Adobe Architecture Conservation Guidelines

Focusing on Yazd Historic City

Mohsen Abbasi Harofteh
Seyed Mohammad Amin Tabatabaei
حفاظت معماری خشتی

(با تمرکز بر شهر تاریخی یزد)

راهنمای

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Adobe Architecture Conservation Guidelines
(Focusing on Yazd Historic City)

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We sincerely apologize to the ones whose pictures are published without citing their names due to lack of information.
Foreword (1)

The historic city of Yazd, inscribed on the World Heritage List, is mostly built of earth. Therefore, it faces both difficulties in reconciling conservation and development, on one side, and specific maintenance and management issues associated along with the lack of traditional material skilled workers, on the other side. It shares common concerns with either the other 320 cities or the 203 earthen properties included in the World Heritage List. The challenges faced by these properties have led the World Heritage Committee to set up two specific programmes, the “World Heritage Cities Programme” initiated in South Africa in 2005 and the “World Heritage Earthen Architecture Programme” initiated in New Zealand in 2007. Both activities aim to share good practice within the international community of professionals and researchers.

This publication, designed to make the regulatory framework accessible to the general public and professionals, is the third experience of its kind in a World Heritage property, after those for the historic town of Grand Bassam in Côte d’Ivoire and Cidade Velha in Cape Verde. These past experiences have demonstrated the effectiveness of such tools in preventing bad practices and supporting good initiatives. Such books are not easy to produce because the legal texts are sometimes subject to interpretation. For this edition in Yazd, the experience was particularly fruitful due to the impressive mobilisation of human resources that the city has dedicated to conservation for many years.

The experience was particularly fruitful due to the impressive mobilisation of human resources that the city has dedicated to conservation for many years. The managers of the historic core, the academics as well as the technicians in charge of daily monitoring the sites were all mobilised to express their views of the values and the appropriate or inappropriate evolutions. Lively debates were necessary to decide which interventions in the heritage would be perfectly acceptable, which are totally inadmissible and which can be tolerated under certain conditions. This openness to negotiation shows the difficulty that such exercise imposes something which conservators all over the world know well. What one person may find brilliant may be considered shocking to his or her colleagues, as a result consensus requires long debates. Working with illustrations has, therefore, helped to settle the issue, as images speak louder than words. Thanks to this format, gross errors are no longer possible.

The formulation of this book has also enabled collaboration on heritage issues between the Municipality of Yazd, the site managers of Yazd-Base-ICHHTO and the University of Yazd. This networking is vital for the dissemination of good conservation practices. Yazd, a huge and skillfully produced sculpture entirely made of mud bricks, is the work of brilliant craftsmen who have combined their talents over many centuries to provide a climatically appropriate architecture. If the city is to survive and its structures are to be preserved, it is this collaborative intelligence that must continue to be brought to life, particularly by inviting architecture students to participate in the joint action.

We hope that other initiatives like this can be developed not only in Iran but also in other heritage cities in the world, whether or not they are on the World Heritage List.

Bakonirina Rakotomamony
CRAterre Chairperson
Préface (1)


Cette publication destinée à rendre accessible au grand public et aux professionnels le cadre réglementaire est la 3ème expérience de ce genre au sein d’un bien du patrimoine mondial, après celles pour la ville historique de Grand-Bassam en Côte d’Ivoire et de Cidade Velha au Cap-Vert. Ces expériences passées ont démontré l’efficacité de tels outils pour prévenir les mauvaises pratiques et soutenir les bonnes initiatives. De tels ouvrages ne sont pas évidents à produire car les textes de lois sont parfois sujets à interprétation. Pour cette édition à Yazd, l’expérience a été particulièrement fructueuse du fait de l’impressionnante mobilisation en ressources humaines que la ville dédie à la conservation depuis de nombreuses années. Les gestionnaires du cœur historique, les universitaires mais aussi les techniciens chargés du suivi journalier des chantiers ont tous été mobilisés pour exprimer leurs visions des valeurs et des évolutions convenables ou non. De vifs débats ont été nécessaires pour décider quelles interventions sur le patrimoine sont parfaitement acceptables, lesquelles sont totalement irrecevables mais aussi lesquelles peuvent être tolérées sous certaines conditions. Cette ouverture à la négociation montre la difficulté qu’un tel exercice impose et que les conservateurs du monde entier connaissent bien. Ce qu’une personne peut trouver génial peut être considéré comme choquant pour son collègue et les consensus requièrent de longs débats. Le travail avec les illustrations a donc permis de trancher, les images étant plus éloquentes que les mots. Grâce à ce format, les erreurs grossières ne sont plus possibles.

La formulation de cet ouvrage a d’autre part permis des collaborations sur les enjeux patrimoniaux entre la municipalité de Yazd, les gestionnaires de sites de Yazd-Base-ICHHTO et l’université de Yazd. Cette mise en réseau est vitale pour la diffusion des bonnes pratiques de conservation. Yazd, immense sculpture savante entièrement constituée de briques de terre crue, est l’œuvre d’artisans géniaux qui ont conjugué leurs talents au fil des siècles pour offrir une architecture climatiquement adaptée. Pour que la ville survive et que ses structures soient conservées, c’est cette intelligence de la collaboration qu’il faut continuer de faire vivre, notamment en invitant les jeunes étudiants en architecture à la réflexion commune.

Nous espérons que d’autres initiatives comme celle-ci pourront être développées, en Iran bien sûr mais aussi au sein d’autres villes patrimoniales dans le monde, qu’elles soient ou non inscrites sur le Liste du patrimoine mondial.

Bakonirina Rakotomamonjy
Présidente, CRAterre
Foreword (2)

The historic city of Yazd, as the only World Heritage City in Iran, has the most extensive historic fabric in the country. In historic cities, due to the multitude of beneficiaries and influential parties, education and capacity building aiming protection and restoration become excessively important. Fortunately, in Yazd, recognition and understanding the values and initiatives for protection and restoration have been developing increasingly since the last decade by the local residents. After inscription as a World Heritage Site, this attention rocketed up so much that, in addition to the local residents, other people are generally involved in the restoration of historic places while some have entered for the development of tourist centers.

In the meantime, due to the scope of activities and the lack of correct and comprehensive understanding of authenticity and integrity, in general, and in some infrastructures and more tourist uses in particular, wrong restoration interventions have been observed. This issue requires continuous monitoring, drafting technical and executive guidelines, and clarifying issues related to restoration in plain language for all addressers, from local residents to practitioners, consultants, and restoration contractors whose understanding of restoration can largely prevent incorrect restoration interventions and even gradually eliminate inappropriate additions and restorations. In this regard, since the preparation of the nomination file for World Heritage inscription, efforts were concentrated on this issue, after which a summary of the work process was prepared and published. However, an illustrated collection seemed to be necessary to compare appropriate and inappropriate intervention to clarify the concept and stress the importance of maintaining authenticity and integrity for those involved in the intervention in the historic city, a manual available to everyone, so that the integrated protection management of the historic city of Yazd could be accomplished more effectively with the maximum participation of stakeholders. Since Yazd is the leading historic fabric of the country in the field of conservation as its conservation and restoration activities would have become a model for other historic cities in the country, the publication of such a book becomes vitally important.

This manual, which is prepared to educate the public, make restoration cheaper for the local community, attract their participation as much as possible, and train new consultants and contractors in the historic city of Yazd, attempts to distinguish appropriate restoration from the inappropriate ones based on the components of authenticity and integrity as well as national and international standards through depiction and documenting in plain language. I hope that this book will provoke discussion and deepen understanding of heritage issues between conservationists, the local community and investors. I am especially grateful to all those involved in the preparation of this important and necessary book.

Mohammad Hassan Talebian
Associate Professor of Tehran University, and Advisor to the Minister of Cultural Heritage Tourism and Handicrafts

Professor Mohammad Hassan Talebian, Associate Professor of Tehran University, and Advisor to the Ministry of Cultural Heritage, Tourism, and Handicrafts
Préface (2)

La ville historique de Yazd, seule ville d'Iran inscrite sur la Liste du patrimoine mondial, présente le plus vaste tissu historique urbain du pays. Dans un tel contexte, l’éducation et le renforcement des capacités sont la clé de la protection et de la restauration, pour gérer la multitude de bénéficiaires et d’acteurs influents. Heureusement, à Yazd, la reconnaissance par les populations locales des valeurs de leur patrimoine et les initiatives heureuses pour leur protection n’ont cessé de se développer au cours de la dernière décennie. Avec l’inscription sur la Liste du patrimoine mondial, cette attention s’est accrue, tant et si bien que, à côté des populations locales, d’autres personnes se sont impliquées dans la restauration de lieux historiques ou dans le développement d’aménagements touristiques. Cependant, quelques interventions inappropriées sont à déplorer, dans certaines infrastructures touristiques en particulier, malgré une bonne compréhension globale de l’authenticité et de l’intégrité. Empêcher les dérives implique une surveillance continue, la diffusion de directives techniques et administratives claires utilisant des outils de communication intelligibles par toutes les personnes pouvant impacter le bien comme les habitants, les praticiens, les consultans et les entrepreneurs en restauration. Leurs compétences contribuent à éviter les interventions erronées et permettent de progressivement effacer les transformations malheureuses des dernières années.

Dans l’optique d’accompagner les bonnes pratiques, de nombreux efforts ont été faits depuis la préparation de la proposition d’inscription sur la Liste du patrimoine mondial, dont la publication d’un récapitulatif des étapes d’intervention que chaque projet doit respecter. Cependant, une collection illustrée semblait indispensable pour montrer la différence entre une intervention appropriée et une intervention inappropriée. Le format adopté ici permet au plus grand nombre de s’approprier simplement la question de la sauvegarde de l’authenticité et de l’intégrité et ouvre la voie à une gestion efficace et intégrée du cœur historique de la ville de Yazd par le plus grand nombre de parties prenantes possible. Yazd est devenu un laboratoire et un modèle phare du pays dans le domaine de la conservation et les pratiques mises en œuvre sont suivies de près par d’autres sites historiques dans le pays. La publication d’un tel ouvrage résulte des mobilisations de ces dernières années qui ont offert le recul nécessaire pour tirer les leçons des réalités du terrain. Ce manuel, pragmatique et éducatif, propose des solutions de restauration de bon sens qui s’avèrent bien souvent économiquement abordables pour les habitants. L’ouvrage aidera à les impliquer davantage et permettra d’êduquer de nouveaux consultants et entrepreneurs agissant sur la ville historique de Yazd. Il vise également à promouvoir les pratiques de restauration appropriées en considérant aussi bien les notions d’authenticité et d’intégrité que les normes nationales ou internationales, à travers une iconographie riche et des descriptions puisant dans un langage clair. J’espère que cet ouvrage mènera à de passionnantes discussions et à une compréhension approfondie des questions relatives au patrimoine entre les conservateurs, la communauté locale et les investisseurs. Je suis particulièrement reconnaissant à tous ceux qui se sont impliqués dans la préparation de cet ouvrage indispensable et salutaire.

Mohammad Hassan Talebian
Professeur associé de l’Université de Téhéran
Conseiller du Ministre du Patrimoine, du Tourisme et de l’Artisanat
Foreword (3)

From the beginning, Islam has basically emphasized education as it revealed in the Quran that “Read in the name of your Lord who created, ... who taught by the pen, taught man what he did not know.” This school knows precisely that it is awareness and knowledge that brings a person to salvation and prosperity while it is his ignorance that ends in disaster and loss; therefore, he commences reading, knowing and raising awareness, accepting the correspondence between awareness and creating, as they both together become meaningful. He considers knowing synonymous with existence, while not knowing the coexistence of death and mortality as well as loss of spirituality. Consequently, reading is emphasized at the very beginning of the invitation. It is reading and education that raises awareness and develops thoughts with a direct and positive effect on the optimization of all conditions of human life.

Based on the amount and dimension of education, the development of societies can be measured. The more inclusive, stronger and continuous the education is in a society, the more developed and advanced that society will be. What differentiates modern societies from the past is education and the amount of capital, time and facilities allocated. The amount of attention devoted to this issue demonstrates the determination of each country for a better life in the present and future of its people and residents. For example, if, according to today’s global standards, some Scandinavian countries currently have high standards in human, social and cultural relations (definitely, in accordance with their cultural characteristics), the amount of attention and care they have bestowed on education at all age levels, without gender and sex discrimination, should be highlighted. The great emphasis of international institutions on this issue indicates its importance. Almost all global institutions in every field, including food, politics, culture, economy, to name but a few, have made education one of the main parts of their duty demandingly, among which are UNICEF and UNESCO, for their special position in this field.

Since the establishment of cultural heritage protection institutions, one of the issues that has always been emphasized, and is still, is education at all levels including experts, designers, implementers, users and finally all members of the society, as the concern is the presence or permanent loss of historical documents. The more society is aware of the importance and sensitivity of this issue, the more it will pay attention to its protection. In Iran, after the establishment of the Cultural Heritage Organization, with the establishment of the Deputy of Introduction and Education, its special importance was emphasized. Although there might be lack of unanimous approval of all its performance, it was considered to be some development in the protection of cultural heritage, since attention was paid to its existence. One of the serious disadvantages of the merger of cultural heritage with tourism (an event whose economic aspect, in the eyes of the country’s planners and managers, has prevailed over other aspects and divisions since its inception) is the removal of this department from the previous Cultural Heritage and Tourism Organization and the present ministry. This reveals that the planners and policy makers themselves are in dire need of training as they have removed one of the main aspects of institutionalization of...
A quick and cursory look at the preservation and restoration of historic monuments in areas where there is still a partial attention to the history and civilization and man’s historic past, as well as the many experiences of my experiences over the centuries, leads to the conclusion that those involved in the conservation and restoration are too weak in this matter and need training. Unfortunately, many shortcomings of Iranian universities in this field, the emphasis and insistence on the shortness of the educational courses in different levels of education, and especially graduate education (namely the master’s degree in conservation and restoration), the scientific weakness of the professors, particularly in the practical and appropriate education to meet the needs in Iran, indicate that this type of education will reach nowhere. These problems, along with the disconnection of relevant institutions such as Road and Urban development organization, Ministry of Cultural Heritage Tourism and Handicrafts, municipalities, Waqf (endowments for charity) Organization, etc., from universities, make the problem more complicated and unsolvable, and the future uncertain. If the main custodians of cultural heritage protection and other related institutions do not think of a way to work in this field early, there would definitely be serious problems in the future, when many historic monuments will be de-identified under the banner of protection and restoration, as the country’s historic documents will be destroyed.

In the meantime, all the departments of Ministry of Cultural Heritage Tourism and Handicrafts are responsible for the important mission of education and should be involved seriously, as international documents such as conventions, charters, and recommendations emphasize. This event should take a serious and bold form in the books, specialized meetings, conferences, and modern education tools (websites, virtual and social channels and networks, etc.). Furthermore, everyone in every related department needs to consider the activity in this field as an important and inseparable part of their responsibilities.

Dr. Abbasi Harofteh, who has been in charge of the World Heritage Base of the historic city of Yazd for some time, has realized this common weakness very well and has striven to train, through a picture book, some of those who currently have responsibilities in the field of cultural heritage protection in Yazd province, including consultants, contractors, to name but two, to eliminate some of the shortcomings in this field, which is worthy of praise, on the other hand, the book compares the appropriate situation with the inappropriate ones, which is new to the field and comprehensible to the audience. Collecting the visual documents of such a book must have definitely been a time-consuming and exhausting task, which needs to be appreciated with the hope that these activities will continue, as other researchers, enthusiasts, officials and ..., will pursue the path since very little has been accomplished compared to what needs to be done. Another hope is that
social networks, very widespread nowadays, when a very significant part of which deals with useless and opportunity-burning topics, have more presence in this field so that, in addition to experts, members of the society will have a better knowledge, understanding and insight into Iranian history and civilization that have reached us in the form of architecture, urban planning and other forms of cultural heritage.

Mohammad Hassan Khademzadeh
Member of the Faculty of Fine Arts, University of Tehran

* Surat Al-Alaq 1-5

Préface (3)

Dès l’origine, l’Islam a fondamentalement mis l’accent sur l’éducation, comme le révèle le Coran : “Lis, au nom de ton Seigneur qui a créé, ... qui a enseigné par la plume, enseigné à l’homme ce qu’il ne savait pas.”

Cette école sait précisément que c’est la conscience et la connaissance qui amènent une personne au salut et à la prospérité, tandis que c’est son ignorance qui aboutit au désastre et à sa perte. Par conséquent, elle encourage à lire, à connaître et à sensibiliser, en assumant la correspondance entre la conscience et la création, car les deux prennent sens ensemble. Elle considère que le savoir est synonyme d’existence, tandis que l’ignorance est la coexistence du néant et de la mortalité, ainsi que la perte de spiritualité.

Par conséquent, l’accent est mis sur la lecture dès le début de l’invitation. C’est la lecture et l’éducation qui éveillent la conscience et développent les pensées avec un effet direct et positif sur l’optimisation de toutes les conditions de la vie humaine. Le développement des sociétés peut être mesuré en fonction de la somme et de la profondeur de l’éducation. Plus l’éducation est inclusive, forte et régulière dans une société, plus cette société sera développée et avancée. Ce qui différencie les sociétés modernes du passé, c’est le traitement de l’éducation et la quantité de capital, de temps et de moyens qui y sont alloués. La part d’attention consacrée à cette question démontre la détermination de chaque pays à offrir une vie meilleure au présent et à l’avenir de sa population et de ses résidents. Par exemple, si, selon les normes mondiales actuelles, certains pays scandinaves ont des normes élevées en matière de relations humaines, sociales et culturelles (certainement, conformément à leurs caractéristiques culturelles), la quantité d’attention et de soin qu’ils ont accordé à l’éducation à tous les niveaux d’âge, sans discrimination de genre et de sexe, devrait être rappelée. L’importance accordée par les institutions internationales à cette question témoigne de son importance. Presque toutes les institutions mondiales dans tous les domaines, y compris l’alimentation, la politique, la culture, l’économie, pour n’en citer que quelques-uns, ont fait de l’éducation l’une des principales parties de leur devoir de manière exigeante, parmi lesquelles l’UNICEF et l’UNESCO, du fait de leur position particulière dans ce domaine. Depuis la création des institutions de protection du patrimoine culturel, l’une des questions qui a toujours été mise en avant, et qui l’est encore, est l’éducation à tous les niveaux, y compris l’éducation des experts, des concepteurs, des exécutants, des utilisateurs et enfin de tous les membres de la société, car la préoccupation est la conservation ou la perte permanente de biens historiques. Plus la société sera consciente de l’importance et de la sensibilité de cette question, plus elle prêtera attention à sa protection. En Iran, après la création de l’Organisation du patrimoine culturel, avec l’établissement du département d’éducation, son importance particulière a été soulignée. Bien qu’il n’y ait pas d’approbation unanime de toutes ses performances, elle a été considérée comme une évolution dans la protection du patrimoine culturel, puisqu’on a prêté attention à son existence. L’un des graves inconvénients de la fusion du patrimoine culturel avec le tourisme (un événement dont l’aspect économique, aux yeux des planificateurs et des gestionnaires du pays, a prévalu sur les autres aspects et divisions depuis sa création) est le retrait de ce département de l’ancienne Organisation du patrimoine culturel et du tourisme et du ministère actuel. Cela révèle que les planificateurs et les décideurs eux-mêmes ont un besoin urgent de formation car ils ont supprimé l’un des principaux aspects de l’institutionnalisation de la protection du lexique du patrimoine culturel du pays.

Malheureusement, la situation a atteint un point où le patrimoine culturel n’est considéré qu’à travers le prisme de l’économie touristique, à tel point que le manque d’identité nationale et les biens historiques perdus sont en augmentation par rapport au passé. Un
regard rapide et superficiel sur la conservation et la restauration des monuments historiques dans les régions où l’on accorde trop peu d’attention à la civilisation et au passé historique des populations, ainsi que l’examen des expériences menées au cours des siècles, permet de conclure que les personnes impliquées dans la conservation et la restauration étaient déficientes en la matière et auraient nécessité de la formation. Malheureusement, de nombreuses lacunes proviennent aujourd’hui des universités iraniennes dans ce domaine. Les cursus éducatifs sont trop brefs dans les différents niveaux d’enseignement, particulièrement dans l’enseignement supérieur (à savoir le master en conservation et restauration). La faiblesse scientifique des professeurs, en particulier dans l’enseignement pratique et approprié pour répondre aux besoins en Iran, indiquent que ce type d’enseignement ne mènera nulle part. Ces problèmes viennent se greffer à la déconnexion des universités avec les institutions impactant le patrimoine, telles que l’organisation des routes et du développement urbain, le ministère du Patrimoine culturel, du Tourisme et de l’Artisanat, les municipalités, l’organisation du Waqf (fonds de charité), etc. Si les principaux gardiens de la protection du patrimoine culturel et les autres institutions concernées ne réfléchissent pas rapidement à un moyen de travailler ensemble dans ce domaine, il y aura certainement de graves problèmes à l’avenir, lorsque de nombreux monuments historiques seront dépersonnalisés sous la bannière de la protection et de la restauration, et les biens historiques du pays seront détruits. En attendant, tous les départements du ministère du Patrimoine culturel, du Tourisme et de l’Artisanat sont responsables de l’importante mission d’éducation et devraient s’impliquer sérieusement, comme le soulignent les documents internationaux tels que les conventions, les chartes et les recommandations. L’éducation à la conservation doit prendre une forme sérieuse et audacieuse dans les livres, les réunions spécialisées, les conférences et les outils modernes d’éducation (sites web, canaux et réseaux virtuels et sociaux, etc.) En outre, tous les membres de chaque département concerné doivent considérer l’activité dans ce domaine comme une partie importante et indissociable de leurs responsabilités.

Le Dr. Abbasi Harofteh, qui est en charge de la base du patrimoine mondial de la ville historique de Yazd depuis un certain temps, a très bien compris cette faiblesse commune et s’est efforcé de former, par le biais d’un ouvrage très illustré, certains de ceux qui ont actuellement des responsabilités dans le domaine de la protection du patrimoine culturel dans la province de Yazd, y compris les maîtres d’œuvre et les entrepreneurs, pour ne citer que deux exemples, afin d’éliminer certaines des lacunes dans ce domaine, ce qui est digne d’éloges. D’autre part, le livre compare la situation appropriée avec les situations inappropriées, ce qui est nouveau dans le domaine et compréhensible pour le public. La collecte des documents visuels d’un tel livre a certainement dû être une tâche longue et épuisante, qui doit être appréciée avec l’espoir que ces activités se poursuivront, car d’autres chercheurs, passionnés et fonctionnaires poursuivront le chemin puisque très peu a été accompli par rapport à ce qui doit être fait. Un autre espoir est que les réseaux sociaux, très répandus de nos jours, alors qu’une partie très importante d’entre eux traite de sujets inutiles et opportunistes, soient plus présents dans ce domaine afin que, outre les experts, les membres de la société aient une meilleure connaissance, une meilleure compréhension et un meilleur aperçu de l’histoire et de la civilisation iraniennes qui nous sont parvenues sous forme d’architecture, d’urbanisme et d’autres formes de patrimoine culturel.

Mohammad Hassan Khademzadeh
Membre de la Faculté des Beaux-Arts, Université de Téhéran

* Sourate Al-Alaq 1-5
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Mohtaram House. Masjed-e Jame District. Yazd
Adobe has been the most common building material in the history; accordingly, adobe architecture is one of the most widespread types of human architecture, with a history of several thousand years. Interestingly, despite all technological advances, this architecture still includes a large area of human settlements in the world. Therefore, it is logical that a major part of the world heritage of mankind is adobe architecture.

Without exaggeration, adobe can be named as a masterpiece of traditional man who has created an efficient and flexible material for the production of various types of architecture with the most available material, soil. It is a cheap, noble, indigenous, environmentally friendly material, compatible with human nature, which has turned architecture into a human-centered tradition, not an anti-human industry, the one which is considered to be one of the three biggest polluting industries in the world today.

To human’s incalculable sufferings from deadly climatic changes, identity crisis and lack of peace due to today’s chaotic architecture, adobe can be an effective solution, a version that frees man from the new polluting, energy-consuming and water-consuming industry, and acts as a shield against the disturbances of the new world, bringing a stable and peaceful settlement for the man today. With the environmental problems and risks resulting from climate change, energy crisis, water resource crisis, the increasing growth of construction waste and most importantly the inability of the construction industry to meet the spiritual and psychological needs of people, it is expected that man will turn once more to adobe architecture, as the sparks can be seen today in the form of a specific example. With a little tolerance and understanding, by choosing a case example, it is attempted to express the topics in the form of a specific example.

This book is compiled to help preserve adobe architecture in an interconnected system of adobe buildings and not just as a single building. To make the presented material objective, practical and more understandable, by choosing a case example, it is attempted to express the topics in the form of a specific example. With a little tolerance and with regard to local changes, the protection of adobe architecture in other places might follow the same rules and principles; however, the case example is the World Heritage City of Yazd.

The historic city of Yazd is one of the largest adobe cities in the world, with more than 30000 historic lots in an area about 1000 hectares wide. It has the longest continuous and connected urban fabric in Iran, and was nationally inscribed as the first city of Iran in 2005. In 2017, after its inscription as a national heritage and increased attention to the historic region, it was inscribed as a world heritage with 195 hectares.
as the core zone and 665 hectares as the buffer zone. Various buildings of the city whose physical condition ranges from intact to dilapidated mostly belong to the private sector and then the Waqf organization (the charitable endowment). More importantly, life still continues in the historic region, while the original residents are still there with a bold presence of Iranian culture, customs and ceremonies; therefore, it requires more care and sensitivity in conservation.

As conservation of live historic cities includes a diverse range of interested and influential parties as well as stakeholders, it creates complications and differences in comparison to conservation of buildings, archeological sites and other historic works. Therefore, it is beyond the capabilities of one organization, and requires different social and governmental sectors to participate. An outstanding and large-scale example of these historic cities is Yazd in which the local community, beneficiaries, investors and even tourists comprise the various strata of the live historic city, each with a different understanding, expectation and approach to the city and its parts. Officially recognizing them and attempting to find a common interest with them about the historic city and its conservation details can facilitate cooperation and turn potential threats into opportunities.

For this purpose, raising awareness about the values and importance of cultural heritage, and interventions in them is crucial. This not only informs people about the importance of cultural heritage conservation, but can also lead to their active conservation, in which a considerable part of the conservation process of cultural assets can be done by the owners themselves.

Nowadays, extensive experience in historic building conservation has proved that conservation in general, and specifically in live historic cities, can only be achieved through people’s participation which itself requires awareness and education. In general, when conservation is a complicated, professional and expensive process, accomplished only by specific professionals, conservation of a historic city in which life is flowing will prove to be much more difficult. On the other hand, if people understand the tangible values of conservation and find it affordable, they might contribute and shoulder the responsibility. Obviously, this does not mean to disregarding referring to professionals for scientific conservation, but rather to teach conservation and its principles to people in simple terms so that they can handle most conservation efforts in their own cultural property. Recent experiences, especially after Yazd Inscription as a World Heritage, show that people often perform restoration on their buildings personally and for various reasons refrain from seeking qualified consultants. There is a common practice of personal construction and restoration where investors, despite hiring project consultants, attempt to apply their own personal preferences. This has led to serious and irreversible damages to some buildings during restoration and renovation, some of which are caused by lack of proper knowledge and experience in conservation, as claimed by the owners.
Therefore, despite successful restoration projects, some damages are inflicted on the buildings during restoration as a result of not referring to experts and even lack of proper conservation knowledge by consultants, contractors and experts. Despite efforts by governmental agencies to supervise conservation sites, factors such as vastness of the fabric, the same as the one in Yazd, introversion of buildings, to name but two, make permanent and effective supervision impossible. Essentially it is not feasible to protect the fabric merely through law enforcement but cultivation, education and providing a clear image, as the most effective factors in conservation. Surely, when people participate in conserving their historic properties, they would gain a better insight into the intricacies involved in their conservation which increases their sense of belonging, and leads to a sustainable and participatory conservation, provided that it is performed correctly.

The personal intervention practice of Yazdi people, along with shortage of experts familiar with conservation of adobe heritage and the potential of benefiting from the enthusiastic local community in conservation and use of historic buildings were the three main factors that led the agencies responsible for managing the historic city to believe that the only way to conserve the historic city of Yazd is through people’s awareness, education and participation. Pathological study of conservation mistakes in recent years especially after Inscription as World Heritage indicates that most interventions can be improved by minimum education to prevent mistakes. As a result, it seems that providing correct methods of conservation and creating a good understanding in the owners are key to conserving the historic city of Yazd.

Consequently, the present book aims to teach the principles of preliminary intervention in adobe architecture in simple terms to the local community, investors and beneficiaries of buildings both at the scale of the building and of a connected complex called city. Above all, the goal of this manual is to provide a correct and simple understanding of conservation and common mistakes that might happen in the city. Presenting pictures of good, acceptable and inappropriate interventions with short explanations helps to understand the mistakes and to promote correct intervention methods in historic buildings. Items chosen as headings and the content in the book are items with the most statistical frequency of bad interventions by the owners. All recent examples of good, acceptable and inappropriate interventions in Yazd historic city are included, meanwhile, authentic examples related to that specific item are presented at full-page pictures.

Fortunately, the traditional construction practice is still alive in Yazd, although it is degraded by exposed flaws such as cement use and fake designs. This practice and culture need to be purified and strengthened to advance the restoration movement in adobe architecture; the present manual strives towards this end by addressing the activists and experts in the field. Explaining and promoting systematic conservation and making it simple, public and affordable, while respecting the relevant regulations,
are the main goals of this manual. There is a hope that, one day, with the public knowledge and expertise, it will be possible for people to create a public conservation movement with the help of experts, just like the past when people were building the city with the help of the architects.

As a last note, the uniqueness of historic buildings in adobe cities makes it almost impossible to prescribe uniform restoration solutions. In such a context where no two buildings are alike, despite following the same patterns, general prescriptions will not suffice; therefore, prescriptions specific to each building based on its unique properties are of crucial importance. What distinguishes the present book is its attempt to explain the atmosphere of conservation for historic buildings based on recent experiences in Yazd. Therefore, examples with the most frequency are chosen to improve and revise such approaches and methods instead of proposing a typical and universal design. Admittedly, one of the flaws of such manuals is regularization and uniformization of restorations which should be avoided in preserving the original variety of the historic cities like Yazd. This book attempts to bring owners and investors into the conservation arena and help them understand principles such as authenticity, integrity, continuity, simplicity and the earthen nature of the historic fabric and buildings, hoping to encourage them into seeking building-specific advice from experts and consultants so as to properly conserve their cultural property.

Finally, it is necessary to appreciate the ones who have provided some pictures of this book, the Art and Architecture Faculty of Yazd University, Vernacular Architecture Research Center of Yazd University, Deputy of Cultural Heritage in the General Office of Cultural Heritage, Tourism and Handicrafts of Yazd, Office for Heritage Base Affairs in the Ministry of Cultural Heritage, Tourism and Handicrafts, CRAterre and the Cultural Department of the French Embassy in Iran, and all of the ones who have contributed to the preparation of this manual with the aim of preservation and continuation of a part of the valuable heritage of mankind.
Introduction

L’adobe a été le matériau de construction le plus répandu dans l’histoire. Son usage couvre des milliers d’années et s’est répandu sur l’ensemble de la planète. Il est intéressant de noter que, malgré tous les progrès technologiques, les architectures en adobes restent toujours présentes dans une grande partie des établissements humains. Il n’est donc pas étonnant que l’architecture en adobe soit également très présente sur la Liste du patrimoine mondial de l’humanité.

Sans exagération, l’adobe peut être qualifié de chef-d’œuvre de l’humanité. Ce matériau efficace et adaptable permet la production de divers types d’architecture sur la base d’une ressource simple et largement disponible, la terre. C’est un matériau bon marché, noble, local, respectueux de l’environnement, compatible avec la nature humaine, qui a fait de l’architecture une tradition centrée sur l’homme, et non sur l’industrie déshumanisée de la construction, aujourd’hui blâmée pour être l’une des trois plus grandes sources de pollution dans le monde.

Face aux souffrances incalculables de l’humanité infligées par des changements climatiques meurtriers, par une crise d’identité et par les troubles provoqués par l’architecture chaotique, la construction en terre peut être une solution efficace, une option qui libère l’humanité de la nouvelle industrie polluante, sur-consommatrice d’énergie et d’eau. L’adobe agit comme un bouclier contre les déréglements du nouveau monde, offrant aux humains d’aujourd’hui un habitat stable et apaisé. Avec les problèmes et les risques environnementaux résultant du changement climatique, de la crise énergétique, de la crise des ressources en eau, de l’augmentation croissante des déchets de construction et, surtout, de l’incapacité de l’industrie de la construction à répondre aux besoins spirituels et psychologiques des gens, on peut s’attendre à ce que l’humanité se tourne à nouveau vers l’architecture en adobe, comme on peut en voir les prémices aujourd’hui.

La grande capacité de cette architecture à s’actualiser rend cette prédiction réaliste.

Le patrimoine architectural en adobe étant riche d’enseignements divers pour les générations actuelles et futures, la préservation de cette architecture est absolument vitale, à la fois en tant qu’héritage précieux des générations passées et en tant que moyen de transmission des messages éducatifs aux générations actuelles et futures.

Cet ouvrage souhaite préserver l’architecture en adobes dans sa dimension urbaine, comme système agglomérant des bâtiments en terre interconnectés, pas de bâtiments isolés. Pour rendre son contenu objectif, pratique et plus compréhensible, nous avons essayé d’exprimer les thématiques sous forme d’études de cas concrètes. Avec un peu de flexibilité pour s’adapter à d’autres particularités locales, l’ouvrage pourrait servir la protection d’autres ensembles urbains en terre. Cependant, cet ouvrage est précisément dédié aux caractéristiques uniques de la ville de Yazd, classée au patrimoine mondial.

La ville historique de Yazd est l’une des plus grandes villes en terre du monde, avec plus de 30 000 parcelles historiques couvrant environ 1 000 hectares de superficie. Elle possède le plus grand tissu urbain continu et connecté d’Iran, et a été inscrite nationalement comme première ville d’Iran en 2005. En 2017, suite à son inscription comme patrimoine national et grâce à l’attention portée à son cœur historique, elle a pu être inscrite sur la Liste du patrimoine mondial avec 195 hectares de zone principale et 665 hectares de zone tampon. Les divers bâtiments de la ville, dont l’état physique varie d’intact à délabré, appartennent pour la plupart au secteur privé, puis à l’organisation Waqf (la dotation caritative). Plus important encore, la vie continue dans le cœur historique, les résidents d’origine sont toujours là garantissant une présence forte de la culture, des coutumes et des cérémonies iraniennes. Par conséquent, elle exige de grands soins et beaucoup de sensibilité dans la conservation.

La conservation des villes historiques vivantes fait intervenir un large éventail de parties prenantes aux intérêts et pouvoirs d’influence divers et engendre des niveaux de complexité que l’on ne retrouve pas dans la conservation de monuments isolés, de sites archéologiques ou d’œuvres historiques. Elle dépasse donc les capacités d’une seule organisation et nécessite la participation de différents acteurs sociaux et gouvernementaux. De ce point de vue, Yazd est un exemple exceptionnel de tissu urbain de grande échelle, où la communauté locale, les bénéficiaires, les investisseurs et même les touristes constituent les différentes strates de la ville historique vivante, chacune ayant une compréhension, des attentes et une approche différentes de la ville et de ses composantes. Le fait de les reconnaître officiellement et d’essayer de trouver avec eux un intérêt commun pour la ville historique et ses détails de conservation peut faciliter la coopération et transformer les menaces potentielles en opportunités.

À cette fin, la sensibilisation aux valeurs et à l’importance du patrimoine culturel, ainsi que les interventions en sa faveur sont cruciales. Cela permet non seulement d’informer les gens de l’importance de la conservation du patrimoine culturel, mais peut également conduire à des formes de conservation actives, dans lesquelles une partie considérable du processus est effectué par les propriétaires eux-mêmes.

Aujourd’hui, une vaste expérience en matière de conservation du patrimoine a prouvé que la conservation en général, et plus particulièrement celle des villes historiques vivantes, ne peut être réalisée qu’avec la participation des gens, qui elle-même nécessite des actions de sensibilisation et d’éducation. Lorsque la conservation est un processus professionnel et coûteux, uniquement contrôlé par des experts, la maîtrise d’une ville historique grouillant de vie s’avère très difficile. En revanche, si les gens comprennent les valeurs tangibles et considèrent les techniques de conservation abordables, ils peuvent y contribuer et assumer leur part de responsabilité. Évidemment, cela ne veut pas dire qu’il ne faut pas faire appel à des professionnels pour la conservation scientifique, mais plutôt qu’il faut enseigner la conservation et ses principes aux gens en termes simples afin qu’ils puissent prendre en charge la plupart des efforts de conservation de leurs biens culturels propres.

Les expériences récentes, notamment après l’inscription de Yazd au patrimoine mondial, montrent que les propriétaires effectuent souvent la
restauration de leurs bâtiments personnellement et, pour diverses raisons, s’abstiennent de faire appel à des consultants qualifiés. Il existe également une pratique courante d’interventions personnelles où les investisseurs, malgré la mobilisation de consultants en projet, tentent d’imposer leurs préférences personnelles. Ces velléités de changement ont entraîné des dommages graves et irréversibles à certains bâtiments, dont certains sont dus au manque de connaissances et d’expérience en matière de conservation, comme l’affirment les propriétaires.

Par conséquent, malgré le caractère exemplaire de nombreux projets de restauration, certains dommages ont infligés aux bâtiments pendant la restauration en raison de la non-consultation d’experts ou du manque de connaissances en conservation de certains consultants, entrepreneurs et experts mobilisés. Malgré les efforts déployés par les agences gouvernementales pour superviser les chantiers de conservation, des paramètres tels que l’immensité du tissu urbain de Yazd et l’introversion des bâtiments, pour n’en citer que deux, rendent impossible une supervision permanente, infaillible et efficace. Il est fondamentalement impossible de protéger le tissu urbain par simple application de la loi. La culture, l’éducation des populations et la diffusion des bonnes pratiques de conservation de manière intelligible de tous sont indispensables. Il est certain que lorsque les propriétaires interviennent sur leurs biens en étant conscients des subtilités de leur conservation, ils accroissent leur sentiment d’appartenance et contribuent à une conservation durable et participative, à condition que les interventions soient effectuées correctement.

Les pratiques d’autoconservation par les Yazdis, la carence en experts connaissant bien la conservation du patrimoine en terre et la volonté de profiter de l’enthousiasme de la communauté locale pour revitaliser les bâtiments historiques sont les trois principaux facteurs qui ont amené les organismes responsables de la gestion de la ville historique à développer cet ouvrage qui contribue à la sensibilisation, l’éducation et encourage la participation de la population. L’étude des erreurs de conservation de ces dernières années, surtout après l’inscription au patrimoine mondial, indique que la plupart des interventions auraient pu être améliorées avec un minimum d’éducation. Par conséquent, il semble que la transmission de méthodes appropriées de conservation et la création d’une bonne compréhension chez les propriétaires soient la clé de la conservation de la ville historique de Yazd.

Par conséquent, le présent ouvrage vise à enseigner les principes d’intervention sur l’architecture de terre en termes simples à la communauté locale, aux investisseurs et aux usagers, tant à l’échelle des bâtiments qu’à celle de ce vaste complexe qu’est la ville. L’objectif premier de ce manuel est de fournir une compréhension simple de la conservation et des erreurs à éviter. La présentation d’images d’interventions de trois types : bonnes, acceptables et inappropriées, accompagnées de courtes explications, aide à comprendre les erreurs et promeut des méthodes d’intervention appropriées. Les éléments architecturaux développés dans ce livre sont ceux présentant la plus grande fréquence de mauvaises interventions. Tous les exemples récents d’interventions bonnes, acceptables et inappropriées dans la ville historique de Yazd sont inclus, tandis que des exemples authentiques liés à certains éléments spécifiques sont présentés sur des photos pleine page.

Par chance, les pratiques traditionnelles de construction sont encore vivantes à Yazd, bien qu’elles soient entachées de défauts apparents tels que l’utilisation de ciment et de faux motifs. Les pratiques constructives doivent être purifiées et renforcées pour faire avancer le mouvement de restauration de l’architecture en terre. Le présent manuel s’efforce d’atteindre cet objectif en s’adressant aux militants et aux experts du domaine. Expliquer et promouvoir la conservation systématique et la rendre simple, publique et abordable, tout en respectant les réglementations en vigueur, sont les principaux objectifs de notre ouvrage. Nous espérons qu’un jour, grâce aux connaissances et à l’expertise des populations, il sera possible de créer un mouvement public de conservation avec l’aide des experts, tout comme dans le passé, lorsque les gens construisaient la ville avec l’aide d’architectes.

Enfin, le caractère unique des bâtiments historiques dans les villes en adobe rend presque impossible la prescription de solutions de restauration uniformes. Dans un tel contexte où aucun bâtiment ne se ressemble, les prescriptions générales ne fonctionnent pas. Des prescriptions spécifiques à chaque bâtiment, basées sur ses propriétés uniques, sont d’une importance cruciale. Ce qui distingue le présent ouvrage, c’est sa tentative d’expliquer l’atmosphère de la conservation des bâtiments historiques sur la base d’expériences récentes à Yazd. Par conséquent, des séries d’exemples les plus fréquemment observés sont présentés pour orienter les choix des propriétaires au lieu de proposer des options universelles. Certes, l’un des risques de tels manuels est la régularisation et l’uniformisation des restaurations, ce qui devrait être évité pour préserver la variété originale des villes historiques comme Yazd. Ce livre tente d’amener les propriétaires et les investisseurs dans l’arène de la conservation et de les aider à comprendre des principes tels que l’authenticité, l’intégrité, la continuité, la simplicité et la nature «terreuse» du tissu historique, en espérant les encourager à rechercher des conseils spécifiques auprès d’experts et de consultants afin de conserver correctement leurs biens culturels.

Enfin, il est nécessaire de remercier ceux qui ont fourni les photos illustrant ce livre : la Faculté d’art et d’architecture de l’Université de Yazd, le Centre de recherche sur l’architecture vernaculaire de l’Université de Yazd, l’adjoint du patrimoine culturel au Bureau général du patrimoine culturel, du tourisme et de l’artisanat de Yazd, le Bureau des affaires de la base du patrimoine au Ministère du patrimoine culturel, du tourisme et de l’artisanat, CRAterre et le Service culturel de l’Ambassade de France en Iran. Nous remercions également tous ceux qui ont contribué à la préparation de ce manuel dans le but de préserver et de pérenniser une partie du précieux patrimoine de l’humanité.
ضوابط مداخله در محدوده بافت تاریخی یزد

ماده ۱: تعريف
الف- اداره کل: اداره کل میراث فرهنگی، گردشگری و صنایع دستی استان یزد
ب- پایگاه: پایگاه میراث جهانی شهر تاریخی یزد
ج- محدوده بافت: محدوده ثبت شده در فهرست آثار ملی به شماره 15000 در سال ۱۳۸۴ به اضمام محدوده عرصه و حرم میراث جهانی شهر تاریخی یزد
د- مصالح همگون: مصالحی که در معماری سنتی یزد (به طور معمول تا انتهای دوره پهلوی) مورد استفاده قرار می‌گرفته است.
ه- بازسازی: بازسازی، نوسازی در زمینی است که قبلاً بنای تاریخی در آن موجود بوده ولی به هر دلیل تخریب شده است و می‌بایست به صورت عین به عین دوباره ساخته شود.

ماده ۲: کلیه مداخلات (در قالب پروژه‌های مربوط به تاریخ، بازسازی، نوسازی، تغییر کاربری، تفکیک و ...) نیاز به تصویب و دریافت مجوز از اداره کل دارد.

ماده ۳: توصیه می‌شود پیش از انجام هرگونه مداخله در محدوده میراث جهانی، مالک یا مالکین جهت اخذ مشاوره و راهنمایی با پایگاه هماهنگی به عمل آورند.

ماده ۴: تخریب هرگونه بنای و سازه تاریخی ممنوع است.

نتیجه ۱: مرجع تشخیص بنای تاریخی، اداره کل می‌باشد.
نتیجه ۲: مخروبه‌هایی که امکان خوانش ساختار کالبدی تاریخی تخریب شده آنها، توسط کارشناسان وجود دارند، واجد ارزش حفاظتی می‌باشند، و تخریب آنها ممنوع است.

ماده ۵: الگوی پر و خالی به ترتیب اولویت می‌باشد بر اساس وضعیت پلاک در سال خورشیدی ۱۳۳۵ یا ۱۳۴۶ یا ۱۳۵۹.

ماده ۶: هرگونه اقدامی که به نوعی مبین تفکیک بنای تاریخی باشد، ممنوع است.

ماده ۷: حفظ کلیه دوره‌های تاریخی بنای زمینی است.

ماده ۸: تبصیره ۱: بازگرداندن به دوره تاریخی قبل مشروط به شواهد تاریخی و تصویب طرح پیشنهادی توسط اداره کل می‌باشد.

ماده ۹: هرگونه مداخله در ابنیه تاریخی می‌بایست به اصول معماری، الهوای و سازمان فضایی و ساختارهای اصلی بنای باقی‌مانده و بدان منبع تغییر نکند.

ماده ۱۰: در تمام جهات نمای برونوی اینه تاریخی صرف یا انود کاهشی و ازاره آجری با ارتفاع حداقل ۴۰ سانتی‌متر و شفاف (حوروش) آجری ساده می‌باشد و اضافه کردن هرگونه تزئینات، مکزیکی و قاب‌بندی ممنوع است.
نتیجه ۱: نمای سر در ورودی اساس الهوای محلی می‌تواند مفاوت از قاعده فوق باشد.
و می‌بایست به تصویب اداره کل بررسی شود.

Regulations for intervention in the Yazd historic fabric

Article 1: definitions
A- General Office: General Office of Cultural heritage, Tourism and Handicrafts in Yazd Province
B- Base: World Heritage Base of Yazd Historic City
C- Fabric region: the region registered in national heritage list with number 15000 in 2005, including the core zone and buffer zone of World Heritage in the city of Yazd
D- Compatible materials: materials used in Yazd traditional architecture (usually up to the end of Pahlavi era)
E- Reconstruction: reconstruction is new construction in a land in which a historic building used to exist but is now destroyed, and needs to be exactly remade.

Article 2: All interventions (projects including restoration, reconstruction, new construction, lot division, etc.) require approval and permission from the General Office.

Article 3: It is recommended that the owner or owners consult the Base prior to any intervention in historic heritage region.

Article 4: Destruction of any historic structure and building is prohibited.

Note 1: The reference for the identification of historic buildings is the General Office.

Note 2: Ruins where the destroyed physical structure can be analyzed by experts are eligible for protection; therefore, their destruction is prohibited.

Article 5: The filled and empty mass pattern should be based on land condition in order of the priority: 1335, 1346 or 1359.

Article 6: Any action indicative of the division of historic buildings is prohibited.

Article 7: Preserving all historical periods of the building is mandatory.

Note 1: Reverting to a previous historical period depends on available historical evidence and is allowed if the proposal is approved by the General Office.

Article 8: Changing or adding ornamentations to the original design is prohibited.

Article 9: Any intervention in historic buildings must be according to architectural principles, patterns, spatial organization and original structures of the building and shall not violate it.

Article 10: The only finish allowed on all façades of historic buildings is mud straw plaster and brick skirting with a maximum height of 40cm and simple brick coping. Adding any ornamentation, framing and corner elements is prohibited.

Note 1: Based on local architectural patterns, the façade for the entrance portal can be exempted from the above rule, and must be approved by the General Office.
ماده 11: در مرمت، احیا و نوسازی با توجه به الگوی معماری درون‌گرای بافت تاریخی، باز نمودن در و پنجره به معبر ممنوع می‌باشد.

تبصره 1: در خصوص بازسازی بناهای تاریخی که در و پنجره به فضای بیرون داشته‌اند، ایجاد در و پنجره طبق وضع اولیه مشروط به موافقت اداره کل بلامانع است.

تبصره 2: توصیه می‌شود درخوش صفحات بازشوهای فوق مشبک‌های جدیدی یا طرح فلزی سنتی‌ای که بافت بافت مورد بررسی و بهبود اجرای آن توسط سازمان‌ها انجام می‌شود.

تبصره 3: تمامی در و پنجره های اصیل بناهای تاریخی رو به معبر، می‌بایست از چوب مناسب وطاقب طرح اولیه و در صورت فقدان شواهد، مطابق الگوهای مشابه محله ساخته شود.

ماده 12: استفاده از سیمان (به استثناء فضاهای خیس پس از تاکید جزئیات مربوطه توسط اداره کل) ممنوع می‌باشد.

ماده 13: استفاده از مصالح جدید چون کاشی، سنگ، آلومینیوم، کامپوزیت، شیشه و ... در نمای بیرونی ممنوع است.

ماده 14: For roof finish of the buildings located in the fabric region, only brick flooring or mud-straw-plaster is allowed.

ماده 15: Installing permanent roof covers over courtyards and open spaces is prohibited. For temporary seasonal covers approval must be obtained from the General Office.

ماده 16 – Reconstructing the parapets is allowed according to original condition of the building. In case of lack of evidence, the maximum parapet height is 110cm for directions facing the passage and 170 when adjacent to neighbors. Adding storeys using parapet walls over traditional buildings is prohibited.

ماده 17: When restoring commercial units along main avenues in the historic fabric, using brick in the façade is allowed, and traditional beige brick is recommended.

ماده 18: Sewage disposal using systematic methods is mandatory (implementing absorption well with a minimum depth of 20-30 meters based on soil conditions is mandatory).
Note 1- Connecting the sewage to Qanats is prohibited.

Article 19- Regarding the approval of projects related to the registered buildings and regions, when working inside the world heritage limits, inquiry must be made to the strategic council of World Heritage Base of Yazd and, in other cases, technical council of the General Office. Article 20- The reference for identifying and addressing special cases is the General Office.
پشت بام بازار قیصریه و مسجد ریگ
Part I:

World Heritage City

1-1 Original Ownership Boundary
1-2 Mass & Space
1-3 Skyline & Roofscape
1-4 Alleys
1-5 Avenues
Accepting the historical boundaries of buildings and the land division system is one of the principles of protecting historic cities. As there is a certain logic behind the shape, size, proportions, direction and arrangement of the pieces of land in Yazd, the perimeter of the buildings should not be violated even in an empty land that used to be a historic building.
Preservation of the originality of the plots is one of the components of the protection of the historic fabric. Consequently, changing the plots to smaller or bigger pieces can cause serious damages to the historic city and leaves inappropriate morphological changes.

This usually happens through division, aggregation or sitting back in a land (for the road easement) which is considered to be a damage to the building and on a larger scale the morphological structure of the historic city.
Mass-space ratios of buildings and the historic fabric is of great importance. Courtyards, network of alleys, urban open spaces and other space parts of the building and the city, on one hand, and the buildings adjacent to them, on the other hand, define a meaningful relationship in the form of the mass and space pattern of the historic city that needs be protected. Changing the mass and space system, customizing their proportions and sizes, covering the yards and courtyards, encroachment in the alleys, to name but a few, inflict irreparable damages on the historic structure of the buildings and the city.

To build on a vacant land, it is necessary to follow the previous (historic) mass-space pattern, and, in case there is no evidence, it is necessary to follow the mass-space pattern of the neighborhood.
Yazd Historic City
One of the prominent features of the historic city of Yazd is the unique skyline and authentic roofscape which is called the fifth façade. Any intervention leading to change in this feature damages the integrity of the historic city. Therefore, it is prohibited to construct shapes and masses that distort the skyline and deform the roofscape.
In the World Heritage core zone, the maximum roof level height allowed for new constructions is 5.5m. As a general rule, the height of new buildings should not exceed the adjacent historic buildings.
Windcatcher. Gazorgah. Yazd
Skyline & Roofscape
Windecatchers

Appropriate / خوب

Not Appropriate / غیرقابل قبول

Restoration or reconstruction of windcatchers must be based on evidence and the style of adjacent windcatchers. Structural changes in windcatchers’ form, proportions, ornamentations, and construction techniques are not allowed.

بازسازی یا مرمت بادگیرها می‌بایست براساس شواهد تاریخی و در صورت عدم دسترسی با توجه به سبک بادگیرهای همجوار و همدوره صورت گیرد. تغییرات ساختاری در فرم، تناسبات، تزئینات و شیوه‌ای اجرای بادگیرها مجاز نیست.
As it is crucial to preserve authentic roof access, making interventions in the building’s vertical access system is not allowed. When new constructions are necessary, limited intervention is allowed only if approved by the General Office. To preserve the integrity of roofscape and skylines of the historic city, stairs to the roof should be as unobtrusive as possible. Their brick covers should, if possible, be adjoined to other masonry elements and be shaped like a vault leaning to one side only, the height of which should be minimal so as not to protrude excessively.

حفظ خریشت‌های اصلی ضروری است و دخل و تصرف در نظام دسترسی عمودی با مجاز نمی‌باشد. در صورت نیاز به ساخت موارد جدید پس از تصویب اداره کل در تعداد محدود بلامانع است. به جهت حفظ یکپارچگی سیمای بام و خط آسمان شهر تاریخی مطلوب است خریشت‌های جدید با ارتقاء کم، ترجیحاً در عمق بنا و به صورت شبیه‌دار و یک‌طرفه اجرا شوند.
The roof architecture, the same as other aspects of Yazd architecture, should display simplicity and harmony with the whole building. The roof architecture is part of the original architecture of the historic buildings which must be devoid of any additions and unauthentic ornamentations. Therefore, to preserve the authenticity of the historic buildings, roof elements and details must be constructed based on the existing evidence. As a result, any new construction on roofs without evidence and obtaining a permit is prohibited.
In Yazd architecture, clay property to transfer water was applied in roofs. When the sloping was properly designed on flat and curved roofs, a mixture of clay and straw was adequate without the need for brick flooring. Sometimes flat surfaces on the roof were covered with brick flooring to facilitate the use of roof space. For curved surfaces of the roof, using broken bricks from other construction operations was common.
In case of implementing brick flooring on flat roofs, proper details (grain sizes and mortar procurement) are of utmost importance. Cement mortar and industrial insulations such as tar sheets should not be used as they cause deterioration in the long run; furthermore, they prevent building breathing, and affect the climatic behavior of interior spaces so much that the summer spaces are not cool in the summer anymore and winter spaces warm in winter.
Brick Parapet Wall. Ostovar House. Golchinan. Yazd
To protect the authenticity of Yazd architecture, when building parapet walls for roofs and yards, it is recommended that they should be as simple as possible. Therefore, it is better to build the roof parapet around the yard as a soldier course. Implementing lattice patterns with brick or adobe is allowed only if its historical evidence exists on the site. Obviously observing safety standards and other regulations regarding the protection of the users on roofs is mandatory.
While using brick lattice patterns on roofs and courtyard edges was not common in Yazd traditional architecture, in few cases of their usage, the lattice was very simple and fine with minimum height and small bricks. In recent years, implementation of coarse and rough brick lattices has degraded the perceptive quality of courtyard and roof architecture.
The wonderful roofscapes and skylines of Yazd historic fabric have led to much tendency towards roof cafés and other similar uses. However, care must be taken so that the integrity and authenticity of the fabric is not damaged by contemporary uses. When using the roofs, it is necessary to use furniture with minimum dimensions and numbers that are compatible with the architecture so that they will not damage the roofscape and skyline. Moreover, care must be taken to avoid visual or auditory disturbance for the neighbourhood when using the roof.
Historic Alley. Fahadan. Yazd

1-4 Alleys
Although in the past most of the alleys in Yazd were dirt, the requirements of modern life developed various alley floorings, mostly with different patterns and shapes. Such wrong flooring is considered as one of the damaging factors to the adobe buildings of this city. Incorrect lateral and longitudinal tilting on the one hand, and moisture retention under the floors due to the type of materials and mortar used, on the other hand, have caused damages to the foundation and the lower parts of the walls adjacent to the alleys. Indeed, due to these incorrect floor constructions, moisture rising from the ground and the one left from run-off damage clay buildings. The use of materials and mortars with a high moisture penetration coefficient, at least at the foot of the walls and the edges of the alleys, can partially prevent moisture from being trapped under the flooring and allow it to evaporate through the street surface.
When flooring the historic alleys is performed, the least amount of water should stagnate on the floor, especially along wells, while runoff water is properly directed towards absorption wells. An important detail to consider, when implementing the sloping of the alley, is to place a gutter in the center of the longitudinal axis. In flooring, cement mortars should not be used near façades to make it possible for the ground to breathe.
The historical level of the alleys is very important in flooring; therefore, covering ancient layers which might raise the alley floor and cause the diversion of the flow of water into the historic houses should be avoided. Raising alley level in the new flooring causes the height of the elderly seat to be out of use, the height of the doors and the entrance of the buildings to be problematic and confusing, and the perception of the alley users to be affected due to the change in proportions. It makes well-proportioned, narrow alleys with high walls in the minds of new users of Yazd short and round and on the other side disrupts the collective memories and mental image of old users of these alleys.

In case there are valuable layers of flooring from previous periods, it is highly recommended that existing layers in new flooring should be kept intact without any destruction.
To make it easier for pedestrians and riders to move through the alleys, the alley floor in the historic city of Yazd is mainly smooth and impervious. Even if the slope of the surfaces is proper, when it rains, due to the length of the alleys, run-off will flow in the alleys which leads to waterlogging in lower areas. The recent floods in the area present many cases of subsidence due to flooding in the alleys while a significant amount of flood entered the historic buildings which caused destruction and damage. To prevent these incidents, it is necessary to break the slope of the alleys at specific points and dig absorption wells with appropriate depth at such points. Creating permeable surfaces in the alleys is also effective in absorbing part of the water and reducing the speed and movement of the runoff.
In alleys, corners are usually constructed with a curve or chamfer to facilitate structure durability and movement. Furthermore, from a perceptive and visual point of view, undesirable acute angles are avoided while the organic concept of the fabric is strengthened.
As part of the organic order of the fabric, concave corners in alleys connect their adjacent masses together and are very effective at exposing the authenticity of alleys and the integrity of the historic fabric.
Chamfer of Historic Alley. Golchinan. Yazd
Apart from squinches and pendentives as a separate subject to deal with, protrusions are not common in the Yazd historic city architecture. In specific cases, the consoles must be minimally constructed using wood, stepped rows of adobe/brick or small corbels with attention to the smooth, organic nature of the fabric and the geometric properties of Yazd architecture.
Directing rainwater from the roof to the proper exits is of prime importance in adobe buildings. Downspouts play a key role here where they can either save a building from damage by precipitation or lead to damage. Roof gutter downspouts in alleys of the historic fabric must be constructed using brick, mud mortar and proper finishing (waterproof) from the roof to the pavement level (ground). Using splashing gutters is prohibited since they damage the façades.

In addition, it should be noted that using new pipes, like PVC, instead of baked clay pipes, for transmission of runoff, especially after a few years, can lead to moisture leakage.
Organic shape of building masses (especially the exterior), which follows human body movements, is one of the outstanding features of the historic fabric, reminding us that buildings are made using simple tools. These smooth, natural movements create a human cityscape. Walls, corners, concave corners, edges, etc. are seldom straight and vertical. Most of them are slightly thicker at the base, although some have gradually undergone transformations or have gained thickness through time.
The original façade of alleys in Yazd historic fabric is mostly made of mud and straw, very simple and without ornamentations. To preserve such integrity, it is necessary to avoid framing, high plinths, ornamentation and using different materials in alleys.
Mud - Straw Edges. Golchinan. Yazd
Façade edges in traditional architecture usually end in brick or simple mud and straw. The edges used to be chamfered to avoid damage through the accumulation of snow, rain, etc. This implementation technique has had an important effect in shaping the organic character of the fabric. There are, definitely, straight edges which are mostly used in monuments or inside the buildings (courtyards) and are usually reinforced with brick. Implementing ornamental coping or decorative brick patterns at the edges is not desirable.
Plinth. Golchinan. Yazd
Plinth was not common in historic fabric alleys. Traditionally the façade was totally covered with mud and straw plaster; otherwise, at the bottom a mixture of brick and adobe was used. When it is necessary to construct plinths, they need to be simple running bond brick with a maximum height of 40cm. In constructing the plinths, damage and diggings in the wall should be avoided.
In the past, low precipitation levels in Yazd, difficulty of brick production, scarcity of automobiles and consequently rare damages to the base of façades all led to minimal use of brick plinths, which is also environmentally acceptable according to present standards. As a result, the completely earthen façade of the alleys in the historic fabric of Yazd has become a part of its architectural and urban character. A proper suggestion for waterproofing the mud and straw plaster at the base of walls is to use natural additives such as proper seed oils.
Latticework. Goud-e shahriari, Yazd
Building latticeworks at openings or wall tops along the alleys in the historic fabric was limited and based on specific designs. In case of historic evidence, it is allowed when necessary, provided that original patterns are used and a renovation/reconstruction permit for the latticework is obtained.
One of the damages of current interventions to the historic city is the use of inappropriate details and adding decorations to the exterior of the originally introverted buildings. Façades of historic alleys in the historic fabric are usually very simple and without decorations. Using details and decorations merely for beauty or copying other historic sites of the country or the province is not allowed so as to protect the authenticity and integrity of the historic fabric and the exterior façade of buildings.
Historic building portals must be based on historical evidence and authentic architectural styles of Yazd. Building portals have unique features in each historical period and neighborhood, representing a certain age. Therefore, their restoration must be completely based on historical evidence. In new constructions with portals, it is necessary to construct the portal according to the building’s style, historical period, in harmony with adjacent buildings in the neighborhood and also as simple as possible so that it is discernible as a new construction.

سردر بناهای تاریخی می‌بایست طبق شواهد تاریخی و بر اساس شیوه‌های اصلی معماری یزد باشد. سردرهای بناهای در دوره‌های تاریخی و محلات مختلف، ویژگی‌های خاص خود را دارند و تأثیر دهنده‌ی قدمت مشخصی هستند. بنابراین لازم است تا مرمت سردرها کاملاً براساس شواهد تاریخی صورت گیرد. در پروژه‌هایی که سردر احداث می‌گردد لازم است مطابق با سبک و دوره تاریخی یکی و هماهنگ با نمونه‌های مشابه مجاور (محله) ایجاد نمود. در نهایت سادگی اجرای سادگی اجرای سادگی
Using bricks in portals and façade is only allowed when historical evidence exists. New portals should be based on authentic and similar examples in the neighborhood. Considering the adobe nature of buildings in Yazd, in new constructions, brick use is only sparingly permitted in plinths, copings, portals and some Pahlavi-era façades when vernacular materials and techniques are applied. Care must be taken so that the adobe fabric of Yazd does not turn into a brick fabric.
In historic building restorations and new constructions in the historic fabric, making new openings towards alleys is prohibited due to the importance of the introversion principle in Yazd architecture; exceptions include cases where there is evidence. Making openings towards the historic alleys has become common mostly since Pahlavi era, based on certain principles. They are minimal in size and number.

The design of entrance doors for vehicles in new constructions must be minimal and based on original entrances in the fabric.
There are good examples of Pahlavi windows in the historic fabric that can be used as reference for restoring damaged openings and new constructions. When designing new openings, it is important to consider the location, space, shape of the Pahlavi-era openings in the neighborhood and their minimalistic design.
Considering the introversion of Yazd architecture, openings towards the alleys were rare with minimum size. In today’s interventions, it is necessary to pay attention to this fact, and construct openings based on the past principles. The priority in placing the openings in new constructions should be toward the courtyard, not the alley.
Entrance doors to historic buildings should be based on original patterns of the building. In case of no evidence, they should be based on the original patterns in the neighborhood. Original doors were made of wood with only the original color of the wood. It was finally the protective oil that preserved the appearance of the wood fabric and color. Since Pahlavi era, it became customary to use colors for wooden doors - mostly green and blue hues - which is allowed in Pahlavi era entrances. New metal doors can also be colored similar to wood, brick or mud and straw plaster while loud colors should be avoided.
Original doors were made of wood as the best material and option today. Using a combination of wood and metal (to reduce costs or for security reasons) with proper design and compatible with the historic fabric is allowed if approved by the General Office.

دریبه‌های اصلی، چوبی بوده و بهترین گزینه کنونی نیز استفاده از چوب مناسب است. با این حال استفاده از ترکیب فلز و چوب (جهت کاهش هزینه یا حفظ امنیت) با طرح مناسب و مناسب با بافت تاریخی مشروط به تصویب طرح توسط اداره کل بلاتان است.
Shop Door. Bazaar. Yazd
In keeping with originality and integrity, openings of commercial units in alleys and bazaars must be based on original designs. Using wood with horizontal and vertical divisions and minimum glass area is preferred. Metal with proper design can be used if approved by the General Office. Basically, the openings and display windows should be simple, with the least amount of transparency and eye-catching view.
ابعاد بازشوهای تجاری نباید میل به حداکثری بودن داشته باشند و همانندی دهانه‌ی دهانه‌ی باگردنده باشد. بلکه بهتر است با پلاک‌هایی از دهانه‌ی باشند به‌خصوص بازشوهایی که کل عرض دهانه‌ی بازشوهای پوشیده می‌شود. در خصوص بازشرای، استفاده از سطوح پلاک‌پوش یک‌پارچه اف‌آر از جنس فلز و آلومینیومی جایگزین می‌شود. مثلاً استفاده از پلاک‌های اصلی جذابی وجود دارد که می‌تواند امروز مورد استفاده جدید قرار گیرد.

Commercial building openings should not be maximally designed to fill the whole span, but should be rationally sized. In commercial units with small spans where all of which is filled with opening, multi-pane doors are a proper option. Using large glass, metal and aluminum surfaces is not allowed while framing the openings is preferable. Regarding commercial buildings, there are outstanding original examples that can be reused today.
Installing signs for commercial and service buildings must be based on the guideline and approved by the General Office. The signs must be minimally sized, with compatible colors and simple Persian and English fonts. Installing signs on the wall preferably above the entrance door with minimum physical and visual disturbance is recommended. In choosing the place of signs, care must be taken to avoid disturbing the visual aesthetics of alleys and photographic views in the historic fabric.
Regarding signs for tourist service buildings, without any insistence on using the same patterns, different types and patterns can be used; however, using non-original designs such as banners instead of tiles is not appropriate for the historic fabric. Signs for these buildings can take advantage of variety and unique designs while observing the regulations.
The owners and businesspeople can consult the World Heritage Base for instructions on signs. Sign location must be approved by the General Office. The shapes, sizes, colors and fonts used in signs must be appropriate for the historic fabric and the historic building which has changed into a service center. Inappropriate sizes and proportions that ignore the values of the historic fabric and buildings will not be helpful in attracting tourists, but lead to their dissatisfaction.
1-5 Avenues

Imam Khomeini Ave. Yazd
Façades of buildings in peripheral avenues of the historic fabric are the first and last views that form the impression of visitors of the historic city of Yazd. The outer shell of the fabric must be in harmony with its core. Therefore, commercial building façades in these avenues must be based on existing Pahlavi buildings and the historic fabric while low-grade and imitative designs are rejected. Good examples exist in Imam and Ghiam Avenues to be used as models.
In recent years, efforts have been made to propose a pattern for the façades along the peripheral avenues of the historic fabric, which can be implemented. Attention to materials, form, decorations, number and area of openings from the Pahlavi era, as well as avoiding improvisational interventions should be considered in designing the façades. Using rollup doors is not desirable but allowed. The hood (top part of the door) must be located on the interior side while the colors need to be compatible with the historic fabric.
Commercial building signs in neighboring avenues of the historic fabric must have minimum dimensions and be located above store entrances with a design approved by the General Office. Signs with large dimensions, loud colors, which are also multiple and incompatible, disrupt the historic cityscape.

Using simple channelium signs with Nastaliq font and turquoise colors without backlight is desirable.
پشت کاروانسراي یزد، لب خندق، کاروانسراي پسته
Part II: Historic Buildings

2-1 Construction Stage
2-2 Finishing Stage
2-3 Courtyards
2-4 Furniture
2-5 Reconstruction
Consolidating the adobe structures must be performed using mud mortar in dry areas and lime-based mortars in damp areas. Using cement mortar adjacent to adobe materials is prohibited. Obviously, adobe is preferred over brick due to its strong bond with mud mortars and homogenous structural behavior with the historic building. Cement mortars cause deterioration and destruction in the long run because of trapping moisture, preventing structure from breathing, not being reusable, to name but a few.
To perform restoration and renovation in the historic fabric, during the construction stage, it is necessary to use vernacular techniques along with adobe, brick and traditional mortars to continue traditional construction methods. Any blocks made from baked clay or cement, cement mortars, polystyrene panels or such materials are not allowed in the construction stage. The regulations in article 8 of the national building codes and adobe construction guidelines of the Road, Housing & Urban Development Research Center must be observed.

١٣٩٩ - ١٣٩٨

به منظور تداوم ستاد ساخت وساز بومی، در مراحل سفت کاری مرمت و نوسازی در بافت تاریخی لازم است تا مطابق شیوه‌های بومی با مصالح خشت و آجر و ملات‌های سنتی کار شود. استفاده از بلوك‌های سفالی و سیمانی، ملات‌های سیمانی، ملات‌های ماسه‌سیمانی، پنل‌های پوستولینی و مصالحی از این دست در مرحله‌ی سفت کاری مجاز نمی‌باشند. رعایت ضوابط مبحث هشتم مقررات ملی ساختمان و دستورالعمل ساخت وساز با خشت مرکز تحقیقات راه، مسکن و شهرسازی کشور ضروری است.
Yazd architecture is adobe architecture. It is the dominant material in the construction of walls and even arches. It is a cheap material which does not require fuel to be prepared and is returnable to nature. Meanwhile, adobe spaces breathe well. In addition, they have a high capacity to maintain coolness in summer and warmth in winter. The compatibility of adobe, as unbaked soil, with human nature is the secret of the exemplary peace of adobe buildings. In implementation, adobe with clay mortar forms a more homogeneous mass than brick and clay mortar. On the other hand, the use of brick in Yazd architecture, especially before the Pahlavi period, was limited and restricted to certain positions such as edges, portals, and humid spaces such as some basements. Therefore, in reconstructing or renovating the elements of Yazd historic buildings, as brick would become the dominant element it would be regrettable that the unique capacity of Yazd adobe architecture is simply overlooked. Finally, using a combination of adobe and brick with the maximum predominance of adobe would be a more acceptable option.
Crossing openings with lintels and arches are one of the difficult technical details to pay attention to in adobe architecture for their importance in the stability of the structure. There are two main ways to cross openings, with adobe and brick arches or with flat wooden lintels. The choice of one or the other technique will depend on the load to be carried and the capacity of the walls to support the lateral thrusts. These same constraints will determine the size and type of wood and the choice of materials for the arches: adobe or brick.

Today, iron profiles are sometimes mistakenly used, which can lead to shear stresses in the structure. Basically, the use of metal in adobe structures is not recommended due to the difference in hardness and structural behavior of iron and adobe. Meanwhile, the difference in heat capacity of iron and adobe and consequently their different expansion and contraction cause cracks in adobe walls.
چوبی که برای نعل درگاه استفاده می‌شود باید از مقاومت فشاری و کششی مناسبی برخوردار بوده و در برابر عوامل بیولوژیک مقاوم باشد. قیر اندود کردن، مدل دادن و امروزه استفاده از روغن سوخته و گازوئیل برای افزایش مقاومت در برابر حشرات و جوندگان چوب توصیه شده است. بهترین گزینه‌ای ایجاد نعل درگاه، هنوز هم استفاده از چفدهای خشت و آجر است. در گذشته در ابنیه خشتی گاهی برای محکم کاری نعل درگاه هاپی که فشار بیشتری را پذیرفت بهترین گزینه‌ی ایجاد نعل درگاه، هنوز هم استفاده از چفدهای خشت و آجر است. در گذشته در ابنیه خشتی گاهی برای محکم کاری نعل درگاه

The wood used for the door crossing must have good compressive and tensile strength and be resistant to biological factors. To increase the resistance against insects and wood rodents, bituminous coating and smoking, as traditional techniques, and burnt oil and diesel, as modern ones, are recommended. Due to the scarcity of suitable wood in Yazd, the best option for a crossing is still adobe and brick. In the past, in adobe buildings, to make a framework stronger against pressure, bricks were used. Basically, the combination of adobe and brick, with the adobe as the main element, was common in Yazd adobe buildings. Unlike the coexistence of iron profiles and adobe, the coexistence of adobe and brick is acceptable.
Yazd architecture is geometrically strong i.e. proportions, symmetry, balance, having a clear center and axes are among its characteristics to be geometric. An important part of the pleasant and relaxing feeling of this architecture is due to such feature which reveals and is rooted in the heavenly attitude of its architects. This geometry might undergo metamorphosis even with small interventions like erecting a simple wall; therefore, any intervention that distorts the geometry of spaces is prohibited. Spatial divisions that are mainly aimed at utilizing and exploiting the spaces more than usual have been of the most common types of disturbance on the geometry of spaces in recent years. Divisions sometimes happen on the scale of the whole building and sometimes on the scale of the building components. In each case, when spatial organization and architectural geometry are distorted, the spirit of space and the sense of historic building are affected.
The entrance in Yazd historic buildings is not just an opening to enter or exit through, but a system that follows a special architectural order. Based on a certain logic as well as a certain ordering, the way and place of entering is shaped, either from outside or inside the building. In the architectural organization of the building, the form of the entrance, its components (such as hallway, vestibule ...), entrance spatial quality, its connection to the alley, interior spaces, to name but a few, follow a design system based on climatic, faith-based, etc. components. Therefore, new openings to historic buildings are not allowed, as they can lead to serious damages to their architectural elements. In the reconstruction plans, attention to the pattern and entrance organization of similar buildings in the neighborhood is essential.

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Entrance to buildings in introverted architecture, including the architecture of Yazd city, follows a special architectural order as generally an architectural veil is formed between the outside and the inside of the building. Unfortunately, recently the owners of some commercial and tourism buildings have opened new entrances to expose the interior and attract visitors. Such new openings from the alleys, which reveal the heart of the historic building such as the courtyard or internal spaces from the adjacent alley, are innovation in revitalizing historic buildings which cause damage to the introverted architectural organization of Yazd city. With the formation of fake entrances, in the future, distinguishing the original from the fake one would be seriously challenging.
Binesh House. Fahadan. Yazd

2-2 Finishing Stage

2-2 نازک کاری
Minimal decorations on the façade in courtyards have been the property of the most traditional houses in Yazd. Fine mud straw plaster with stucco framing around the edges is the most common decoration allowed in courtyards. To preserve the building authenticity, using any ornamentation and decoration requires submission of historical evidence.

It is necessary to use stucco decorations based on historical evidence in the building; otherwise, if approved by the General Office, it needs to be based on evidence in the neighborhood. Meanwhile, excessive decorations are to be avoided.
Decorations in Yazd architecture were adequate, and represented the social and economic stratum of the owner, and definitely different in every neighborhood. Today, excessive decorations have degraded the authenticity and simplicity of the fabric. For example, as stucco framings and decorations must be based on existing historical evidence in the building and authentic examples in Yazd, fake and baseless designs should be avoided.
Interior spaces in Yazd architecture used to be simple and without decorations, except certain buildings belonging to upper stratum of the society. Unfortunately, nowadays these spaces are prone to damage as the owners act on personal preferences through which they seriously damage the soul and sense of these places through fake decorations. Just as removing historic decorations is not allowed, adding decorations is also not permitted.
Historic buildings, for their longevity, inevitably carry various historical layers, each of which indicates a specific period of the building’s life. Eliminating or damaging these layers is the removal of a part of the building’s history that affects its historical dignity while protecting and making them legible might lead to the richness of the content and expression of the cultural heritage. In the protection of these valuable layers, there are various methods and techniques to be applied exclusively.
In historic buildings, there are some parts of walls, ceilings, floors, etc. whose antiquity is proof of the building age, which lend an air of mystery and uniqueness to the building; therefore, during restoration, efforts must be made to preserve these parts as much as possible. Needless to say, restoration is not a new construction with historical style, but rather involves maximum protection of historic layers of the building.
Historical evidence such as structural parts, remains of masonry shelves, old plasters, ornamentation remains, written memoirs, historic handwritings, to name but a few, are valuable documents in historic buildings, whose preservation and presentation in restoration is recommended. An important part of the historic fabric character is the result of accumulation of various historical evidence from different periods, which arouse an organic and mystic feeling in the historic fabric, the same as a thick historic book.
While implementing plinths in the courtyard should be based on the original pattern (running bond, soldier course, etc.), beginning from courtyard level up to opening sill (the same level as spaces around the courtyard), minimum height for plinths is preferred. It is not allowed to apply any form of design or ornamentation with enameled brick or tile in interior plinths of historic houses. Adding plinths in interior closed spaces (e.g. rooms) and semi-open (e.g. porch) is not allowed. Unfortunately, fake designs such as lozenge patterns have recently become common in plinths, which were not common in the past and are not authentic.
2-3 Courtyards

Courtyard. Zoroastrian District. Yazd
Basement window guards (in courtyard) must be reconstructed based on original examples in the building; in case there is no such evidence in the building, similar examples in the neighborhood or simple patterns can be used. For example in places with running bond brick plinth, the brick pattern is usually used in designing the wooden opening.
Courtyard is the heart of historic buildings in Yazd and requires attention, neglecting which during restoration can have a considerable effect on the overall quality of the building. The courtyard spatial pattern including its geometry, pool and garden arrangement, etc. must be restored and, if destroyed, reconstructed based on the original pattern. Using contemporary landscaping elements, such as landscape lights, fountain or decorative flowerpots, disrupts the authenticity and atmosphere of the courtyard. Authentic and existing plant types must be preserved, and, if destroyed, must be replanted.
Flooring in traditional building courtyards must include brick or cobblestone and traditional mortars according to the original patterns. Using other materials such as enameled brick, stone, mosaic, etc. is prohibited. Using cement mortars in comparison with lime mortars, leads to trapping moisture and vertical seeping in materials, which itself disrupts the climatic function of the courtyard and creates conditions for the growth of insects and pests.
Covering roofs in historic buildings is prohibited since it negatively affects the roofscape and filled/empty mass ratios. Using temporary lightweight textile covers in holding ceremonies is allowed. Adding new roof covers with steel structures and heavy loads on roofs and adobe walls in historic houses is not acceptable. These forces lead to serious point and shear loads in traditional structures and inflict irreparable damages on the building.
Historic building roofs did not include any special furniture except sleep furniture for summer nights. Nowadays with the prevalence of roof cafés and traditional hotels, there is new furniture on traditional roofs which itself disrupts their purity and simplicity and causes much damage to the roofscape of the historic fabric. Therefore, the roof furniture must be minimal, neutral and lightweight to have minimum effect on the original roofscape.

Persian: 
پشت‌بام‌های تاریخی به طور معمول عاری از اسباب و اثاث‌های خاصی بوده‌اند. مگر در فصل تابستان که اسباب خواب شبانه بدانجا منتقل می‌شده است. امروز، با رواج کافه‌های پشت بام و هتل‌های سنتی، بام‌های باغ‌های تاریخی شاهد حضور مبلمان‌هایی است که خلوص و سادگی آن‌ها را از بین می‌برند و نمای بینم و سیمای باغ بافت تاریخی را دستخوش آسیب‌های جدی می‌کند. لذا ضروری است حضور مبلمان در بام‌ها به شکل حداقلی، خنثی و سبک انجام پذیرد تا ظهور و بروز کم تری در سیمای اصلی بام‌ها داشته باشند.
Furniture has played a major role in functional performance and the atmosphere of historic buildings in Yazd so much that changing the furniture can dramatically affect the architecture of these buildings. The best option is using original furniture or using furniture similar to the original ones. In case of new uses or contemporary lifestyle requirements where change in furniture is needed, choosing or designing new furniture requires an understanding of historic spaces.
Furniture includes a broad range of appliances such as carpets, cupboards, beds, kitchenware, to name but a few; therefore, understanding their intricate functional differences, despite their similar looks, is vital for proper restoration of historic buildings, an important element which has received little attention.

When using new furniture, interventions in the original building must be kept to a minimum, meanwhile, they should have a meaningful relationship with the space.

Furniture
Interior Spaces

Acceptable / قابل قبول
Not Appropriate / غیر قابل قبول

اـسباب و اثاثـه طـیف وسـیعی از لـوازم مانند فـرش، گـنجه، تـجهیزات طـریـفی که حسـب کارکردـهای مختلف استفاده می‌شوند، شاخص آنها و تفاوت‌های طریفی که حسب کارکردـهای مختلف

استفاده از مبلمان‌های جدید می‌پایست همه‌ها با حداقل دخالت و تصرف در حس و حال اصلی فضاهای صورت پذیرند و رابط‌های معمولی با احساس تعريف نماید.
It is in interior spaces where furniture mainly exists. However, nowadays, due to changes in lifestyle, the most transformation occurs in this part during revitalization of buildings for lack of attention. Even in good restoration and revitalization cases with the same previous use, it is what has undergone serious changes in architecture as, unfortunately, it is not considered a serious part of architecture. It should be noted that traditional furniture plays an important role in the sense of the place and the mood of the users of traditional architecture. Even if changes are to be made in this field, they should be introduced deliberately.
شیخ ساواگی. سهیل ابی. یزد
Furniture and other objects, which reveal the history of the building, are precious and contain valuable information, even if some of such information cannot be interpreted today. Therefore, findings with historical and cultural value such as kitchenware, documents, objects, etc. should be collected, protected and presented.
Yazdi-Bandi. Chaharsoogh Bazaar. Yazd

2-5 Reconstruction
To continue traditional construction techniques, it is necessary to reconstruct destroyed historic buildings and valuable ruins exactly the same way as they were in the past according to historical evidence. Using traditional materials and local construction techniques is necessary so as to form authentic buildings and strengthen the integrity of the historic city. In the process of reconstruction, it is of prime importance to follow the rules of consolidating the masonry structures.
In restoration of historic buildings, one of the common mistakes in the name of conservation is the fake and unauthentic reconstruction of past architectural elements such as windcatchers and roof lights. It happens due to a wrong and incomplete understanding of these elements and their intricate construction techniques with many architectural details. The recent harmful approach of superficial restoration and neglecting the physical and functional nature of such elements can seriously affect the traditional architecture of Yazd.
The knowledge and experience required to authentically reconstruct the traditional architectural elements which were important in the past architecture of this city are themselves a part of the intangible architectural heritage of Yazd which need preservation. Following the right process of the reconstruction of these elements guarantees the continuation of this knowledge and experience. The future looks promising for construction techniques and function of elements if there is proper understanding of materials, their performances and construction techniques. Meanwhile, there would be no fantasy or even structurally unstable samples.
New constructions in the world heritage area must be based on authentic patterns of adobe architecture in terms of building form, materials and construction techniques. A proper understanding of the geometry and force distribution in these structures along with using high quality adobe and skilled masons can lead to the continuation of the age-old culture of adobe architecture. One of the major risks here is the lack of knowledge, experience and patience for producing high quality and resistant adobe as the building block of adobe architecture.
Part III:

Facilities
One of the most important sources of visual disturbance in alleys of the historic fabric happens due to a disorderly network of electric and communication facilities. Furthermore, non-standard placement of this network near the natural gas supply poses serious risks for the security of the historic fabric. Maximizing the distance between these two networks and organizing the electric cables can be an effective measure. Using underground facility channels can considerably improve the network and the visual quality of the fabric.
During the installations of the electrical systems in the historic buildings, any destruction of adobe walls must be avoided. Excessive cutting in adobe constructions leads to structural damage. Wires and electrical elements should be surface-mounted and elegantly placed when possible. Due to the lack of electrical facilities in these buildings, placement of outlets and switches in or near the floor at low heights can minimize aggressive interventions to the walls.
Designing the lighting sources, their location, their connection to historic structures as well as the light color must be compatible with the gentle atmosphere of traditional architecture of Yazd without damaging it. Using stand-alone lighting sources detached from walls and roofs (such as standing lamps) considerably decreases aggressive electric facility interventions in historic buildings and avoids cutting the adobe structure of buildings.
In the historic city of Yazd and its buildings, lighting should be according to its architectural principles with emphasis on dominant elements and features. Lighting should complement architecture and increase its traditional value. On the other hand, it should not contradict architecture and its spatial semantics. Using intense light with glare and saturated colors and exaggerated designs is not appropriate for such gentle architecture.
Using invisible light sources and mild lighting on surfaces and masses are preferred.
In lighting historic buildings, dark surfaces are just as important as lit surfaces, as a result a maximal approach is not appropriate for lighting. The possibility to see the night sky without light pollution is one of the values of nights in the historic city of Yazd, which should not be disturbed by excessive lighting.
Cutting the walls and damaging the structure are the most important risks associated with implementing mechanical systems in historic buildings. Choosing a new mechanical system that is compatible with the historic fabric can significantly reduce the amount of piping and channels. Furthermore, using non-destructive methods and placing ducts and channels in appropriate places during mechanical design can considerably reduce damage to the building.
Mechanical equipment on the roof of restored buildings greatly affect the skyline and rooftops of the historic fabric. Ventilation pipes, flue pipes, etc. need to be properly designed and the finishing layer must include mud and straw plaster with minimal brick use. Fortunately, there are intact examples of chimneys in the historic fabric that can be used as reference. Using metal and plastic pipes is incompatible with the rooftopscape and definitely unacceptable.

عبارت تاسیساتی در بام بنای‌های مرمت‌شده تأثیر بسزایی در خط آسمان و سیما باش و بافت تاریخی دارد. لازم است برای تعبیه لوله‌های تاسیسات، دودکش‌ها، هوایکش‌ها و طراحی مناسب صورت گیرد. و پوشش نهایی این داکت‌ها با روشی مناسب حاکمی با حداکثر استفاده از آجر باشد. خوشبختانه نمونه‌هایی مانند تاسیساتی در بام‌های تاریخی وجود دارد که می‌تواند مورد انتخاب قرار گیرد. استفاده از لوله‌های فلزی و پلاستیکی نامناسب با سیما و منظر بافت تاریخی صحیح نمی‌باشد.
Bringing various energy sources such as natural gas and electricity into historic buildings might lead to serious dangers for users. There is a hope that one day affordable electricity would replace natural gas in the historic fabric. Until then, efforts must be made to minimize the physical and visual damages of natural gas network and create a relatively safe condition. Considering the earthen nature of the historic fabric, the details, connections and implementation techniques must be compatible with the fabric. A color similar to mud and straw plaster would be appropriate for gas pipes in the historic fabric.
Conclusion

Adobe architectural heritage including the one in Yazd historic city is the largest tangible and intangible cultural asset of its residents and part of the valuable heritage of humankind. This World Heritage does not belong just to its owners, but to all people of Yazd, all Iranians and everyone in the world. As a valuable human heritage, it should not suffer damages owing to personal interferences. This priceless treasure has plethora of values from religious to cultural and to environmental for the present and future generations. While the contemporary human lacks adequate literacy to fully appreciate this rich text, there is a hope that the future generations are more capable of welcoming it. Along with various teachings, this heritage can prove effective in reinforcing the national identity, increasing social cohesion and boosting national pride. It can also have economic profits as long as its identity is preserved and stays intact for future generations. Trading cultural assets and exploiting historic buildings for profit are unsustainable ways to deal with cultural heritage which not only will have the opposite effect in long term, but also deprives our children of this invaluable heritage.

Considering the high value of the historic city, interventions in buildings must follow two principles of being minimal and reversible. As a result, these conservative efforts should not lead to transformation and destruction in buildings or in any part of them, or any change that makes the original building unrecognizable. Simplicity, strong geometry and adobe nature are three main traits of its architecture that are required to be preserved; consequently, physical interventions must respect the aesthetical simplicity, geometric structure as well as the importance of adobe and earthen mortars in this architecture. Nowadays, as mentioned in this book, the most common restoration flaws include excessive decoration, incorrect divisions as well as using cement. Furthermore, in this manual, the use of vernacular forms, along with materials and construction methods have also been emphasized. Alongside, it is highly recommended that, before any restoration, a proper design should be prepared by a qualified consultant. Meanwhile, the relevant permits should be obtained from the General Office of Cultural Heritage Tourism and Handicrafts, so that the conservation effort can be conducted under the supervision of this agency. In case of minor changes such as digging a well, insulating and reducing weight from roofs and replacing the plasters, it is still necessary to consult experts and obtain a permit for emergency/limited restoration to prevent damage and cost induced by incorrect measures.

Since unprofessional restoration is as dangerous as destruction of the adobe architectural heritage, it is a duty for anyone with the potential of intervention to avoid wrong methods, and to help the local community and investors to have a proper approach toward this valuable heritage. It is vital to promote the belief that this historic city is the result of the collective knowledge and wisdom of our ancestors who, with noble intentions and enormous effort, spent their lives in this hot-arid land to leave us this heritage, a belief which is able to improve the overall condition of conservation. It helps to prevent superficial and negligible actions in interfering with the adobe buildings, each of which has huge cultural, identity, religious, educational, and aesthetic values. In the end, it should be noted that this book is not a license for arbitrary, superficial and negligent actions in interfering with the adobe buildings, each of which is able to improve the overall condition of conservation. It helps to prevent wrong methods, and to help the local community and investors to have a proper approach toward this valuable heritage, a belief which is able to improve the overall condition of conservation.
unlicensed and non-expert interventions, but the one which seeks to explain the favorable environment for the protection of adobe architecture, and the importance of expert attention, and to present an overall picture by addressing various dimensions in which more mistakes have been made in recent years, and seen in the city of Yazd in particular and in the country, in general.

There is a hope that by raising awareness and explaining the values of the texture and the quality of its protection for different sections of the society, a promising horizon might appear for the heritage of adobe architecture, and its continuation. In the same way, the only world heritage city of the country and the last vast and continuous fabric left from the exquisite cities of Iran continues its existence.

Conclusion

Le patrimoine architectural en adobes de la ville historique de Yazd, bien culturel matériel et immatériel exceptionnel d’Iran figurant sur la prestigieuse Liste du patrimoine mondial de l’UNESCO, n’appartient pas uniquement à ses propriétaires, mais à toute la population de Yazd, à tous les iraniens et à l’humanité tout entière. En tant que bien précieux, il ne devrait pas subir de dégâts résultant d’activités humaines. Cet inestimable trésor offre une multitude d’enseignements religieux, culturels et environnementaux pour les générations actuelles et futures. Si nos contemporains n’apprécient pas pleinement ce livre d’histoire riche en leçons, on peut espérer que les générations futures seront plus à même de l’accueillir. Associé à divers enseignements, ce patrimoine peut s’avérer efficace pour renforcer l’identité nationale, accroître la cohésion sociale et conforter la fierté nationale. Il peut également avoir des retombées économiques, à condition que son identité soit préservée et reste intacte pour les générations futures. Le commerce des biens culturels et l’exploitation des bâtiments historiques à des fins lucratives sont des moyens non durables de gérer le patrimoine culturel, qui non seulement auront l’effet inverse à long terme, mais priveront également nos enfants de ce patrimoine inestimable. Yazd continuera de générer des retombées économiques tant que son identité sera préservée et restera entière pour les générations futures. Toutefois, l’exploitation de bâtiments historiques par l’industrie du tourisme notamment n’est pas une approche durable de gestion du patrimoine culturel. Elle peut même engendrer des effets destructeurs sur le long terme et priver nos enfants de ce bien inestimable.

Considérant l’importante valeur de la ville historique, les interventions sur les bâtiments doivent respecter deux principes : être minimales et réversibles. Par conséquent, les efforts de conservation ne devraient pas mener à la transformation ou à la destruction partielle ou totale de bâtiments, ni à des modifications rendant les bâtiments méconnaissables. La simplicité, la clarté géométrique et l’usage généralisé de l’adobe sont les trois atouts majeurs que l’architecture de Yazd se doit de préserver.

Par conséquent, toute intervention physique doit respecter cette simplicité esthétique, la structure géométrique originale et cette omniprésence des adobes et des enduits de terre. Aujourd’hui, comme mentionné dans cet ouvrage, la plupart des erreurs de restauration à Yazd viennent du recours excessif aux décorations, aux divisions spatiales erronées et à l’usage du béton. Cet ouvrage encourage clairement l’utilisation de formes et de matériaux vernaculaires et le respect des méthodes de construction.

Pour éviter les erreurs, nous recommandons vivement de faire appel aux services d’un consultant qualifié pour concevoir votre projet de restauration. Chaque intervention doit obtenir un permis auprès de l’Office Général du Patrimoine, du Tourisme et de l’Artisanat de Yazd, pour que les travaux de conservation puissent être vérifiés par cette agence. Même en cas de modifications mineures telles que le forage d’un puits, l’isolation et la réduction du poids des toitures ou encore le remplacement des enduits, il est toujours nécessaire de consulter les experts et d’obtenir un permis afin d’éviter des dégâts mais aussi des dépenses supplémentaires résultant d’interventions inappropriées que les propriétaires devront reprendre à leurs frais.

Considérant que les restaurations peu professionnelles sont dangereuses et peuvent conduire à la destruction graduelle de ce patrimoine mondial, il incombe à tous ceux ayant des compétences professionnelles d’être vigilants pour éviter les mauvaises pratiques et aider tant la population que les investisseurs à prendre les bonnes décisions. Il est primordial de répandre l’évidence que cette ville historique est le résultat du savoir-faire collectif et de la sagesse de nos ancêtres qui, avec de nobles intentions et d’énormes efforts, ont relevé le défi de nous offrir une architecture confortable dans cet environnement chaud et aride. Nous devons nous nourrir de cette pensée pour améliorer l’état général de la conservation à Yazd car elle permet d’éviter que des actions superficielles et négligées affectent les bâtiments en adobes, chargés de valeurs culturelles, identitaires, religieuses, éducatives et matérielles.

En fin de compte, ce livre n’est pas une licence autorisant les interventions arbitraires non autorisées et non expertes. Il encourage la mise en place d’environnements favorables à la protection de l’architecture en adobes, et rappelle l’importance des experts. En abordant diverses dimensions du paysage urbain en terre dans lesquelles de nombreuses erreurs ont été commises ces dernières années, il ouvre la voie de la protection de la ville de Yazd mais aussi des autres architectures en adobe.

Il y a un espoir qu’en sensibilisant les différentes strates de la société aux valeurs de l’architectures de terre et aux bonnes pratiques de conservation, un horizon prometteur apparaîtra pour sauvegarder le patrimoine en adobes et assurer sa revitalisation. Ainsi, la seule ville du pays inscrite sur la Liste du patrimoine mondial et le mieux préservé des vastes tissus urbains continus en terre poursuit son existence.