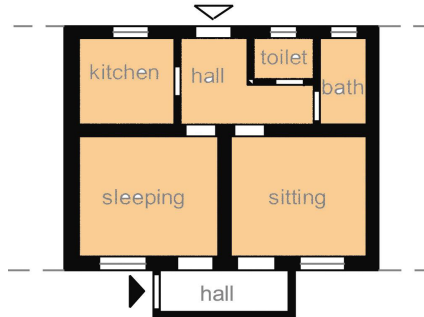
house 21

radio colony

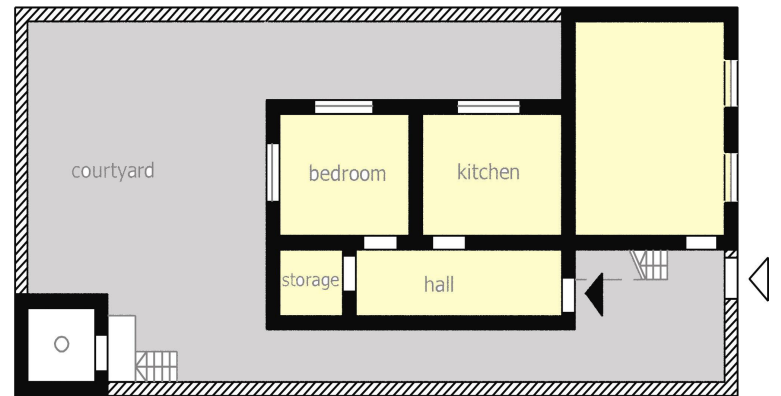


house 22

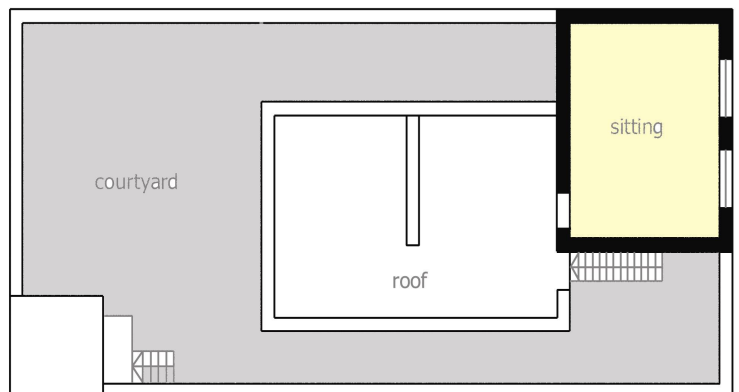
radio colony



house 23



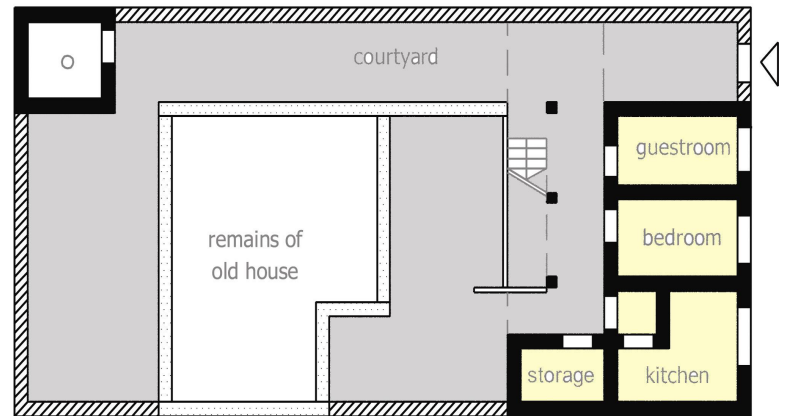
1st floor



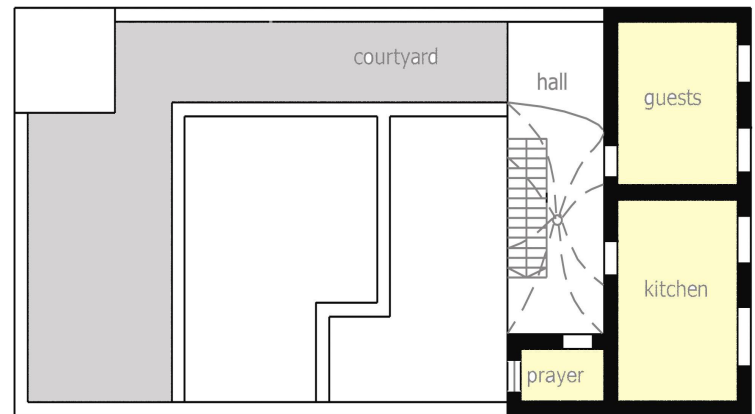
2nd floor



house 24

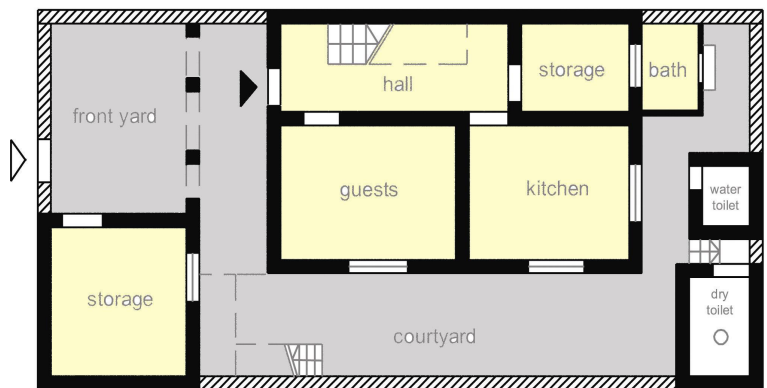


1st floor

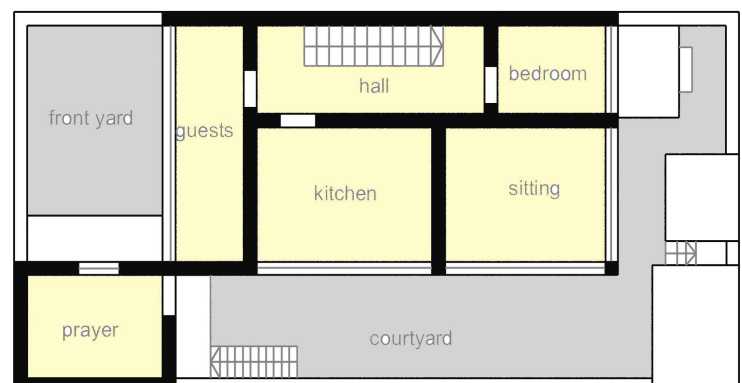
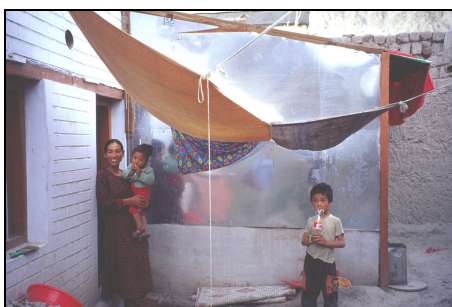


2nd floor

house 25



1st floor

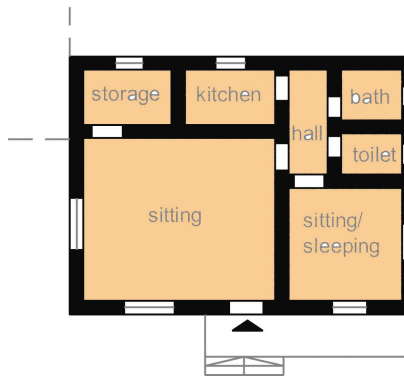


2nd floor



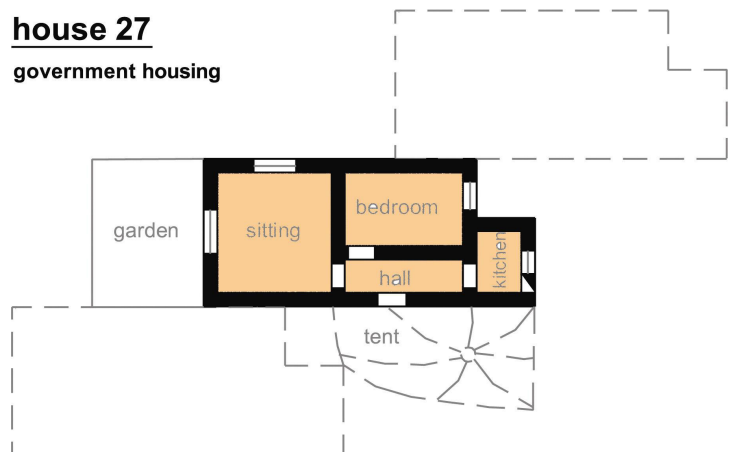
house 26

postal colony



house 27

government housing



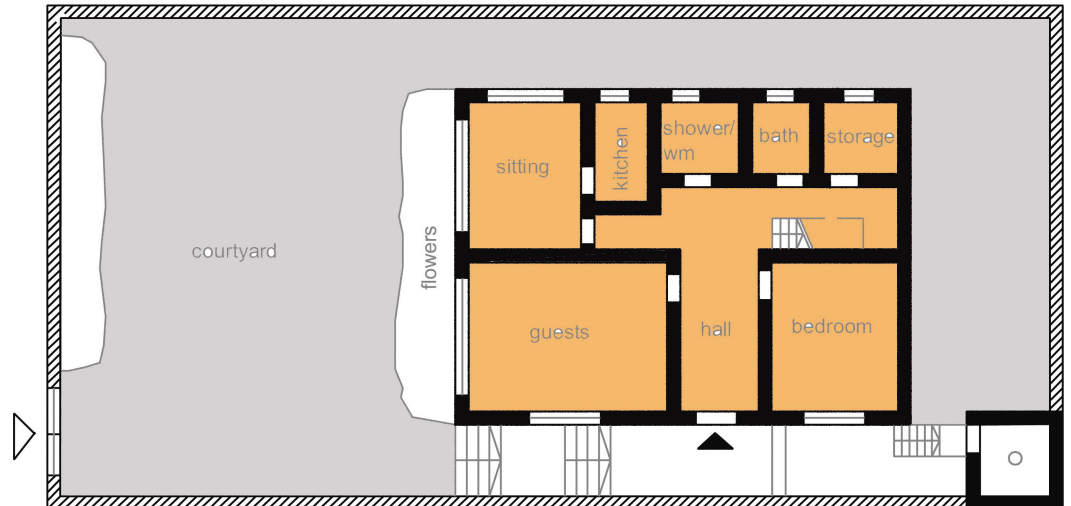
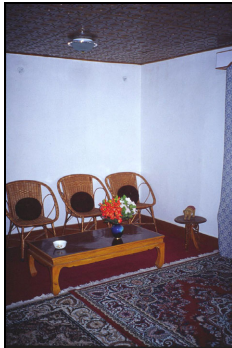
house 28

murtsey colony



house 29

murtsey colony



house 30

murtsey colony

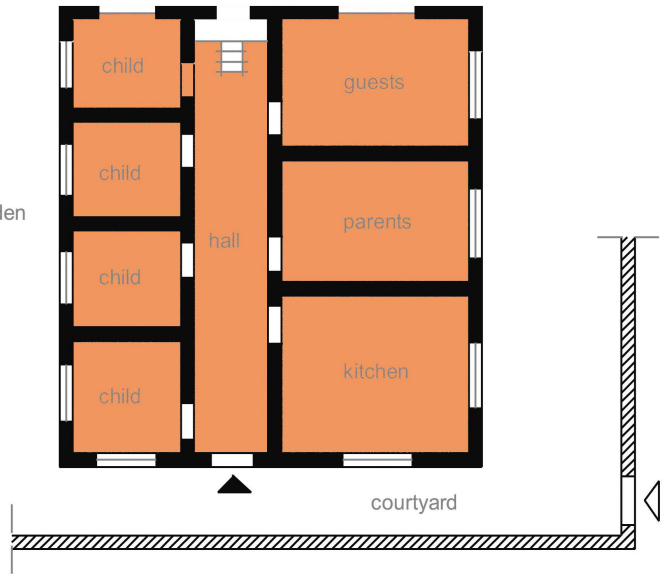


house 31

green area leh



garden

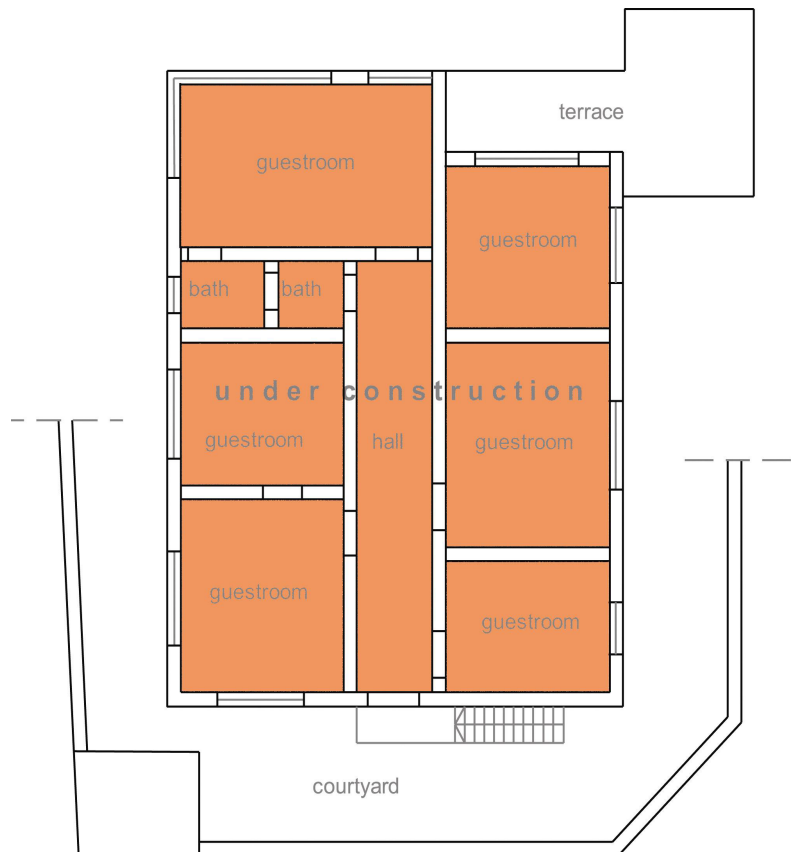


house 32

green area leh



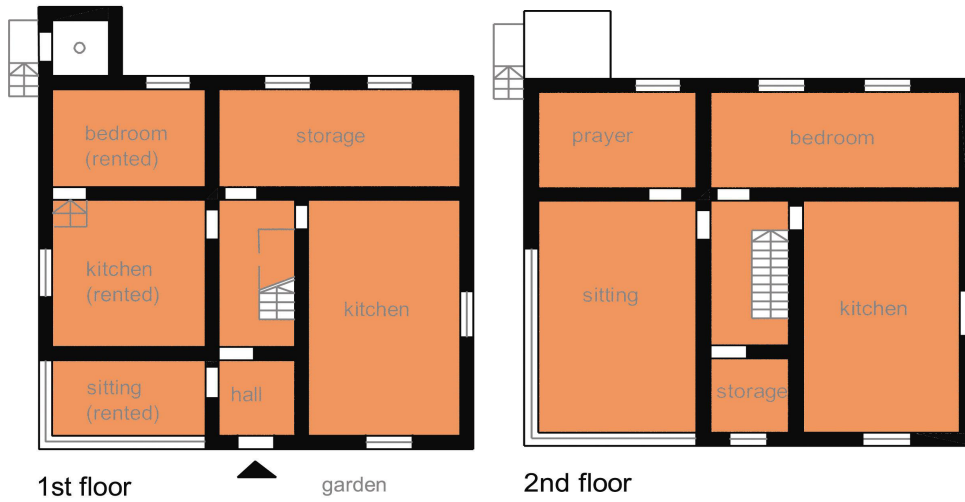
1st floor



2nd floor

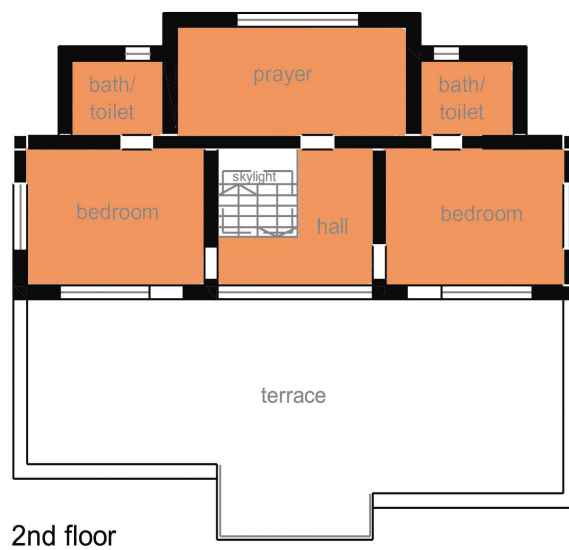
house 33

green area leh



house 34

green area



Conclusions

The main task of this dissertation was to establish whether, through anthropological research methodology, it were possible to obtain results that can serve as a blueprint for the planning process in a building project. In summary it can be said that such results were achieved in a very diverse manner and that their applicability could already partly be tested during the course of a student design project.

A Synopsis of Research Findings

The development of the methodological tool kit for the implementation of an anthropological pre-design study has to be seen in its entirety. It has been shown that the collection of the best qualitative data does not build on a certain basic truth of one method, but within the given time frame the usefulness of the anthropological methodology lies in the diversification of the available tools. The following is a summary of the most important parameters that form an APD-study:

- a) definition of the right target group (as specific as possible)
- b) coordination of a diverse methodological tool kit during the field study: formal survey, narrative interview, participant observation etc.
- c) supplementary data about the overall situation from publications, news, officials, NGOs etc.
- d) limitation to a certain time frame
- e) holistic approach
- f) integration of the “global” aspect into the “local” situation

Since this approach can best be shown by the example of an actually implemented field study, part II of this dissertation can function as a practical guideline for the introduction of an APD-study. Although it certainly will have to be adapted to the specific circumstances of other regions, the process is exemplary and can be copied in different situations. It will always be useful for gaining an overview over the particular housing situation and the major concerns of the people.

Summarizing all the themes that I have discussed in this work there is one general tendency that forms a central thread running through all the subjects related to the future architectural development - it can best be expressed with the help of Protagoras (481-411 BC): “Man is the measure of all things”. Upon exploring anthropology as *the* discipline that deals with the human being in all its dimensions, especially the latest devel-

opments in anthropology suggest valuable strategies for dealing with the global complexity. Progressive anthropologists deal with problems such as placelessness, time societies, imagined cultures etc. that are still unsolved obstacles in the architectural approach. They offer a foundation for the understanding of the immense speed and intensity of contemporary cultural interactions and therefore for a new understanding of culture as a whole – issues that are extremely important in architecture as well but still do not receive the necessary attention.

During the research for this dissertation it became clear that the interest of architects in anthropology and vice versa has never been a very strong one. However, the cultural reflection of built structures offers an abundance of information and architecture is this certain part of the material culture that in its spatial organization best represents the social structure of a society. World view, economy and religion are facts that manifest themselves in the built environment. On the other hand it is a clear result of this dissertation that anthropology and cultural studies can be used to improve the built landscape, if the appropriate methodology is filtered out.

This indicates that architects do have to rethink their approach towards building tasks. Their roles have to lead away from the narcissistic, self-centered approach towards the analysis of the requirements of the people. After researching the difficult position of architects and builders nowadays I came to the conclusion that being engaged in building processes in countries with a rich cultural heritage, architects do not only have a responsibility to act as modern building experts but are at the same time playing the role of master builders who have to understand the values and importance of traditional developments. This includes the rituals and the symbolic meanings not only of the architecture itself but also of the whole building process.

As various examples have shown, there is a strong danger that acculturation (a dominating providing culture influencing the receiving culture) goes before transformation (a reciprocal exchange of culture). Add a teaspoon full of tradition, stir ... and voilà, nothing can go wrong anymore. The question of authenticity therefore gains a new problematic in such complex cultural spheres. However – the conclusion out of my research is that there is a strong potential for creative transformation that can work in a very positive way as I have shown through various examples in Ladakh. The melting together of diverse architectural elements creates a new exciting entirety that bears a certain authenticity without chumming up to false expectations.

Implications and Guidelines

For future developments regarding building projects, not only but especially in developing countries, I see a strong need for

- an enforced cooperation between architects/planners and anthropologists
- more cooperation between architects/planners and their customers
- a stronger focus upon the human being throughout the design work

The finding of a common vocabulary for anthropologists and practicing architects, engineers and development workers is one thing – the other, more important concern, is that this vocabulary will also be practiced and introduced into a communication network.

In countries like Ladakh, that are exposed to extremely rapid modernization processes, architecture has the responsibility to conserve the cultural heritage on the one hand and to support appropriate technical developments and progress on the other. How responsible the future planner will handle this task lies in the exact analysis of the specific regional situation within the global context, and a sensitive approach towards the needs of the people. As shown in this study, an anthropological approach can contribute a lot to answer basic questions already prior to the planning phase. Thus, I argue that an “anthropological pre-design study” should - especially in such regions of cultural confusion - be carried out prior to every bigger building project.

It is absolutely important to increase the attention paid to the cultural circumstances of the people whom we build for. And time is long overdue to realize the practical potential that lies in anthropological field research in the context of housing, which offers a great opportunity to avoid the dangers of severe and long-lasting mistakes by tracing them back to their roots.

Glossary

Ladakhi Expressions

General

atta - wheat flour (subsidized by the government)

amchi – local medicine (also used for the practitioner of local Amchi medicine)

chang – local beer

chomo - Buddhist nun

chorten (mChod-rten) - also called *stupa*. *Chorten* are religious architectural symbols whose shapes are determined by cosmological order. According to the legend the bodily remainders of Buddha were distributed to various parts of Asia in thousands of *chorten*. Thus the *chorten* still symbolizes the enlightened spirit of Buddah. Today *chorten* sometimes still contain cult objects or the ashes of high *lamas*.

dzong (rdzong) - fort

gompa (dgon pa) – a transliteration of the Tibetan expression for Buddhist monasteries.

goncha – traditional men's clothing

grim – barley

katak – ceremonial scarves

labrang (bla brang) - The *labrang* is a specific religious estate associated with a *lama*. The word *labrang* is composed of the words *lama* and *brang* and refers to a place where the *lama* resides. This can be a room in a *gompa* but also in a private house and the size of the *labrang* depends more or less on the socio-economic and political importance of the school it represents.

lha khang - God-house, central part of a temple

lama (bla ma) – A *lama* may be described as a person who has a religious “aura”, a sacredness which allows him to be able to know all, to see all, to invoke the supernatural, and heal the sick. A *lama* is a spiritual master – nowadays the term *lama* is used for all monks

lha – means “god”, usually used almost exclusively for local gods and not the main deities

lhaba or lhamo - religious folk-healer

lhatho – territorial deities, e.g. the deity of a village or a monastery

losar (lo gsar) - New Year's festival

mandala – In Vedic India, mandala meant circle. The mandala consists of a boundary and a center. A vertical axis links the sky to the earth and the underworld and thus it becomes imbued with the symbolism of the cosmos. A mandala can be expressed as a two-dimensional diagram or a three-dimensional model or building.

mani - prayer wall. Every year hundreds of pilgrims pile up stone after stone until walls as high as up to the shoulder develop. Mani walls are a form of altars where believers place painted or carved stones with prayers on them (mostly *om mani padme hung*) to receive a certain blessing or have wishes fulfilled.

nallah – small waterway, usually dry

om mani padme hung - this mantra has many interpretations. Basically it is the mantra of Chenrezigs, the essence of the compassion of all the Buddhas. Chenrezigs is always seen holding a jewel and a lotus. *Mani* and *padme* do mean jewel and lotus in Sanskrit. So the mantra is meant to help people visualise the one who holds the jewel and the lotus.

onpo – astrologer

pashm / pashmina – valuable animal fiber produced from mountain goats during winter. *Pashm* is the raw wool whereas *pashmina* is the cloth woven from pashm.
phaspun – the patrilineal clans, each descendant from a common ancestor is called *phaspun*. All members are unified in a ceremonial brotherhood.
perag – traditional head dress for women, given to the eldest daughter upon marriage
tsampa – grounded and roasted barley flower
zo – offspring of yak and common cow
zomo – female zo

Regarding the house

bakna tukul – parts of the carved wooden decoration above a window. *bakna* means „big nose“ and *tukul* is an expression for „key“.
chagra - toilet
chansa - kitchen (winter kitchen)
choktse – low tables that are elaborately carved, painted in bright colors and foldable.
don khang - guest room
chod khang – house temple or shrine room, the most sacred place in a house which in significance can be compared to a “small monastery”
dkar rtsi - whitewash
dung ma – beam
dzot – storage room
gantön (ghangs don) – celebration upon the completion of a house
gsum thog - roof level of houses
gyapak – rammed earth technique
go - door
ichan ma - willow (*Salix*)
kha ba – main wooden post
kha gu (kha gzhu) – capital
khang pa - house
khang chen - big house
khang chung – small house
 In the traditional household only the co-marrying brothers live with their wife and offspring in the Big House (*khang chen*). Parents, grandparents, uncles, aunts and non-co-marrying brothers all live in one or several small houses (*khang chung*).
khang ti – leaking roof (*khang* = room, *ti* = water)
kha thog – roof
ltchaks – iron
lungs – kitchen shelf
ma gdung – main beam
marka laga – mud plastering
nag tshu - black stucco around windows
nitangsa – bedroom. The room where you sleep
pag pu – mud brick
pag rtsik – brick wall (*rtsik* = constructed of)
rab gsal – balcony, loggia
rapnes – ritual performed by a *lama* upon the completion of a house or parts of it
rta ra - stable
rtsikrmang - foundation
sa zhal – earthen floor
sge u-khung – window
shel - glass
shel khang - glassroom

shingzak – decoration and carvings around windows
shugpa - juniper (Juniperus)
stakpa - birch (Betula utilis)
tar chok - twig bundles placed at the corners of the roof of a Ladakhi house where the prayer flags are fastened.
talu - willow twigs used for roof construction
thabs - Ladakhi mud or steel stove
thabs lha - God in the stove
thogsa - clay used for the last layer of the roof
thog skar - air vent of the kitchen
thog gyang – roof balustrade
yabs - inner courtyard
yagtses - organic material consisting of small bushes and leaves that is placed on top of the twigs of the roof construction.
yang thog - top storey of a house
yar khang - summer kitchen
ya them - lintel
yerpa - poplars (Populus)

Currency Equivalent

100 Rupees = US\$ 2,08 (2nd Aug., 2000)

Figures, Tables and Graphs

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- Fig. 40: Mathey, Kosta and Peterek, Michael, 2000: "Telal Zeinhoum und die ausstehende Wende in der Stadtentwicklungspolitik von Kairo", in: *Trialog*, 4/2000, Magazin Verlag, Kiel, p 24
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References*

Books

Abraham, Raimund, 1998, in: Kenneth Frampton (ed.), *Technology, Place & Architecture*, Rizzoli International Publications Inc., New York, pp 16-33

Afifuddin, O., 1978: *Peasants, Institutions, and Development in Malaysia - The Political Economy of Development in the Muda Region*, Ph.D thesis, Cornell University

Aggarwal, Ravina, 1997: „From Utopia to Heterotopia“, in: Henry Osmaston and Nawang Tsering (eds.), *Recent Research on Ladakh 6*, Shri Jainendra Press, New Delhi, pp 21-28

Alexander, Christopher; Ishikawa, Sara; Silverstein, Murray et al., 1977: *A Pattern Language*, Center for Environmental Structures Series, USA

Ameen, Farooq, 1997: *The South Asian Paradigm*, Marg Publications, Mumbai

Anderson, Benedict, 1983: *Imagined Communities - Reflections on the Origin and Spread of Nationalism*, Verso, London

André, Karin, 1997: *Perzeptionen ethnischer Identität der Buddhisten und Moslems in Ladakh*, Karls-Universität Heidelberg, Masters Thesis, Germany

Appadurai, Arjun, 1997: *Modernity at Large - Cultural Dimensions of Globalization*, Univ. of Minnesota Press, Minneapolis/London

Appadurai, Arjun, 1990: "Disjuncture and Difference in the Global Cultural Economy", in: Mike Featherstone (ed.), *Global Culture*, SAGE Publications Ltd, London, pp 296-310

Arnason, Johann P., 1990: "Nationalism, Globalization and Modernity", in: Mike Featherstone (ed.), *Global Culture*, SAGE Publications Ltd, London, pp 208-236

Auge, Marc, 1995: *Non-Places: Introduction to an Anthropology of Supermodernity*, Verso, London

Bachelard, G., 1964: *The Poetics of Space*, Orion Press, New York

Bacon, Edmund N.: *Design of Cities*, Thames and Hudson, London

Byron, Reginald in Alan Barnard and Johnathan Spencer (eds.), 1996: *Encyclopedia of Social and Cultural Anthropology*, Routledge, London

Barnett, Robert, 1994: *Resistance and Reform in Tibet*, Motilal Banarsidass Publishers, Delhi

* Text printed in gray color refers to books about Ladakh, which are mainly cited in part II.

- Barth, Frederik, 1969: *Ethnic Groups and Boundaries – The Social Organization of Culture Difference*, Bergen, Oslo, London
- Bechtel, Robert B., 1989: "Behavior in the House: A Cross-Cultural Comparison Using Behavior-Setting Methodology", in: Setha M. Low and Erve Chambers (eds.): *Housing, Culture, and Design - a Comparative Perspective*, University of Pennsylvania Press, Philadelphia, pp 165-181
- Bhatt, K. C., 1995: *Criticism of Porpose*, Shushma Bhatt, Kathmandu
- Biln, John, 1997: "(De)forming Self and Other: Toward an Ethics of Distance", in: Gülsüm Baydar Nalbantoglu and Wong Chong Thai (eds.), *Postcolonial Space(s)*, Princeton Architectural Press, New York, pp 25-37
- Bloch, Maurice, 1993: "What Goes Without Saying - The Conceptualization of Zafimaniry Society", in: Adam Kuper (ed.), *Conceptualising Society*, Routledge, London
- Bloch, Maurice, 1995: "The Resurrection of the House Amongst the Zafimaniry of Madagascar", in: Janet Carsten and Stephen Hugh-Jones (eds.), *About the House*, Cambridge University Press, Cambridge, pp 69 – 83
- Blondeau, Anne-Marie and Steinkellner, Ernst (eds.), 1996: *Reflections of the Mountain. Essays on the History of Social Meaning of the Mountain Cult in Tibet and the Himalaya*, Verlag der Österreichischen Akademie der Wissenschaften, Wien
- Bohannan, Paul, 1995: *How Culture Works*, The Free Press, New York
- Borofsky, Robert (ed.), 1994: *Assessing Cultural Anthropology*, McGraw-Hill Inc.
- Bourdier, Jean-Paul and AlSayyad, Nezar (eds.), 1989: *Dwellings, Settlements and Tradition - Cross-Cultural Perspectives*, University Press of America, Lanham
- Bourdieu, Pierre, 1970/90: "The Kabyle House or the World Reserved", in: *The Logic of Practice*, Polity Press, Cambridge
- Brewer, Chris and Grinde, Linda, 1995: *Many People, Many Ways*, Zephyr Press, Tucson
- Brislin, Richard, 1993: *Understanding Culture's Influence on Behavior*, Harcourt Brace College Publishers, Honolulu
- Bruner, E. M., 1994: "Tourism in the Balinese Borderzone", in: Kamala Viswesvaran (ed.), *Fictions of Feminist Ethnography*, University of Minnesota Press, Minneapolis
- Buechi, Georg, 1991: *Dissertation: Towards a Hermeneutics of Building*, University of California at Berkeley
- Burns, Karen, 1997: "A House for Josephine Baker", in: Gülsüm Baydar Nalbantoglu and Wong Chong Thai (eds.), *Postcolonial Space(s)*, Princeton Architectural Press, New York, pp 54-72
- Busso von Busse, Hans, 1990: "Wahrnehmungen", in: Friedberd Kindbarkauskas, *Architektur im Wandel*, Beton-Verlag, Düsseldorf

Butler, Richard and Hinch, Thomas, 1996: *Tourism and Indigenous Peoples*, International Thomson Business Press, London

Cabannes, Yves, 1992: "Potential of Prefabrication for Self-Help and Mutual Aid Housing", in: *Beyond Self-Help Housing*, Mansell Publishing Limited, London, pp 241-267

Cantacuzino, Sherban, 1984: *Charles Correa*, Concept Media, Singapore

Carsten, Janet and Hugh-Jones, Stephen, 1995: "Introduction: About the House - Levi-Strauss and Beyond", in: Janet Carsten and Stephen Hugh-Jones (eds.), *About the House*, Cambridge University Press, Cambridge, pp 1-46

Carsten, Janet, 1995: "Houses in Langkawi: Stable Structures or Mobile Homes?", in: Janet Carsten and Stephen Hugh-Jones (eds.), *About the House*, Cambridge University Press, Cambridge, pp 105-128

Castells, Manuel, 1997: *The Power of Identity*, Blackwell Publishers

Caygill, Howard, 1997: "The Futures of Berlin's Potsdamer Platz", in: Alan Scott (ed.), *The Limits of Globalization*, Routledge, London, pp 25-55

Chaney, David, 1994: *The Cultural Turn*, Routledge, London

Clarke, John, 1995: „A Survey of Metalworking in Ladakh“, in: Henry Osmaston and Philip Denwood (eds.), *Recent Research on Ladakh 4 & 5*, Shri Jainendra Press, New Delhi, pp 9-17

Clarke, John, 1999: „The Tibetanisation of European Steel Stoves in Ladakh“, in: Martijn van Beek, Kristoffer Brix Bertelsen and Poul Pedersen (eds.): *Ladakh: Culture, History, and Development between Himalaya and Karakoram – Recent Research on Ladakh 8*, Sterling Publishers Pvt. Ltd., Oxford, pp 58-71

Clement-Charpentier, Sophie, 1989: "Permanence of Rural Settlements in Thai Towns", in: *Dwellings, Settlements and Tradition - Cross-Cultural Perspectives*, University Press of America, Lanham, pp 135-159

Colquhoun, Alan, 1997: "The Concept of Regionalism", in: Gülsüm Baydar Nalbantoglu and Wong Chong Thai (eds.), *Postcolonial Space(s)*, Princeton Architectural Press, New York, pp 14-23

Correa, Charles, 1985: *The New Landscape*, Book Society of India

Crook, John H., 1995: „A Survey of Metalworking in Ladakh“, in: Henry Osmaston and Philip Denwood (eds.), *Recent Research on Ladakh 4 & 5*, Shri Jainendra Press, New Delhi, pp 19-37

Crowden, James, 1997: „The Road to Padum: Its Effect on Zangskar“, in: Henry Osmaston and Nawang Tsering (eds.), *Recent Research on Ladakh 6*, Shri Jainendra Press, New Delhi, pp 53-66

Dawa, Sonam, 1999: „Economic Development of Ladakh: Need for a New Strategy“, in: Martijn van Beek, Kristoffer Brix Bertelsen and Poul Pedersen (eds.): *Ladakh: Culture, History, and Development between Himalaya and Karakoram – Recent Research on Ladakh 8*, Sterling Publishers Pvt. Ltd., Oxford, pp 369-382

Dawa, Sonam, 1999: „Whither Ladakh Education?“, in: Martijn van Beek, Kristoffer Brix Bertelsen and Poul Pedersen (eds.): *Ladakh: Culture, History, and Development between Himalaya and Karakoram – Recent Research on Ladakh 8*, Sterling Publishers Pvt. Ltd., Oxford, pp 73-77

Deen, Mohammed, 1997: „Handicraft Development in Ladakh“, in: Henry Osmaston and Nawang Tsering (eds.), *Recent Research on Ladakh 6*, Shri Jainendra Press, New Delhi, pp 67-82

Deen, Mohammed, 1999: „The Development of Ecological agriculture in Ladakh and Strategies for Sustainable Development“, in: Martijn van Beek, Kristoffer Brix Bertelsen and Poul Pedersen (eds.): *Ladakh: Culture, History, and Development between Himalaya and Karakoram – Recent Research on Ladakh 8*, Sterling Publishers Pvt. Ltd., Oxford, pp 78-91

De Solá-Morales, Ignasi, 1996: *Place - Permanence or Production*, The MIT Press, Cambridge

DeWalt, Billie R.: "The Cultural Ecology of Development: Ten Precepts for Survival", in: *Agriculture and Human Values*, 5 (1,2), pp 112-123

Dollfus, Pascale, 1995: „Ethnohistory of Muslims in Central Ladakh“, in: Henry Osmaston and Philip Denwood (eds.), *Recent Research on Ladakh 4 & 5*, Shri Jainendra Press, New Delhi, pp 321-325

Doshi, Balkrishna, 1997: "Social Institutions and a Sense of Place", in: Farooq Ameen (ed.), *Contemporary Architecture and City Form – The South Asian Paradigm*, Marg Publications, Mumbai, pp 13-24

Duncan, James S., 1989: "Getting Respect in the Kandyan Highlands: the House, the Community, and the Self in a Third World Society", in: Setha M. Low and Erve Chambers (eds.): *Housing, Culture, and Design - a Comparative Perspective*, University of Pennsylvania Press, Philadelphia, pp 229-250

Easton, Robert and Nabokov, Peter, 1998: *Native American Architecture*, Oxford University Press, New York, NY

Egenter, Nold, 1992: *Architectural Anthropology - Research Series*, Structura Mundi Editions, Lausanne

Egenter, Nold, 1980: *Bauformen als Zeichen und Symbol*, ETH-Zürich, Zürich

Eley, Geoff, and Suny, Ronald Grigor, 1996: *Becoming National - A Reader*, Oxford University Press, New York

Emmer, Gerhard, 1999: *The Unnoticed Muslims on the Top of the World – Religion, Politics and Identity in Ladakh from an Anthropological Perspective*, Masters Thesis, Vienna

Erlet, Cater and Lowmen, Gwen, 1994: *Ecotourism: A Sustainable Option?*, Chichester

Esman M. J. and Uphoff N. T., 1988: *Local Organizations - Intermediaries in Rural Development*, Cornell University Press, Ithaca and London

Farrington J. and Lewis D. J., 1993a: *Non-Governmental Organizations and the State in Asia*, Routledge, London

Farrington, J. and Lewis, D. J., 1993b: *NGOs and the State in Asia*, Routledge, London

Fathy, Hassan, 1992: "Contemporaneity in the City", in: James Steele (ed.), *Architecture for a Changing World*, Academy Editions, London, pp 51-59

Featherstone, Mike, 1990: *Global Culture*, SAGE publications Ltd, London

Feest, Christian F. and Janata, Alfred, 1986/66: „Technologie und Ergologie in der Völkerkunde“, Dietrich Reimer Verlag, Berlin

Firth, R., 1963: *We, The Tikopia - A Sociological Study of Kinship in Primitive Polynesia*, Beacon Press, Boston

Forth, G., 1981: *Rindi - An Ethnographic Study of a Traditional Domain in Eastern Sumba*, Nijhoff, The Hague

Frampton, Kenneth, 1998: *Technology, Place & Architecture*, Riyyoli International Publications Inc., New York

Freeman, D., 1986: "The family system of the Iban of Borneo", in J. Goody (ed.), *The Developmental Cycle in Domestic Groups*, Cambridge University Press, Cambridge

Freenberg, Andrew, 1995: *Alternative Modernity - The Technical Turn in Philosophy and Social Theory*, University of California Press, Berkeley

Friedland, Roger and Boden, Deirdre, 1994: *NowHere - Space, Time and Modernity*, University of California Press, Berkeley, pp 1-60

Friedman, Jonathan, 1994: *Consumption and Identity*, Harwood Academic Publishers GmbH

Friedman, Jonathan, 1990: "Being in the World: Globalization and Localization", in: Mike Featherstone (ed.), *Global Culture*, SAGE Publications Ltd, London, pp 311-328

Gadamer, Hans-Georg, 1975: *Truth and Method*, Sheed & Ward, London

Geddes, Bill: "Introduction", in: Bill Geddes, Jenny Hughes, Joe Remenyi (eds.): *Anthropology and Third World Development*, Deakin University Press, 1995, pp 1-8

- Geertz, Clifford, 1973: *Deep Play - Notes on the Balinese Cockfight*, in: The Interpretation of Cultures-Selected Essays, Basic Books, New York
- Geertz, Clifford, 1973a: *Thick Description: Toward an Interpretive Theory of Culture*, in: The Interpretation of Cultures - Selected Essays, Basic Books, New York
- Geertz, Clifford, 1988: *Works and Lives: The Anthropologist as Author*, Stanford University Press, Stanford
- Geertz, Clifford, 1996: *Welt in Stücken – Kultur und Politik am Ende des 20. Jahrhunderts*, Passagen Verlag, Wien
- Geertz, Clifford, 1996a: "The Uses of Diversity", in: Robert Borovsky (ed): *Assessing Cultural Anthropology*, McGraw-Hill, Inc., New York etc., pp 454-467
- Geertz, H. and Geertz, C., 1975: *Kinship in Bali*, University of Chicago Press, Chicago
- Gerner, Manfred, 1988: *Architekturen im Himalaja*, Deutsche Verlags-Anstalt, Stuttgart
- Gibson, Thomas, 1986: *Sacrifice and Sharing in the Philippin Highlands*, Athlone Press, London
- Gibson, Thomas, 1995: "Having your House and Eating it: Houses and Siblings in Ara, South Sulawesi", in: Janet Carsten and Stephen Hugh-Jones (eds.), *About the House*, Cambridge University Press, Cambridge, pp 129-148
- Giddens, Anthony, 1994: "Vorwort", in: Roger Friedland and Deirdre Boden (eds.), *NowHere - Space, Time and Modernity*, University of California Press, Berkeley, pp XI-XIII
- Giddens, 1982: *Sociology - A Brief, But Critical Introduction*
- Gilpin, Alan, 1996: *Dictionary of Environment and Sustainable Development*, John Wiley & Sons, New York
- Gingrich, Andre, 1996: "Hierarchical Merging and Horizontal Distinction. A Comparative Perspective on Tibetan Mountain Cults", in: Anne-Marie Blondeau and Ernst Steinkellner (eds.): *Reflections of the Mountain. Essays on the History of Social Meaning of the Mountain Cult in Tibet and the Himalaya*, Verlag der Österreichischen Akademie der Wissenschaften, Wien, pp 233-262
- Gingrich, Andre, 1998: "Ethnizität für die Praxis", in: Karl Wernhart and Werner Zips (eds.): *Ethnohistorie*, Promedia, Wien, pp 99-111
- Gingrich, Andre, 1999: *Erkundungen*, Böhlau Verlag, Wien-Köln-Weimar
- Godelier, Maurice, 1991: *Wird der Westen das universelle Modell der Menschheit?*, Picus Verlag, Wien
- GRAT, 1994: *Strategien zur Verbreitung von angepasster Technologie*, TU-Wien, Wien
- GRAT, 1994a: *Transferability of the Solar System Self-Build Technology*, Institut für Energieforschung Johanneum, Graz
- Gravagnuolo; Benedetto, 1982: *Adolf Loos*, Rizzoli, New York

Grist, Nicola, 1993: „Muslim Kinship and Marriage in Ladakh“, in: C. Ramble and M. Brauen (eds.): *Anthropology of Tibet and the Himalaya*, Zürich, Ethnological Museum, pp 90-92

Guggenberger, Bernd, 1993: "Der Geist, der aus dem Fortschritt kommt", in: Ernst-Ludwig Winnacker (ed.): *Fortschritt und Gesellschaft*, S. Hirzel - wissenschaftliche Verlagsges. Stuttgart, pp 43-52

Hamdi, N., 1991: *Housing Without Houses - Participation, Flexibility, Enablement*, Van Nostrand Reinhold, New York

Hannerz, Ulf, 1990: "Cosmopolitans and Locals in World Culture", in: Mike Featherstone (ed.), *Global Culture*, SAGE Publications Ltd, London, pp 237-251

Harrer, Heinrich, 1978: *Ladakh – Götter und Menschen hinterm Himalaya*, Pinguin Verlag, Innsbruck

Harrer, Heinrich, 1980: *Ladakh – God of Mortels behind the Himalaya*, New Delhi

Harris, Marvin, 1996: "Cultural Materialism Is Alive and Well ...", in: Robert Borovsky (ed): *Assessing Cultural Anthropology*, McGraw-Hill, Inc., New York, pp 62-76

Harman, Willis, 1998: *Global Mind Change*, Berrett-Koehler Publishers Inc., San Francisco

Harvey, Brian, 1995: *Networking in Europe - A Guide to European Voluntary Organisations*, Second Edition, NCVO Publications, Bedfordshire

Hawkin, Paul, 1993: *The Ecology of Commerce*, Harper Collins Publishers Inc., New York, NY

Hay, Katherine E., 1999: „Gender, Modernisation, and Change in Ladakh“, in: Martijn van Beek, Kristoffer Brix Bertelsen and Poul Pedersen (eds.): *Ladakh: Culture, History, and Development between Himalaya and Karakoram – Recent Research on Ladakh 8*, Sterling Publishers Pvt. Ltd., Oxford, pp 174-194

Herdick, Reinhard, 1998: „The Spatial Order of the Area of Yangthang and its Affiliated Monastery Ridzong in Ladakh“, in: Niels Gutschow, Axel Michaels, Charles Ramble (eds.): *Sacred Landscape of the Tibetan Himalaya*, Internationales Wissenschaftsforum der Universität Heidelberg

Hirschberg, Walter; Janata, Alfred; Feest, Christian, 1986: *Technologie und Ergologie in der Völkerkunde*, Dietrich Reimer Verlag, Berlin

Hodder, I., 1990: *The Domestication of Europe*, Blackwell, Oxford

Holmén, Hans and Jirström, Magnus, 1994: *Ground Level Development - NGOs, Co-operatives and Local Organizations in the Third World*, Lund University Press, Lund

Howard, Kath, 1995: „Archaeological Notes on Chorten Types in Ladakh and Zaskar from the 11th-15th Centuries“, in: Henry Osmaston and Philip Denwood (eds.), *Recent Research on Ladakh 4 & 5*, Shri Jainendra Press, New Delhi, pp 61-78

Howard, Neil, 1995: "The Fortified Places of Zaskar", in: Henry Osmaston and Philip Denwood (eds.), *Recent Research on Ladakh 4 & 5*, Shri Jainendra Press, New Delhi, pp 79-99

Huntington, Samuel P., 1997: *The Clash of Civilizations and the Remaking of World Order*, Touchstone, New York

Jackson, Anthony, 1995: *Reconstructing Architecture for the Twenty-First Century*, University of Toronto Press, Toronto

Janata, Alfred, 1986: "Architektur - roh oder gekocht?", in: *Umriss*, Nr. 1, Wien
Jencks, Charles, 1988: *Architecture Today*, Academy Editions, London

Jencks, Chris, 1993: *Cultural Reproduction*, New York

J&K TPO, 1996: *Master Plan of Leh*, Town Planning Organization, Jammu & Kashmir

Jina, Prem Singh, 1995: *Famous Western Explorers to Ladakh*, Indus Publishing Company, New Delhi

Jina, Prem Singh, 1996: „Ladakh, the Land and the People“, Indus Publishing Company, New Delhi

Jina, Prem Singh, 1994: „Tourism in Ladakh Himalaya“, New Delhi

Keeting, Roger M., 1994: „Theories of Culture Revisited“, in: Robert Borofsky (ed.), *Assessing Cultural Anthropology*, McGraw-Hill, Inc., pp 301-310

Kent, Susan, 1990: *Domestic Architecture and the Use of Space*, Cambridge University Press, Cambridge

Khan, Hasan-Uddin, 1987: *Charles Correa*, Concept Media, Singapore

Khan, Masood A., 1996: "Catching a Passing Moment: The Redeployment of Tradition", in: *Traditional Dwellings and Settlement Review*, Vol. 7, No. 2, IASTE, Berkeley, pp 43-60

Khosla, Romi (ed.), 1989: *INTACH Study Leh*, INTACH

Khosla, Romi, 1997: "The Persistence of Pre-Modern, The Search for Authenticity in Central Asia, Tibet, India, and Nepal", in: Farooq Ameen (ed.), *Contemporary Architecture and City Form – The South Asian Paradigma*, Marg Publications, Mumbai, pp 64-74.

King, Anthony, 1991: *Culture, Globalization and the World System*, Macmillan, London

King, Anthony, 1990: „Architecture, Capital and the Globalization of Culture“, in: Mike Featherstone (ed.), *Global Culture*, SAGE Publications Ltd, London, pp 398-410

Klotz, Heinrich: *Architektur - Geschichte, Theorie und Kritik des Bauens*, ZKM, Karlsruhe

Koren, Leonard, 1997: *Wabi-sabi. Für Künstler, Architekten und Designer*, Ernst Wasmuth Verlag, Tübingen

Korn, Wolfgang, 1993: *The Traditional Architecture of the Kathmandu Valley*, Bibliotheca Himalayica, Kathmandu

Knecht, Peter und Egenter, Nold: "Bauformen als Zeichen und Symbol", in: *Asian Folklore Studies*, Vol. XLI-1, Nagoya

Kostof, Spiro, 1989: "Junctions of Town and Country", in: Jean-Paul Bourdier and Nezar AlSayyad (eds.): *Dwellings, Settlements and Tradition - Cross-Cultural Perspectives*, University Press of America, Lanham, pp 107-133

Kottak, Conrade and Colson, Elizabeth, 1994: "Multilevel Linkages: Longitudinal and Comparative Studies", in: Robert Borovsky (ed): *Assessing Cultural Anthropology*, McGraw-Hill, Inc., New York etc., pp 396-419

Kremser, Manfred, 1998: "Von der Feldforschung zur Felder-Forschung ", in: Karl R. Wernhart and Werner Zips (eds.): *Ethnohistorie - Rekonstruktion und Kulturkritik*, Promedia, pp 135-144

Kumar, Krishna, 1979: *Bonds without Bondage*, University Press of Hawaii, USA, 1979

Lang, Jon; Desai, Madhavi; Desai, Miki, 1997: *Architecture and Independence - The Search for Identity, India 1880 to 1980*, Oxford University Press, Delhi

Lang, Jon, 1989: "Cultural Implications of Housing Design Policy in India", in: Setha M. Low and Erve Chambers (eds.), *Housing, Culture, and Design - a Comparative Perspective*, University of Pennsylvania Press, Philadelphia, pp 375-390

Lang, Peter und Egenter Nold, 1982: *Göttersitze aus Schilf und Bambus*, Peter Lang AG, Bern

Lavie, Smadar and Swedenburg, Ted, 1996: *Displacement, Diaspora, and Geographies of Identity*, Duke University Press, London

Lawrence, Roderick J., 1989: "Translating Anthropological Concepts into Architectural Practice", in: Setha M. Low and Erve Chambers (eds.), *Housing, Culture, and Design - A Comparative Perspective*, University of Pennsylvania Press, Philadelphia, pp 89-106

Lea, Vanessa, 1995: "The Houses of the Mebengokre (Kayapó) of Central Brazil - A New Door to Their Social Organization", in: Janet Carsten and Stephen Hugh-Jones (eds.), *About the House*, Cambridge University Press, Cambridge, pp 206-225

Lehner, Erich, 1995: *Südsee-Architektur – Traditionelle Bautypen auf Hawaii, Tonga, Samoa, Neuseeland und den Fidschi-Inseln*, Phoibos-Verlag, Wien

Lehner, Erich, 1998: *Wege der Architektonischen Evolution*, Phoibos-Verlag, Wien

Lévi-Strauss, Claude, 1973/55: *Tristes tropiques*, Jonathan Cape, London

Lévi-Strauss, Claude, 1983: *The Way of the Masks*, Jonathan Cape, London

Lévi-Strauss, Claude, 1987: *Anthropology and Myth - Lectures 1951 -1982*, Blackwell, Oxford

Lévi-Strauss, Claude, 1994: "Anthropology, Race, and Politics: A Conversation with Didier Eribon", in: Robert Borofsky (ed.), *Assessing Cultural Anthropology*, McGraw-Hill, Inc., New York, pp 420-429

Low, Setha M. and Chambers, Erve (eds.), 1989: *Housing, Culture, and Design - A Comparative Perspective*, University of Pennsylvania Press, Philadelphia

Lübben, Christel, 1996: *Internationaler Tourismus als Faktor der Regionalentwicklung in Indonesien*, Dietrich Reimer Verlag, Berlin

Lynch, Kevin, 1972: *What Time Is this Place*, MIT Press, Boston

Malinovski, Bronislaw, 1960/44: *A Scientific Theory of Culture*, Oxford University Press, New York

Mallon, David and Roger, Prodon, 1995: „Ecology and Conservation in Ladakh“, in: Henry Osmaston and Philip Denwood (eds.), *Recent Research on Ladakh 4 & 5*, Shri Jainendra Press, New Delhi, pp 109-114

Magutu, Gerald Jerry, 1989: *Dissertation: Urban Low-Income Housing and Community Development in Developing Countries*, University of California at Berkeley

Marcuse, Peter, 1992: "Why Conventional Self-Help Projects Won't Work", in: *Beyond Self-Help Housing*, Mansell Publishing Limited, London, pp 15-21

Marquard, Odo, 1993: "Fortschritt und Bewahrung", in: Ernst-Ludwig Winnacker (ed.): *Fortschritt und Gesellschaft*, S. Hirzel - wissenschaftliche Verlagsges. Stuttgart, pp 27-31

Mathéy, Kosta, 1992: *Beyond Self-Help Housing*, Mansell Publishing Limited, London
McKinnon, Susan, 1995: "Houses and Hierarchy: The View from a South Moluccan Society", in: Janet Carsten and Stephen Hugh-Jones (eds.), *About the House*, Cambridge University Press, Cambridge, pp 170-188

McLuhan, Marshall, 1964: *Understanding Media*, Signet Books, Toronto

Mennell, Stephen, 1990: "The Globalization of Human Society as a Very Long-term Social Process: Elias's Theory", in: Mike Featherstone (ed.), *Global Culture*, SAGE Publications Ltd, London, pp 359-371

Merton, Robert K., 1957: *Social Theory and Social Structure*, Free Press, Glencoe, IL.

Mitchell, Maurice and Bevan, Andy, 1992: *Culture, Cash and Housing - Community and Tradition in Low-income Building*, VSO/IT Publications, London

Mitchell, William J. , 1995 : *City of Bits - Space and Time of Infobahn*, MIT Press, Cambridge, MA

Moore, H., 1989: *Space, Text and Gender*, Cambridge University Press, Cambridge

Morgan, L. H. , 1965: *Houses and House-Life of the American Aborigines*, University Press of Chicago, Chicago

Moriarty, Marilyn F., 1994: "The Search for Common Ground", in: W.J. Lillyman; M.F. Moriarty; D.J. Neumann (eds.): *Critical Architecture and Contemporary Culture*, Oxford University Press, New York

Morup, Sonam, 1997: „Hydel Power Potential in Leh District“, in: Henry Osmaston and Nawang Tsering (eds.), *Recent Research on Ladakh 6*, Shri Jainendra Press, New Delhi, pp 185-188

Münz, Ludwig and Künstler Gustav: *Adolf Loos*, Thames and Hudson, London

Nalbantoglu, Gülsüm Baydar and Thai, Wong Chong, 1966: *Postcolonial Space(s)*, Princeton Architectural Press, New York, 1997

Naylor, Larry L., 1996: *Culture and Change*, Bergin & Garvey, Westport, Connecticut

Nederveen Pietersen, Jan, 1995: „The Cultural Turn in Development“, in: *The European Journal of Development Research*, Vol. 7, No. 1, pp 176-192

Norberg-Hodge, Helena, 1991: *Ancient Futures - Learnings from Ladakh*, Oxford University Press, Delhi

Norberg-Hodge, Helena, 1992: *Ancient Futures - Learning From Ladakh*, Ram Printograph, New Delhi

Norberg-Hodge, Helena, 1997: „Social & Environmental Costs of the Global Economy – Lessons from Ladakh“, in: Henry Osmaston and Nawang Tsering (eds.), *Recent Research on Ladakh 6*, Shri Jainendra Press, New Delhi, pp 195-204

Norberg-Schulz, Christian, 1975: *Meaning in Western Architecture*, Praeger, New York

Norboo, Tsering and Morup, Tsering, 1997: „Culture, Health and Illness“, in: Henry Osmaston and Nawang Tsering (eds.), *Recent Research on Ladakh 6*, Shri Jainendra Press, New Delhi, pp 205-212

Nouvel, Jean, 1998, in: Kenneth Frampton (ed.): *Technology, Place & Architecture*, Rizzoli International Publications Inc., New York, pp 76-92

Oliver, Paul, 1969: *Shelter and Society*, The Cresset Press, London

Oliver, Paul, 1975: *Shelter, Sign and Symbol*, The Overlook Press, Woodstock, New York

Oliver, Paul, 1987: *Dwellings - The House Across the World*, Phaidon, Oxford

Oxman, Robert M., 1998, in: Kenneth Frampton (ed.): *Technology, Place & Architecture*, Rizzoli International Publications Inc., New York, pp 190-193

Patkau, Patricia, 1998, in: Kenneth Frampton (ed.): *Technology, Place & Architecture*, Rizzoli International Publications Inc., New York, pp 94-116

Paul, Sigrid, 1985: "Team-Arbeit und standardisierte Interviews, Erziehungsforschung in Kisii/Kenia", in: Hans Fischer, *Feldforschungen*, Dietrich Reimer Verlag, Berlin, pp 91-118

Pelinka, Anton, 1994: "Identität und Integration", in: Franz Vranitzky (ed.), *Themen der Zeit*, Renner-Institut Passagen Verlag, pp 361-370

Pinault, David, 1999: „Muslim-Buddhist Relations in a Ritual Context: An Analysis of the Muharram Procession in Leh Township, Ladakh“, in: Martijn van Beek, Kristoffer Brix Bertelsen and Poul Pedersen (eds.): *Ladakh: Culture, History, and Development between Himalaya and Karakoram – Recent Research on Ladakh 8*, Sterling Publishers Pvt. Ltd., Oxford, pp 290-312

Prakash, Sanjay, 2000: *Nima Ling – The Solar Town at Choglamsar-Saboo, Ladakh*, SP&A, Delhi

Prevsner, Nikolaus et al., 1992: *Lexikon der Weltarchitektur*, Prestel Verlag, München

Radetzki-Stenner, Matthias, 1987: *Internationaler Tourismus und Entwicklungsländer*, Lit-Verlag, Münster

Rapaport, Amos, 1969a: *House Form and Culture*, Prentice-Hall

Rapaport, Amos, 1969b: "The Pueblo and the Hogan", in: Paul Oliver (ed.), *Shelter and Society*, The Cresset Press, London, pp 66-79

Rapaport, Amos, 1989: "Foreword", in: Setha M. Low and Erve Chambers (eds.): *Housing, Culture, and Design - a Comparative Perspective*, University of Pennsylvania Press, Philadelphia, pp XI-XXI

Rapaport, Amos, 1990: "Systems of Activities and Systems of Settings", in: Susan Kent (ed.), *Domestic Architecture and the Use of Space*, Cambridge University Press, Cambridge, pp 9-19

Rapaport, Roy A., 1994: "Humanity's Evolution and Anthropology's Future", in: Robert Borofsky, *Assessing Cultural Anthropology*, McGraw-Hill, Inc., New York, pp 153-167

Reval, Raj, 1997: "The Use of Tradition in Architecture and Urban Form", in: Farooq Ameen (ed.), *Contemporary Architecture and City Form – The South Asian Paradigma*, Marg Publications, Mumbai, pp 52-63.

Ricoeur, Paul, 1984: *History and Truth*, MIT Press, Cambridge, Mass.

Ricoeur, Paul, 1988: *Time and Narrative*, University Press, Chicago

Riddell, R., 1990: *Evaluating NGO Approaches to Alleviating Poverty in Developing Countries*, ODI Working Paper No 37, Overseas Development Institute, London

Rispa, Paúl (ed.), 1995: *Barragán – das Gesamtwerk*, Birkhäuser Verlag, Basel/Boston/Berlin

Rivière, Peter, 1995: "Houses, Places and People: Community and Continuity in Guiana", in: Janet Carsten and Stephen Hugh-Jones (eds.), *About the House*, Cambridge University Press, Cambridge, pp 189-205

Rizvi, Janet, 1999: *Ladakh, Crossroads of High Asia*, Oxford University Press, New Delhi

Robbins, Edward, 1989: "Culture, Policy, and Production: Making Low-Cost Housing in Sri Lanka", in: Setha M. Low and Erve Chambers (eds.): *Housing, Culture, and Design - A Comparative Perspective*, University of Pennsylvania Press, Philadelphia, pp 57-85

Robertson, Roland, 1990: "Mapping the Global Condition: Globalization as the Central Concept", in: Mike Featherstone (ed.), *Global Culture*, SAGE Publications Ltd, London, pp 15-30

Robinson, Julia W., 1989: "Architecture as a Medium for Culture: Public Institution and Private House", in: Setha M. Low and Erve Chambers (eds.): *Housing, Culture, and Design - A Comparative Perspective*, University of Pennsylvania Press, Philadelphia, pp 253-275

Robinson, M.; Farrington, J.; Satish, S., 1993: "Overview: NGO-Government Interaction in India", in: J. Farrington and D. J. Lewis (eds.): *NGOs and the State in Asia*, Routledge, London, pp 91-101

Rosaldo, Renato, 1989: *Culture and Truth - The Remaking of Social Analysis*, Beacon Press, Boston

Rossmann, Gretchen B. and Rallis, Sharon F., 1998: *Learning in the Field - an Introduction to Qualitative Research*, SAGE Publications, Thousand Oaks

Rostron, Jack and Nutt, Michael A., 1997: *Dictionary of Housing*, Ashgate Publishing Company, Brookfield

Rowe, Peter G., 1989: "Dual Aspects of Tradition in Saudi Arabian Urban Housing Development", in: Setha M. Low and Erve Chambers (eds.), *Housing, Culture, and Design - A Comparative Perspective*, University of Pennsylvania Press, Philadelphia, pp 303-347

Rudofsky, Bernard, 1993/64: *Architektur ohne Architekten*, Residenz Verlag, Salzburg

Rukschio, Burkhard and Schachel, Roland, 1982: *Adolf Loos*, Residenz Verlag, Salzburg

Sahlins, Marshall and Kirch, Patrick, 1992: *Anahulu: The Anthropology of History in the Kingdom of Hawai'i*, University of Chicago Press. Vol. I & II, Chicago

Sahlins, Marshall, 1994: "Goodbye to Triste Tropes: Ethnography in the Context of Modern World History", in: R. Borofsky (ed.), *Assessing Cultural Anthropology*, McGraw-Hill. Pp., New York, pp 377-394

- Sardar, Ziauddin, 1997: "Beyond Development: An Islamic Perspective", in: Vincent Tucker (ed.), *Cultural Perspectives on Development*, Frank Cass and Company Ltd., London, pp 36-55
- Sassen, Saskia, 1998: *Globalization and its Discontents*, The New Press, New York
- Schäffter, Ortfried, 1991: *Das Fremde – Erfahrungsmöglichkeiten zwischen Faszination und Bedrohung*, Opladen
- Scheer, Hermann, 1995: *Sonnenstrategie*, R. Piper GmbH & CoKG, München
- Schivelbusch, Wolfgang, 1978: "Railroad Space and Railroad Time", in: *New Critique* 14
- Schmale M., 1993: *The Role of Local Organizations in Third World Development*, Avebury, Aldershot
- Schweizer, Thomas, 1985: "Die Vielschichtigkeit der Feldsituation - Untersuchungen zur dörflichen Wirtschaft in Java", in: Hans Fischer (ed.), *Feldforschungen*, Dietrich Reimer Verlag, Berlin, pp 263-287
- Schweizer, Thomas, 1992/83: "Interkulturelle Vergleichsverfahren", in: Hans Fischer (ed.): *Ethnologie, Einführung und Überblick*, Dietrich Reimer Verlag, Berlin, pp 421-439
- Sennet, Richard, 1995: *Fleisch und Stein – der Körper und die Stadt in der westlichen Zivilisation*, Berlin Verlag, Berlin
- Shakspo, Nawang Tsering, 1995: "The Significance of Kuksho in the Cultural History of Ladakh", in: Henry Osmaston and Philip Denwood (eds.), *Recent Research on Ladakh* 4 & 5, Shri Jainendra Press, New Delhi, pp 181-187
- Sheikh, Abdul Ghani, 1995: „A Brief History of Muslims in Ladakh“, in: Henry Osmaston and Philip Denwood (eds.), *Recent Research on Ladakh* 4 & 5, Shri Jainendra Press, New Delhi, pp 189-192
- Sheikh, Abdul Ghani, 1999: „Economic Conditions in Ladakh during the Dogra Period“, in: Martijn van Beek, Kristoffer Brix Bertelsen and Poul Pedersen (eds.): *Ladakh: Culture, History, and Development between Himalaya and Karakoram – Recent Research on Ladakh* 8, Sterling Publishers Pvt. Ltd., Oxford, pp 339-349
- Sieder, Reinhard, 1998: "Erzählungen analysieren - Analysen erzählen", in: Karl R. Wernhart Karl R. and Werner Zips (eds.): *Ethnohistorie - Rekonstruktion und Kulturkritik*, Promedia, pp 145-172
- Singh, Harjit, 1995: „Ecological Set-Up and Agrarian Structure of High Altitude Villages in Ladakh“, in: Henry Osmaston and Philip Denwood (eds.), *Recent Research on Ladakh* 4 & 5, Shri Jainendra Press, New Delhi, pp 193-207
- Singh, Harjit, 1997: „Ecology and Development in High Altitude Ladakh“, in: Henry Osmaston and Nawang Tsering (eds.), *Recent Research on Ladakh* 6, Shri Jainendra Press, New Delhi, pp 239-250
- Skelton, Tracey, 1997: "‘Cultures of Land’ in the Caribbean: A Contribution to the Debate on Development and Culture", in: Vincent Tucker (ed.), *Cultural Perspectives on Development*, Frank Cass and Company Ltd., London, pp 71-91

Sklair, L., 1991: *Sociology of the Global System*, Harvester Wheatsheaf, London

Smith, Anthony D., 1990: "Towards a Global Culture?", in: Mike Featherstone (ed.), *Global Culture*, SAGE Publications Ltd, London, pp 172-191

Sennett, Richard, 1995: *Fleisch und Stein - der Körper und die Stadt in der westlichen Zivilisation*, Berlin Verlag, Berlin

Soeder, Hans, 1964: *Urformen der abendländischen Baukunst*, DuMont, Köln

Steele, James, 1992: *Architecture for a Changing World*, Academy Editions, London

Steiner, Dietmar, 1994: "Welche Lebensräume?", in: Franz Vranitzky (ed.), *Themen der Zeit*, Renner-Institut Passagen Verlag, pp 269-279

Strathern, Marilyn, 1994: "Parts and Wholes: Refiguring Relationships", in: Robert Borofsky (ed.), *Assessing Cultural Anthropology*, McGraw-Hill, Inc., New York, pp 204-217

Sullivan, Louis, 1963: *The Testament of Stone*, Northwestern University Press

Tenbruck, Friedrich H., 1990: "The Dream of a Secular Ecumene: The Meaning and Limits of Policies of Development", in: Mike Featherstone (ed.), *Global Culture*, SAGE Publications Ltd., London, pp 194-206

Tipple, A. Graham and Wilkinson, Nicholas, 1992: "Self-Help Transformation of Government-Built Flats", in: *Beyond Self-Help Housing*, Mansell Publishing Limited, London, pp 283-309

Tomlinson, John, 1997: "Cultural Globalisation: Placing and Displacing the West", in: Vincent Tucker (ed.), *Cultural Perspectives on Development*, Frank Cass and Company Ltd., London, pp 23-35

Tondup, Stanzin, 1997: "Health Activities in Leh District, Ladakh" in: Henry Osmaston and Nawang Tsering (eds.), *Recent Research on Ladakh 6*, Shri Jainendra Press, New Delhi, pp 297-302

Tsarong, Paljor, 1987: *Economy and Ideology on a Tibetan Monastic Estate in Ladakh: Processes of Production, Reproduction and Transformation*, University of Wisconsin-Madison: Dissertation, UMI 8801506, Wisconsin

Tucker, Vincent, 1997: *Cultural Perspectives on Development*, Frank Cass and Company Ltd., London

Turner, Bertha, 1988: *A Third World Case Book*, HIC Habitat International Coalition, Berlin

Turner, John F. C. and Fitcher, R. (eds.) , 1972: *Freedom to Build*, Collier-Macmillan, New York

Turner, John F. C. and Mangin, William P., 1969: "Benavides and the Barriada Movement", in: Paul Oliver (ed.), *Shelter and Society*, The Cresset Press, London, pp 127-136

Uhl, Ottokar and Tavalato, Paul, 1992: "Computers, Participation and Self-Help Housing", in: Kosta Mathéy (ed.), *Beyond Self-Help Housing*, Mansell Publishing Limited, London, pp 269-280

UNCHS (Habitat), 1991a: *Global Strategy for Shelter to the Year 2000*, Nairobi

UNCHS (Habitat), 1991b: *Human Settlements Development Through Community Participation*, Nairobi

UNCHS (Habitat), 1992a: *Human Settlements Sector Review, Fiji*, UNCHS, Nairobi

UNCHS (Habitat), 1992b: *Multilingual Glossary of Human Settlement Terms*, UNCHS, Nairobi

UNCHS (Habitat), 1993a: *Human Settlements Sector Review of Papua New Guinea*, UNCHS, Nairobi

UNCHS (Habitat), 1993b: *Public/Private Partnerships in Enabling Shelter Strategies*, UNCHS, Nairobi

UNCHS (Habitat), 1994a: *International Experiences with Shelter Delivery for the Poorest Groups*, UNCHS, Nairobi

UNCHS (Habitat), 1994b: *Training Material Series - Hai El Salam Project*, UNCHS, Nairobi

UNCHS (Habitat), 1996a, *Hai el Salam Project*, UNCHS, Istanbul

UNCHS (Habitat), 1996b: *An Urbanizing World - Global Report on Human Settlements, 1996*, Oxford University Press, Oxford

United Nations, 1990: *Trends in Research on Human Settlements in ECE Countries*, UN Department of Public Information, New York

United Nations, 1996: *Habitat Agenda and Istanbul Declaration - Second United Nations Conference on Human Settlements, Istanbul, Turkey 3-14 June 1996*, UN Department of Public Information, New York

Viswesvaran, Kamala, 1994: *Fictions of Feminist Ethnography*, University of Minnesota Press, Minneapolis

Vitruv, Pollio, 1991/1486: *Zehn Bücher über Architektur*, Darmstadt

Vorlauffer, Karl, 1996: *Tourismus in Entwicklungsländern. Möglichkeiten und Grenzen einer nachhaltigen Entwicklung durch Fremdenverkehr*, Wissenschaftliche Buchgesellschaft, Darmstadt

Waterson, Roxana, 1990: *The Living House - An Anthropology of Architecture in Southeast Asia*, Oxford University Press, Kuala Lumpur

Waterson, Roxana, 1995: "Houses and Hierarchies in Island Southeast Asia", in: Janet Carsten and Stephen Hugh-Jones (eds.), *About the House*, Cambridge University Press, Cambridge, pp 47-68

Wernhart, Karl R., 1991: "Ist Hausforschung heute aktuell?", in: *Mitteilungen der Anthropologischen Gesellschaft in Wien*, Band 121, Wien

Wernhart, Karl R. and Zips, Werner (eds.), 1998: *Ethnohistorie - Rekonstruktion und Kulturkritik*, Promedia

Wienands, Rudolf, 1983: *Lehmarchitektur der Pueblos*, DuMont Verlag, Köln

Wilk, Richard, 1994: "Consumer Goods as Dialogue About Development: Colonial Time and Television Time in Belize", in: Jonathan Friedman, *Consumption and Identity*, Harwood Academic Publishers GmbH, pp 97-118

Wilk, Richard, 1990: "The Built Environment and Consumer Decisions", in: Susan Kent: *Domestic Architecture and the Use of Space*, Cambridge University Press, Cambridge, pp 34-42

Wilson, P., 1988: *The Domestication of the Human Species*, Yale University Press, New Haven

World Commission on Environment and Development: *Our Common Future*, Oxford University Press, Oxford, 1987

Worsley, Peter, 1984: *The Three Worlds: Culture and World Development*, Weidenfeld and Nicolson, London

Worsley, Peter, 1990: "Models of the Modern World-System", in: Mike Featherstone (ed.), *Global Culture*, SAGE Publications Ltd, London, pp 84-95

Yoshino, Kosaku, 1996: *Cultural Nationalism in Contemporary Japan*, Routledge, London

Internet

Dwyer, Julia: *Giancarlo & Matrix*, 4th May 2002, www.bton.ac.uk/archid/car2gm1.html

Egenter, Nold, 8 Dec. 1997: *Habitat Research and Architectural Anthropology*, www.home.worldcom.ch:80/negenter/061aFramewrkTX_E1.htm

IASTE, 8 Dec. 1997: *IASTE Konferenz - Aufbau einer Architekturwissenschaft*, www.ced.berkeley.edu/iaste/conf_96_call.htm

Panos Media Briefing, 28 July 1999: *The Internet: Can it Improve Life in Developing Countries?* www.oneworld.org/panos

Poncar, Jaroslav, 23rd March 2001: *Die Wunder von Alchi*, Insider Fachhochschule Köln, Dec. 1994, in: www.presse.fh-koeln.de/service/insider/insider3/alchi.html

Thupten Rinpoche, 5th May 2001: *Turning the Wheel of the Dharma*, Teaching at Dhargyey Buddhist Centre, 5 May 1996, in: www.earthlight.co.nz/users/sonamt/DBCe/trt2-963.html, 20 Aug. 2001

Tucci, Giuseppe, 20th Aug. 2001: *Introduction*, in: www.stupa.org.nz/stupa/intro.htm

15th Dec. 2001: Luis *Barragan* – *Pritzkerprize laureat*, www.pritzkerprize.com/barragan/barraganpg.htm

Interviews and Lectures

Interviews

(the 35 interviews that were conducted in the colonies and households in Leh are not listed here – see separate list in the appendix)

Angchuk, Gonbo, 16th June 2000: Employee at the LEDeG Center for Building and Technology, Changspa, Leh/Ladakh

Ali, Issa, 19th July 2000: Government employee in Murtsey Employees Colony, Murtsey Colony

Briga, Irene, 24th July 2000: Tourist from the U.S., Leh/Ladakh

Dawa, Sonam, 30th June 2000: Chief Advisor of LEDeG, Leh/Ladakh

Dolma, Sonam, 12th July 2000: Resident of PWD Government Housing, Housing Colony

Esak, 30th June 2000: Muslim residence in the Housing Colony, Housing Colony

Falch, Friedrich, Feb. 1998: Austrian architect, Vienna, Austria

Gergan, E.S., 7th July 2000: Reverent of the Moravian Church in Leh, Leh/Ladakh

Kolli, Isabel, 29th July 2000: Swiss tourist, Leh/Ladakh

Konchok, 10th July 2000: Artist and Thanka painter, former LEDeG member, Housing Colony

Mariam, 29th July 2000: Tourist from the Netherlands, Leh/Ladakh

Motup, 6th July 2000: Official at the engineering department in Leh, Leh/Ladakh

Namgyal, C., 25th June 2000: Resident in a green suburb of Leh, Leh/Ladakh

Nazir, 7th July 2000: R & B Devision, Leh/Ladakh

Rabgias, Tashi, 1st Aug. 2000: Ladakhi Buddhist scholar, Leh/Ladakh

Rahman, Abdul, 3rd Aug. 2000: Ibex Sainik Corporation

Sheik, Abdul Gani, 23rd June 2000: Muslim scholar, Leh/Ladakh

Wael-Ofen Yael, 1st Aug. 2002: Israeli tourist, Leh/Ladakh

Wangchok, Phuntsog, 18th July 2000: SWRC (NGO on energy), Leh

Wangchok, Tsering, 4th July 2000: Statistical Officer, resident of PWD Government Housing, Housing Colony

Yogi, 30th July 2000: Japanese tourist and researcher on *amchi* medicine, Leh/Ladakh

Lectures

Jackson, Mark, 5th Nov. 2001: *Pacific Architecture – Lévi Strauss and Beyond*, Institut for Social and Cultural Anthropology, University of Vienna

Naisbitt, John, May 1999: *High Tech – High Touch*, Business University Vienna

Journals

Ahmad, Aijaz, 1995: "The Politics of Literary Postcoloniality", in: *Race and Class*, Vol. 36, No. 3, pp 1-20

Alhasani, Nadia M., 1996: "Tradition vs. Modernity: The Quest for a Cultural Identity", in: *Traditional Dwellings and Settlement Review*, Vol. 7, No. 2, IASTE, Berkeley, pp 35-40

AlSayyad, Nezar, 1995: "From Vernacularism to Globalism: The Temporal Reality of Traditional Settlements", in: *Traditional Dwellings and Settlement Review*, Vol. 7, No. 1, IASTE, Berkeley, pp 13-24

Becker, Arno; Köhler, Claudia; Ribbeck, Eckhart, 1997: "Hofhäuser in den Colonias Populares von Mexiko-Stadt", in: *Trialog*, 2/1997, Magazin Verlag, Kiel, pp 42-48

Böhme, H., 1998; Körte, A.; Schott, D.; Tiong Gie, S.; Skroblied, H.; Tjoa-Bonatz, M. L.; Toyka-Seid, M.: "Urbanisierung und Altstadterneuerung in Südostasien", in: *Trialog*, 1/1998, Magazin Verlag, Kiel, pp 4-7

Cohen, Michael, 1996: "From the Virtual City to the City of Virtue", in: *Traditional Dwellings and Settlement Review*, Vol. 9, No. 1, IASTE, Berkeley, pp 52-54

Davids, Rene, 1995: "Derivative or Imitative? Modern Architecture in Chile", in: *AIA, Architecture California*, AIACC, p39

Frank, Daphne, 1996: "Altstadtsanierung als Eingriff in die Lebenswelt. Eine Fallstudie aus Quito", in: *Trialog*, 4/1996, Magazin Verlag, Kiel, pp 11-17

Gangler, Anette and Ribbeck, Eckhart, 1997: "Das Hofhaus im Vorderen Orient - Ein traditioneller Bautyp und seine Veränderung im heutigen Syrien", in: *Trialog*, 2/1997, Magazin Verlag, Kiel, pp 5-11

Gangler, Anette, 1997: "Zurück zum Hofhaus - Entwicklungstendenzen in Buchara, Uzbekistan, seit der Unabhängigkeit", in: *Trialog*, 2/1997, Magazin Verlag, Kiel, pp 26-30

Graburn, Nelson, 1997: "IASTE 1996: Retrospect and Prospect", in: *Traditional Dwellings and Settlement Review*, Vol. 9, No. 1, IASTE, Berkeley, pp 60-63

Gonbo, Tsewang, 1998: "LPG Gas Abuses", in: *Ladags Melong*, Vol. 1, Issue 1, Melong Press, Leh/Ladakh, pp 10-11

Heidegger, Martin, 1969: "Art and Space", in: *Man and World: An International Philosophical Review*, Vol 6, No 1, Feb '73, pp 3-8

Hock-Beng, Tan, 1995: "(Re)presenting the Vernacular/(Re)inventing Authenticity: Resort Architecture in Southeast Asia", in: *Traditional Dwellings and Settlement Review*, Vol. 6, No. 2, IASTE, Berkeley, pp 25-36

Howe, L.: "An Introduction to the Cultural Study of Traditional Balinese Architecture", in: *Archipel* 25, pp 137-158

Humphrey, C., 1988: "No Place Like Home in Anthropology: The Neglect of Architecture", in: *Anthropology today*, Vol. 4, No. 1, pp 16-18

Hussein, 1994: "Respect Religions", in: *Ladags Melong*, No. 2, Summer Trial Issue, Leh/Ladakh, p 5

Kaitilla, Sababu, 1998: "Privacy and Crowding Concepts in Melanesia: The Case of Papua New Guinea", in: *Habitat International*, Vol. 22, No. 3, Elsevier Science Ltd., Exeter, pp 281-297

Kassab, Tsouria, 1997: "Die Entwicklung des Patios im Einfamilienhaus in Algerien", in: *Triolog*, 2/1997, Magazin Verlag, Kiel, pp 12-17

Khan, Masood A., 1996: "Catching a Passing Moment: The Redeployment of Tradition", in: *Traditional Dwellings and Settlement Review*, Vol. 7, No. 2, IASTE, Berkeley, pp 43-60

King, Anthony, 1997: "The Politics of Traditional Environments", in: *Traditional Dwellings and Settlement Review*, Vol. 9, No. 1, IASTE, Berkeley, pp 58-59

Killory, Christine, 1995: "The New International Style: It Matters Where You Are", in: *AIA, Architecture California*, AIACC, p60

Kowaltowski, Doris C. C., 1998: "Aesthetics and Self-Built Houses: An Analysis of a Brazilian Setting", in: *Habitat International*, Vol. 22, No. 3, Elsevier Science Ltd., Exeter, pp 299-312

KT News Service, 1996: "Road Still Closed, Famine Conditions Developing", in: *Ladags Melong*, Vol. 1, Issue 4, Melong Press, Leh/Ladakh, pp 10-11

Kyle, Sandra and Teasdill, Wendy, 1994: „Families of the Diaspora – The Tibetan Camps at Choglamsar“, in: *Ladags Melong*, No. 2, Summer Trial Issue, Leh/Ladakh, pp 40-43

Lai, On-Kwok, 1998: "Governance and the Housing Question in a Transitional Economy - The Political Economy of Housing Policy in China Reconsidered", in: *Habitat International*, Vol. 22, No. 3, Elsevier Science Ltd., Exeter, pp 231-243

Leeb, Franziska, 1998: "Baustelle zwischen zwei Kulturen: Centre Culturel J.M. Tjibaou in Nouméa, Neukaledonien", in: *architektur*, Okt. 98, Laser Zeitschriftenverlag, Wien, pp 24-29

Miao, Pu, 1995: "Design Trends in Contemporary Chinese Architecture", in: AIA, *Architecture California*, AIACC, p 29

Mittringer, Markus, 2001: "Ernst Gombrich 1909-2001", in: *Der Standard*, 7th Nov. 2001, Standard Verlagsges. mbH, Wien, p 25

Moffat, Christl, 1997: "Flush Toilets", in: *Ladags Melong*, Vol. 1, Issue 2, Melong Press, Leh/Ladakh, p 5

Oestereich, Jürgen, 1997: "Erweiterung des Provinzkrankenhauses Kaedi, Mauretanien", in: *Trialog*, 1/1997, Magazin Verlag, Kiel, pp 26-29

Patel, Sheila, 1995: "Women Pavement Dwellers Organize for Housing in India", in: AIA, *Architecture California*, AIACC, p55

Piesch, Roswitha, 1995: "Planen mit Frauen - zur Erhebungsmethodik sozioökonomischer Daten im ländlichen Raum von Bangladesh", in: *Trialog*, 1/1995, Magazin Verlag, Kiel, pp 38-41

Ramirez-Nieto, Jorge, 1997: "Zeitgenössische Architektur in Kolumbien - Faszination und Enttäuschung", in: *Trialog*, 1/1997, Magazin Verlag, Kiel, pp 12-14

Ribbeck, Eckhart, 1997: "Mexikanische Höfe", in: *Trialog*, 2/1997, Magazin Verlag, Kiel, pp 37-41

Rieger, Andrea, 2001: "Architecture and Anthropology in Ladakh", in: *Trialog*, 1/2001, Magazin Verlag, Kiel, pp 40-43

Rotondi, Michael; Kalinski, John; Jencks, Charles, 1995: "Architects Jump Around", in: AIA, *Architecture California*, AIACC, p 76

Sanchez, Victoria, 1997: "Kolumbianische Architektur der Gegenwart", in: *Trialog*, 1/1997, Magazin Verlag, Kiel, pp 5-14

Sandhu, R.S. and Aldrich, B.C., 1998: "Third World Housing: The Future is Now", in: *Habitat International*, Vol. 22, No. 3, Elsevier Science Ltd., Exeter, pp 209-213

Schlyter, Ann, 1998: "Housing Policy in Zambia: Retrospect and Prospect", in: *Habitat International*, Vol. 22, No. 3, Elsevier Science Ltd., Exeter, pp 259-271

Scimemi, Maddalena, 2000: "Peruvians Make Lima – Third Generation for the Third World", in: *Architektur Aktuell*, Sept. 2000, Springer-Verlag KG, Wien, pp 96-107

Sheikh, Abdul Ghani, 1997: "Muslim Monuments in Ladakh", in: *Ladags Melong*, Vol. 1, Issue 2, Melong Press, Leh/Ladakh, p 24-25

Steele, James, 1996: "The Translation of Tradition: A Comparative Dialectic", in: *Traditional Dwellings and Settlement Review*, Vol. 7, No. 2, IASTE, Berkeley, pp 19-33

Teixeira de Paiva, Valeria, 1999: "Das Programm Favela Bairro - zur Wohnungspolitik in Rio de Janeiro", in: *Dialog*, 2/1999, Magazin Verlag, Kiel, pp 47-49

Tigerman, Stanley, 1996: "Practitioners Grade the Schools", in: *Architecture*, LXXXV:8, 8/1996, p 91

Tipple, A. Graham and Korboe, David, 1998: "Housing Policy in Ghana: Towards a Supply-Oriented Future", in: *Habitat International*, Vol. 22, No. 3, Elsevier Science Ltd., Exeter, pp 245-247

Toffin, Gérard, 1994: "Ecology and Anthropology of Traditional Dwellings", in: *Traditional Dwellings and Settlement Review*, Vol. 7, No. 1, IASTE, Berkeley, pp 9-20

Wangchuk, Sonam, 1995: "In the Name of Education", in: *Ladags Melong*, Vol. 1, Issue 1, Melong Press, Leh/Ladakh, pp 12-19

Wangchuk, Sonam, 1998a: "System Failure", in: *Ladags Melong*, Vol. 1, Issue 2, Melong Press, Leh/Ladakh, pp 10-13

Wangchuk, Sonam, 1998b: "The Best of Friends & the Worst of Enemies", in: *Ladags Melong*, Vol. 1, Issue 1, Melong Press, Leh/Ladakh, pp 29-32

Willmann-Hohmann, Annette, 1997: "Eritrea - Städtebau in der Nachkriegssituation", in: *Dialog*, 3/1997, Magazin Verlag, Kiel, pp 21-25

Yatsuka, Hajime, 1995: "Architecture in the Age of Postmodern Globalism", in: *AIA, Architecture California*, AIACC, p35

Papers

Appadurai, Arjun, 2002: *Sustainable Diversity : The Indivisibility of Culture and Development*, Concept Note for UNESCO, Johannesburg Summit on Sustainable Development, Draft: July 30, 2002

Amerlinck, Marie-Jose, 1994: "The Challenge of Change: Ethnic Identity and Built Form Among the Mexican Purpechas", in: Nezar AlSayyad (ed.), *Traditional Dwellings and Settlements Working Paper Series*, V 56, IASTE, University of California, Berkeley

Babu, Venkatesh and Kuttaiah, Kalpana, 1996: "Cultural Continuity in Development", in: Nezar AlSayyad ..., V 96

Berberoglu, Berch, 1994: "The Impact of Globalization on Traditional Settlements in the Periphery", in: Nezar AlSayyad ..., V 58

Bonnamour-Lloyd, Dominique, 1996: "Tradition and Modernity in Contemporary Sonoran Architecture", in: Nezar AlSayyad ..., V 78

Broudehoux, Anne-Marie, 1996: "The Chinatownization of Beijing: Architecture, Power and Identity", in : Nezar AlSayyad ..., V 92

Bruskeland Amundsen, Ingun, 1994: "Buthan: Living Culture and Cultural Preservation", in: Nezar AlSayyad ..., V 67

Buntrock, Dana and Locher, Mira, 1996: "The Use of Tradition in Contemporary Japanese Architecture", in: Nezar AlSayyad ..., V 95

Casault, André and Covo, David, 1996: "Territories, Powers and Controls: An Accurate Survey of the Beijing Courtyard House Today", in: Nezar AlSayyad ..., V 81

Chi-Hsien Sun, Frank and Jin-Yeu Tsou, 1996: "Interfacing a New Culture: Pedagogical Realities of Architecture in Cyberspace", in: Nezar AlSayyad ..., V 90

Coudart, Anick: "Using the Dwelling to Study Culture", in: Nezar Al Sayyad..., V 62, 1994

Cody, Jeffrey W. and Richardson, James R., 1996: "Finding a Place for Tradition in Sha Tin, Hong Kong, 1976-1996", in: Nezar AlSayyad ..., V 93

Darjosanjoto, Endang T. S. and Brown, Frank E., 1996: "The Natural Setting and the Social Setting: Influences on the Architectural Morphology of Traditional Coastal Communities in Indonesia", in: Nezar AlSayyad ... V 88

Denel, Bilgi, 1996: "Our War with Houses is the Fiercest of All", in: Nezar AlSayyad ..., V96

Ede, Emmanuel I.: "Traditional Dwellings Between Imported and Autochthonous Principles: A Case of Northern Igboland, Nigeria", in: Nezar AlSayyad ..., V 92, 1996

El Kerdany, Dalila and Shafik, Zeinab, 1994: "Insider/Outsider Eye on the Streets of Cairo", in: Nezar AlSayyad ..., V 67

Hanna, R. and Simpson, P., 1996: "The Climate and the Social Climate of a Design Stereotype: The Courtyard Paradigm", in: Nezar AlSayyad ..., V 88

He, Xiaoxin; Xymes, Martin; Robinson, M. E., 1996: "Fengshui: Memory, Folklore, and Identity in a Chinese Community in Manchester, UK", in: Nezar AlSayyad ..., V 81

Helmy, Sawsan A., 1994: "A Contemporary Interpretation of the Traditional Paradigm", in: Nezar AlSayyad ..., V 66

Hock Beng, Tan, 1994: "(Re)presenting the Vernacular: (Re)inventing Authenticity - Resort Architecture in Southeast Asia", in: Nezar AlSayyad..., V 63

Kellet, Peter and Napier, Mark, 1994: "Squatter Architecture as Vernacular: Examples from South America and South Africa", in: Nezar AlSayyad ..., V 60

Kiang, Heng Chye and Min, Gan Ser, 1996: "Utilizing the Past in Reality of the Present: A Case Study of Bell-and-Drum Tower District in Beijing", in: Nezar AlSayyad ..., V96

Korca, Perver, 1996: "Tourism as a Factor of Change", in: Nezar AlSayyad ..., V85

Knights, Clive R., 1996: "The Struggle of Mortal over Matter: Tradition and Innovation in the Continuity of Culture", in: Nezar AlSayyad ..., V 84

LEDeG, 1992a: „Trombe Walls in Ladakh“, LEdEG, Leh/Ladakh

LEDeG, 1992b: „Ecological Steps Towards a Sustainable Future“, LEdEG, Leh/Ladakh

LEDeG, 1997: „Renewable Energy Resource Data Collection in Ladakh, India. A Summary of Data Collected and Other Work Completed in 1996“, LEdEG, Leh/Ladakh

LEDeG, 1998: „Renewable Energy Resource Data Collection in Ladakh, India. A Summary of Data Collected and Other Work Completed in 1997“, LEdEG, Leh/Ladakh

Makarem, Afaf and Refaat, Ahmed, 1994: "Alternative Approaches to the Definition of the Role of Traditional Settlements in the New World Order", in: Nezar AlSayyad ..., V 66

McClean, Laura, 1996: "Cultural Traces in Barbadian Vernacular Architecture: Where Have They Come From and Where Might They Go?", in: Nezar AlSayyad ..., V 89

Mezughi, Mustafa and Hanna, R., 1994: "Sustainable Paradigms in Tradition: A Panacea for the Future?", in: Nezar AlSayyad..., V 66

Pinson, Daniel, 1994: "Migration Between Europe and North Africa and the Hybridization of Urban and Domestic Practices", in: Nezar AlSayyad ..., V 52

Pirani, Khalil, 1996: "In Search of Identity: Mosque Architecture of New England", in: Nezar AlSayyad ..., V 89

Powell, Robert, 1996: "Erasing Memory, Inventing Tradition, Rewriting History - Planning as a Tool of Ideology", in: Nezar AlSayyad ..., V 93

Rapaport, Amos, 1994: "Sustainability, Meaning, and Traditional Environments ", in: Nezar AlSayyad ..., V 75

Reynolds, John S., 1996: "Change, Threat and Opportunity: Courtyard Buildings in Colima, Mexico", in: Nezar AlSayyad ..., V 88

Santosa, Mas, 1996: "Rethinking Environmentally Responsible Architecture; A Case of Traditional Architecture in the Tropic of Indonesia", in: Nezar AlSayyad ..., V 88

Semple, William, 1996: "Tibetan Architecture: Exploring a Cultural Continuum", in: Nezar AlSayyad ..., V 98

Sobti, Manu P., 1996: "Migration and Cultural Identity: Pathan Mohallas in Bhopal, India", in: Nezar AlSayyad ..., V 89

Steele, James, 1996: "The Durability of Nubian Tradition", in: Nezar AlSayyad ..., V 89

Tonna, Jo, 1992: "A Traditional Environment Globalized: The Users´ Response", in: Nezar AlSayyad ..., V 37

UNESCO, 1990: "Report of the Working Group on the Cultural Dimension of Development", in: *Intergovernmental Committee of the World Decade for Cultural Development - Final Report*, Paris, 5-9 Feb. 1990, Annex IV

Van Dyke, Mary, 1994: "Constructing Tradition: Foundation Rituals of a Modernist-Tibetan Monastery in Switzerland", in: Nezar AlSayyad ..., V 64

Veranda, Fernando, 1996: "Twenty Years of Change in the Built Environment of Yemen", in: Nezar AlSayyad ..., V 95

Yip, Christopher L., 1996: "California Chinatowns: Built Environments Expressing the Hybridized Culture of Chinese Americans", in: Nezar AlSayyad ..., V 80