

QUALITY OF LIFE: MEDITATIONS ON PEOPLE AND ARCHITECTURE

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ABSTRACT

This paper correlates the definition of architectural spaces to the concept of quality of life. The concept of quality of life covers domains such as the psychological, physiological, interpersonal, spiritual, and financial. Quality of life is dynamic; people and the environment change over time. The 1949 definition of health provided by the World Health Organization (WHO) is a useful blueprint for defining health measures to inform architectural design. Two questions are discussed: Are cultural associations relevant in defining building environmental performances? Can the Vitruvian connection of architecture-climate-comfort and the Palladian theory of architecture still inform modern architecture? The historical domains of durability, convenience and beauty continue to be a valid model because they are meant to be a reflection of the quality of life of individuals at a given time. This paper promotes architectural education that bases its philosophical approach on the historical concept of *commoditas/utilitas* (convenience) as way to enhance quality of life.

INDEX TERMS

Quality of life, Architectural education, Indoor air education, *Commoditas*

INTRODUCTION

Architecture is generally recognized as being a valuable approach to improve our living spaces. Levin and Adlercreutz's (2000) analysis of Alvar Aalto's architecture is a good example of how architecture can provide for healthy spaces and enhance the quality of life of the people living there.

It is known that the quality of indoor air (IA) has a bearing on health and impacts the quality of our life (WHO, 2000). IA and quality of life can be improved in a number of ways. Extensive efforts are devoted in defining indicators on how to measure IA quality, finding better ways of controlling sources, quantifying economic impact of negative exposure (Fisk, 2000), promoting environmentally sound design and construction practices (Levin, 2000), and promoting better education for all players (Boschi, 1999). However, a host of practical difficulties limits the widespread adoption of this wealth of knowledge among architects.

This paper advocates the importance of promoting the concept of healthy living as an indicator of quality of life among architects, by adopting a more familiar language to them and by using an accepted historical theoretical framework. The aim of this paper is to discuss the definition of architectural spaces in relation to the concepts of *utilitas* and *commoditas* as provided by Vitruvius and Palladio and how these concepts can still inform contemporary architectural choices. Addressing the issue of architectural professionalism versus

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architecture as discipline is beyond the scope of this paper. Rather, the focus is on promoting architectural education that endorses people's quality of life as the framework for design.

The trust of the paper is on showing, primarily to architects, how current knowledge of IA concepts is a fundamental and historical component of design that dates back to the real first codification of the architectural principles written by Vitruvius in the I century BC and reiterated by Palladio XV centuries later. This paper reviews a few milestones that came to define the health and cultural context nexus. Through text analysis the Vitruvian and Palladian theories of *utilitas* and *commoditas* are reviewed, compared and analyzed in relation to the WHO's definition of health. Two questions are addressed: Are cultural associations relevant in defining building environmental performance? Can the Vitruvian connection of architecture-climate-comfort and Palladian theory still inform contemporary architecture?

THE HEALTH AND CULTURAL CONTEXT NEXUS

Since the time of Hippocrates (460-377 BC) it has been known that polluted air is detrimental to health and that certain spaces are less healthy than others. In the last 50 years the context of health has been broadened and started to be inclusive of aspects that characterize the way people live. Here a review of a few milestones that define how this nexus has evolved. In 1948, the Universal Declaration of Human Rights established the link between health and cultural context by stating: "*Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services...*" (United Nations, 1948).

In 1949, the WHO's definition of health provided the blueprint for defining health measures: "*Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity*" (WHO, 1949). Two critical aspects are outlined here: firstly, health has more than one dimension; secondly, it is important to measure the full range of health states.

In 1988, this concept of health was used to define quality of building performances as follows: "...not just free from building related illness and discomfort but indeed promotes well-being and health. Besides being non-hazardous, the salient features of the healthy building include thermal comfort, pleasant air quality, illumination and acoustical characteristics, support of social needs and productivity, and distinguished aesthetic qualities. These features should be maintainable over the building's life time. The occupant should feel confidence in the building and its operation, be able to comprehend the systems and design, and be given a fair chance to control systems" (Berglund et al., 1988). This concept was further expanded to include the larger environments, "*A healthy building is one that adversely affect neither the health of its occupants nor the larger environment*" (Levin, 1995), and to recognize that human health needs should be a priority, however, human comfort should be refrained when at price of other life systems (WHO, 2000).

The last milestone defined relates to the concept of "quality of life" as an indicator that covers psychological, physiological, interpersonal, spiritual, financial, political, temporal, and philosophical domains (National Institute of Health, 1990). Indeed an interactive and multidimensional expression of the occupant-environment relationship. The quality of life concept, which has in recent times received a lot of attention in the medicine and health care fields, is becoming an indicator in the architectural field as well. This concept of quality of life is dynamic as the relationship between people and acceptable environmental performance

changes over time to satisfy cultural changes, general sense of personal well-being and satisfaction, as well as new scientific knowledge.

The concept of quality of life has gained more attention as the pressures of popular culture and economic priority lead to cultural homogenization. In many areas, the result has been social displacement – a lack of continuity with traditions and perspectives that gave life meaning, and for many includes a feeling of dislocation. This has promoted architectural models that have difficulties to relate to the traditional construction knowledge. These models have promoted an “ideal way of living”, which is too often not compatible with most environmental contexts and people “real way of living”. Often they are introduced in a professional context not yet ready to provide the appropriate level of technical service that these architectural models require. Further, it promotes technological possibilities as a solution to overcome any possible limitation.

ARCHITECTURE AND PEOPLE

The Vitruvian and Palladian theories of *utilitas* and *commoditas* are here reviewed, compared and analyzed in relation to the WHO’s definition of health. This part starts with a brief summary of the cultural context in which Palladio operated.

Architecture as the tri-dimensional expression of the quality of life finds its roots in the work of Palladio and his “ideal” master Vitruvius “...*is the only ancient writer of this art, and set myself to search into the reliques of all the ancient edifices, that, in spite of time and the cruelty of the barbarians, yet remain; and find them much more worthy of observation, than I first I had imagined.*” (Palladio, 1570). Vitruvius’ treatise on architecture is the first one in history. Barbaro’s translation of Vitruvius is the most thorough during the XVI century and its illustration were mainly based on drawings made by Palladio. It is about this time that Palladio himself decided to write his own treatise on architecture to summarize the practical knowledge of his time and contribute to enhance the practice of architecture. His choice of writing style reflected this intent “...*and shall make use of those terms which at this time are most commonly in use among artificers*”. In the introduction to his treatise Palladio explains his interest in antiquity. He also indicated his interest in ancient roman constructions as being capable to inform current architecture “*the ancient Romans, as in many other things, so in building well, vastly excelled all those who have been since their time*”.

Palladio’s interest in drawing upon history together with the recognition of the knowledge of the work of his contemporaneous enabled the development of his architectural principles. He defined new architectural forms relying on consolidated technical knowledge. For example, his design of the Teatro Olimpico in Vicenza referenced the forms of Greek and Roman theaters, as described by Vitruvius, without changing the complexity of the relationship form-performance, in this case acoustic, he was capable of developing a space that met the needs of the people of his time.

Habitant oriented culture

Among the northern Italian humanists of the XVI century Palladio is the main exponent. His early work was fostered by Trissino and Cornaro and later on by Barbaro (Kruft, 1994). Trissino viewed architecture as “*an art concerning the habitation of men, that provides a basis for utility and pleasure*” (Puppi, 1973). Trissino’s pragmatic thinking on *commoditas* influenced his protégée. Cornaro, even more so than Trissino, focused on the importance of convenience-*commodita*’ as decisive criterion in architecture “*I shall always lavish more praise on a building that is straightforwardly beautiful but perfectly convenient, than on one*

that is exquisitely beautiful, but convenient” (Fiocco, 1965). Cornaro, wrote specifically to city dwellers about the construction of new houses and also methods of improving old houses. For the first time in architectural history the issues of sanitation was presented.

Vitruvius and Palladio’s theories

Palladio, like Vitruvius, identified domains that guide his design as follows: *commoditas* (or Utility), durability and beauty. Table 1, compares Vitruvius and Palladio’s architectural theories with regard to the concept of *utilitas/commoditas* as they relate to the concept of providing healthy living. The analysis indicates a very similar intent. The main point underlined here is their interest in meeting client’s needs and social satisfaction that, in today terms, we would call health, comfort, well-being and productivity within an ethically sound environmental framework.

Table 1. Vitruvius (V) and Palladio’s (P) concepts of *Utilitas*, Durability and Beauty.

Utilitas/commoditas	
and location	...first comes the choice of a very healthy site if our design of private houses are to be correct we must at the onset take note of the countries and climates in which they are built (V) ..great care..not to build near those waters..with regard the wholesomeness of the air... (P)
and ventilation, thermal comfort, health different rooms require different exposures ... in libraries with southern exposures books are ruined by worm and dampness... summer dining rooms to the north ... it makes the use of the rooms both healthy and agreeable (V) ... an edifice may be esteemed commodius, when every part or member stands in its due place and fit situation, neither above or below its dignity and use ; or when the loggia’s, halls, chambers cellars and granaries are conveniently disposed, and in their proper places...(P)
and social-well being	...after settling the position of the rooms .. we must consider the principles on which should be constructed those apartments ... to suit different classes of persons (V) ... the habitation for the master ought to be made with regard to his family and condition... (P)
and economy	..proper management of materials and of site...thrifty balancing of cost and common sense in the construction work..plan for different kinds of dwellings suitable for ordinary people, great wealth...(V) ... that one may learn, by little and little, to lay aside the strange abuses , the barbarous inventions, the superfluous expenses ...(P)
Durability	...when foundations are carried down to solid ground(V) ... foundations strong and solid...(P)
Beauty	... members are in due proportion. Proportion is a correspondence among the measures of the members if the entire work and the whole to a certain part selected as standard...(V) ... will result from the form and correspondence of the whole, with respect to the several parts, of the parts with regard to each other, and of these again to the whole; that the structure may appear an entire and complete body, wherein each member agrees with the other, and all the necessary to compose what you intend to form.. (P)

The components of *Utilitas* or *Commoditas*

In a very unique way, Palladio established a logical hierarchical relationship between domains. He associated *commoditas* with the problem of décor and beauty, being the last subordinated to the first one: “*The agreeable, pleasant, commodius, and healthy function being found, attention is to be given to its elegant disposition*”. Further, he suggested that *commoditas* is achieved when each parts finds its adequate place in the overall composition: “*So one must call that house convenient (commoda) which is suitable to the quality of the person who lives in it, and whose parts correspond to the whole and to each other*”.

Palladio’s qualitative and quantitative definition of space is intended as expression of current social well-being in terms of reflection of the owner’ social and/or political role: “*The habitation for the master ought to be made with regard to his family and condition*”.

Palladio, while recognizing the professional’s need to second the ambitions of the client, believed that the design work must aim at finding beauty which is achieved by reaching the equilibrium among the three domains “... *as much as possible, one ought ... to have regard to those who are inclined to build; and not so much to mind what they can afford to lay out as the quality of the building that is proper for them...*”. He further recognized that clients’ ambitions might lead to un-realistic model or focus on a few architectural elements without really relating them to the overall structure. Palladio’s practical sense and experience come through also when he wrote: “*But an architect is very often obliged, to conform more to the will of those who are at the expense, than to that which ought to be observed*”.

The climatic factor and the orientation

The relation between the building and its surroundings was key both for Palladio and Vitruvius. The selection of the site was identified as being of great importance: “*and because waters are very necessary to human life, and according to their various qualities they produce is us different effects, some generating the spleen, other glandulous swelling in the neck, other the stone, and many other diseases: ...great care ...not to build near those waters... with regard the wholesomeness of the air .. the ancient edifices will give an indication thereof, if they are not corroded or spoiled: if the trees are well nourished...*”.

The orientation of the rooms was their way of controlling indoor exposures, thermal, lighting, and visual comfort: “*the rooms for summer be ample, spacious and turned to the north and those for the winter to the south and west... but those we would use in the spring and autumn, must be turned to the east, and ought to look over greens and gardens*”. Palladio continues by offering another practical insight on the difficulties of relating to constraints: “... *in cities, either the neighbors walls, the streets or...prescribe certain limit that the architect cannot surpass, it is proper he should conform himself to the circumstances...*”

CONCLUSIONS

This is an initial effort to challenge architects and the indoor air community in fulfilling 3 main needs for achieving better quality of life through architecture:

- *New view from the texts analysis*: Palladio and Vitruvius identify architecture as model to meet inhabitant’s quality of life. They establish a clear link between architecture, occupant’s health, comfort , and social needs and beauty within a specific cultural context. *Commoditas* is identified as the primary concept for designing spaces.
- *Architectural education*: Based on the review of historical and current literature there is strong evidence that cultural contexts inform the concepts of health and quality of life. New scientific knowledge must continue to inform architecture. However, architectural

education should promote architecture that originates from these concepts rather than as a compliance step to be added afterward.

- *Effective communication*: Architects are professionals which work is informed by a number of disciplines. In Vitruvius' words: "*The architect should be equipped with knowledge of many branches ... let him be educated, know much history...have knowledge of the study of medicine on account of the questions of climates, air, the healthiness and unhealthiness of sites, and the use of different waters. For without these considerations, the healthiness of a dwelling cannot be assured ... nor again like Hippocrates, though not ignorant of medicine*". While this profile is still a valid one, it must be recognized that most architects are not at ease with the way these fields of knowledge are currently conveyed to them. This lead to avoidance. This is a call for establishing effective communication among disciplines, which must occur both vertically and horizontally.

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