Healthy Buildings

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The 21st century presents an ever-changing landscape to all aspects of health. In the developed world over 85% of people live in urban environments (Turcotte 2006). Urban form shapes the social aspects of our well being such as our sense of home in our neighbourhoods, our level of stress and our opportunities to connect to particular space and place. Our understanding of the phrase 'healthy buildings' is structured by a range of definitions. In the urban paradigm buildings are centres for all human social interactions. Focusing on a micro approach to cities the very buildings humans live in must first be re-evaluated and design in a way which promotes health. What can planners do to influence the growth of positive social interactions, resulting in the promotion of healing cities? The main reasoning behind the search for a healthy city design is the rapidly declining physical and economic health of our society.

The ever growing state of human urban lifestyle drives us to ask the question, who are cities built for? Traditionally cities grew out of places of commerce and wealth, as the human race centres itself increasingly around cities the new purposes present difficult definition. A frightening fact of the massive growth of urbanism is also the growth of sedentary lifestyle related disease; in cities obesity, diabetes, asthma, lung cancer, liver cancer and a myriad of other disease plague large populations of both the developed and developing worlds (Dodds and Tavernor 2002

A widely held definition of health is that of the World Health Organization (WHO): "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" (WHO, 1948). This definition extends beyond the traditional biomedical emphasis on the negative, instead setting a high bar for human biological, psychological, and social

functioning. Under this definition fall many outcomes traditionally studied by psychologists, including sensation, perception, cognition, arousal and alertness, memory, emotion, learning, sleeping, and motor performance. A truly healing building will take all of these aspects of human living into account.

The other Healths

There are four aspects of healthy cities described by the Healing Cities project. Although only social is discussed in this paper the other aspects: mental, physical and spiritual are all essential facets in fully understanding the true holistic truth behind healing cities.

Physical health can be described in two senses: the body and the environment. In many cases these two perspectives of the physical are intertwining in most situations. Urban heat islands are urban areas which have a higher average temperature year round than the surrounding rural areas (Environmental Protection Agency 2008). This is because of the low albedo of concrete and poor vegetative cover which in nature provides large amounts of shade (Environmental Protection Agency 2008). This increased heat can affect the human population adversely through increased instances of heat stroke while the increased amount of concrete decreases ground water absorption and increases pollutant run off (Changnon, Kunkel and Reinke 1996). These two problems can be solved by simply installing urban forests and trees while installing high tech photocatalytic concrete which absorbs runoff pollutants and reflects heat rather than absorb (Cassar 2009).

Mental and spiritual aspects of health are much more difficult to differentiate from one another although with an in depth evaluation their differences are vast. One recommendation in relation too these two aspects pertains to the health of retirees in assisted living homes. Retirement communities which offer gardening plots for their tenants noticed an increased in mental awareness as well as tenants using the space for positive reflection and spiritual awareness (Sugihara and Evans 2000).

Social Health

Humans are social animals, no more is this highlighted than in the cities we have built. There is no possible way a single person could create a skyscraper or even in most cases a single family home by his/hers self. Many of the difficulties and stresses people deal with in a regular lifespan can be more positively and efficiently coped with through social support groups (Holt-Lunstad, et al. 2010). People who have a lack of social interactions experience negative health symptoms tantamount to other major sources of negative health such as cigarette smoking, alcoholism, and obesity (Holt-Lunstad, et al. 2010). Social health is difficult to attain because of the complexity of human lives. In comparison to a person whom is physically ill or unfit who is able to go to a doctor for treatment; a person suffering from the symptoms of poor social health cannot be as easily helped because of the difficulties in diagnosing the actual specific problems with the person. Large majorities of social interactions take place in the buildings we work, live, learn and play in. Many buildings simply do not provide the linkages and benefits which will provide a positive social environment for the people working or living within (Veitch 2008).

Businesses which offer a positive physical setting to their employees often experience spikes in morale and productivity (Heerwagen, et al. 1998). Positive moods are associated with the physical setting at work and daily activities such as social interaction among employees; the more positive the space results in more positive work ethics and social atmospheres within office buildings (Kelloway and Day 2005). This can be achieved as simply as allowing people to decorate their cubicles or offices and can extend to the extremes of the offices of Twitter[1], Facebook[2], and or the award winning Electronic Arts[3] building in Burnaby, British Columbia all of which contain some of the most creative and visually striking office areas worldwide.

In relation to the interior design of buildings is the matching function of a space. For many years in the world's largest cultures, architecture was connected directly with religion. In many cases the reasoning behind this connection was simply the religious ruling centers controlled the most wealth and were able to afford large scale buildings. With the growing separation of church and state and the growth of social pragmatism in planning religion and architecture have largely separated (Florida 2008). Religious pragmatism in most cases can be seen as a positive ideal for the general public, evidence of positive networks created by and within religious organizations is quite common (Beauregard and O'Leary 2007). By including *tolerant* religion back into the designs and lives of the public the opportunity of social as well as spiritual healing is created (Florida 2002).

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[1] http://www.officedesignblog.com/facebook-office-headquarters/519/
[2] http://mcminteriors.com/high-tech.cfm/webid=80/cmd=next/ShowProject=58
[3] http://www.officedesignblog.com/new-twitter-office/558/

Architecture obviously plays an important role in the evolution of healthy buildings. The old cliché, you are a product of your environment is an important notion to keep in mind. Two examples of architecture negatively affecting the health of tenants are the Cabrini-Green buildings in Chicago and the Pruitt-Igoe buildings in St. Louis. Being similar developments both sites incorporated large area multi-building developments to provide social housing to the lower wage earners in urban Chicago and St. Louis (Birmingham 1998). The role of architecture in social interactions quickly became devastatingly clear. The tenants because of their lower economic status were already susceptible to higher crime rates experienced a sharp spike in violent crimes and theft. The lack of open spaces, tight public corridors and poorly lit and enclosed staircases which were all deliberate designs to keep costs low, created a huge lack in the mutual benefit of safety through neighbourhood interaction (Birmingham 1998). In the preceding years before the developments were entirely torn down rates of murder, rape, violent crimes and the number of gang members were higher than any other areas of the cities (Murray 1995). After these types of disastrous developments new directions were taken in the planning and implementation of large area multi-use and multi-family housing districts. To combat the problem of crime architects moved away from the modern type brutalist architecture and began to incorporate more natural looking green spaces within the building sites.

With the popularity of green space growing in both urban planning and architecture urban agriculture has become widely popularized and practiced. The concept of urban agriculture is still evolving; community gardens take the aspect of urban agriculture and form a solid social network within the confines of the garden. Interaction within community garden

spaces are networks which without the bridge of the garden may not have previously existed.

On one of Vancouver's busiest intersections at Burrard St. and Davie St. a large parcel of land in one of the cities hottest real estate markets has been set aside for a thriving urban garden. Although there may be a myriad of different reasons for this site to be left fallow, including the pre-existence of a gas station and possible contaminants underneath; the inclusion of a community garden at this particular site promotes social cooperation and interaction above the bottom line of real estate markets. Promotion of urban agriculture on the small scale of growth, within single family units allotted yards, creates physical activity and engages people into social networks which may have not previously existed (Turrel 2002). In relation to these benefits are the economic benefits to small families in growing and maintaining their own gardens. Food costs can be heavily offset through the simple usage of small garden plots in single family home backyards as well as herb window boxes (Smit 1996).

When applied to larger urban communities the issue of urban gardening takes on a more controversial tone. In Julie Guthman's 2008 research, *Bringing good food to others: investigating the subjects of alternative food practices,* the point of cultural boundaries segregating the practice of urban gardening is described. Guthman challenges the practice of urban gardening though a racial lens; stating how the latest explosion of popularity in green gardening is not being viewed as a heterogeneous occurrence within urban communities. In fact the rise in urban gardening is mostly only seen in affluent white communities (Guthman 2008). The main argument behind this reasoning is many of the poorer communities throughout the United States are constituted of mostly immigrant and African-American communities (Turrel 2002). Many of the immigrants within these communities emigrated from

their country of origin directly because the only jobs available to them were labour intensive

agricultural jobs (Guthman 2008). In the terms of African-Americans, there is a particular

disillusionment associated with small green or grass root grocers because of past histories

segregation and racism (Guthman 2008). It is important to note Guthman recognizes her

observations as typical generalizations of different communities; there are many white affluent

people who turn up their noses at urban gardening as well as African-American peoples who

actively participate and enjoy community agriculture.

While urban agriculture is still a controversial viewpoint in some eyes, the idea of

biophyllic design[4] and green space to promote health is rapidly growing (Geshwiler 2006). Dr.

Roger Ulrich has focused almost thirty years of research on the practical health benefits of

incorporating nature into buildings, specifically hospitals. His argument is built around the

premise of hospital construction projects which stem into the multi billion dollars per year

projects in the Western world but very little focus is put on increasing the well-being of the

actual patients (R. Ulrich 1997). Through the implementation of small plots of gardens on

hospital grounds, Dr. Ulrich has proven the connection of people and plants or more specifically

people and nature in healing environments. In one view the implementation of green spaces in

hospitals is almost a step back in time. It is well recorded both in the Western and Asian

spheres of influence of using plants as healing components in health care for more than 1000

years (Parsons, Ulrich and Tassinary 1994). In fact up until the early 1900's and the rapid

spread of what is now considered modern medicine European and American hospitals had

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[4] Biophilia is the idea of the instinctive bond between human beings and other living systems, namely plants.
Presented by Edward O. Wilson in *Biophilia,* 1984.

gardens and plants as common features throughout their grounds (R. S. Ulrich 1984). The study of these types of interactions are important to the development of the healing cities ideals; although there are countless LEED type papers promoting the benefits of green space very few take into account a social division of space. In common social situations very few interactions start 'cold turkey' usually a type of common ground is shared before. When common ground is not immediately shared in social situations often what are commonly referred to as 'icebreakers' are offered. In this respect green space is being offered within building grounds as a type of jump off point for all types of social interactions. In relation the contemporary increase of urban dog parks are a perfect examples of green space offered to promote the increase in positive social interactions within urban populations (Cusack 1988).

Social interactions have also gone past the point of just being important within a physical context. Globalization has struck rapidly in the last ten years mostly because of the introduction of hyper fast internet and social networking connections. Incorporating the new type of communication and social interaction into healthy buildings and communities is an important step in the attempt to create a holistic basis of study. This is the belief of social capital in benefitting the growth of human interactions (Kawachi 2006). In Ellison et al. 2007 research, *The Benefit of Facebook "Friends:" Social Capital and College Students' Use of Online Social Network Sites,* the author's examine the formation of social capital. It was found even though these 'friends' may be non-physical the social capital created and connected to this type of social interaction is not only beneficial to the parties involved it can also be highly productive in the terms of personal and financial growth (Ellison, Steinfield and Lampe 2007). Translating the example of social capital to the realm of health and communities allows people to

understand creating, collecting and maintaining social networks whether through a screen or face to face is a greatly important factor to the well being and good health of an individual as well as a community (Kawachi 2006).

Recommendations

The healing cities project is attempting to create a model for cities which offer not just a healthy lifestyle choice for the future but also a city where people don't become unhealthy due to high stress levels and overwork. These recommendations are focused on increasing the amount of positive social interaction between generalized populations of people within the setting of their places of work, living and leisure. They do not take into account the holistic healing possibilities of the other three aspects of health aforementioned. That being said many of the recommendations offered are but parts of larger solutions offered through multi-lateral approaches to health. They are catered directly towards the promotion of a healthy building design model; which specifically is incorporating a building in questions along with the structures and grounds directly related to its developed space.

1st recommendation

From a purely healing standpoint the first recommendation is to seriously look at the benefits of greenspace within buildings. Based on the papers by Roger Ulrich and seperatly Kellert, Heerwagen, & Mador I would recommend the incorporation of the maximum amount of greenspace possible into every future planned building site. As in many cases of urban density growth it will not be possible to maximize tenants space without exponetinally raising costs of living. This recommendation follows closely with Roger Ulrich's study on hospital rooms

and greenspace. Hospital rooms are tiny sterile rooms but even with a view to a limited area of

greenery, a small garden in this case, is all that is needed for the healing capabilites of

individuals rises. This focus on small garden or green plots can and should extend beyong the

realm of hospitals. Work places can implement green space techniques to improve the morale

and therefore the productivity of their employees. A useful reminder to planners and designers

is the less sick days a person takes the more productive their work is which results in an

upswing in positive emotions and productivity because of the fufillment an employee recieves

at work.

2nd recommendation

The acceptance and tolerance of religion as potential positive influences in many social

networks. Contemporary planning in many pragmatic cities and urban metropolitan areas does

not afford religion much status because of its connection with fundamentalism and moral

rigidity based on specific teachings. Many of these concerns remain true as outlined by Richard

Florida, however by creating places of safe 'spiritual refuge' in buildings a designer can again

tap into untouched social interactions relative towards places of residence and work. This

design can manifest itself as simply as a quiet space or meditation area within a large multi-

family building. The meditation area's size would be dependent on the needs of the people

within the building. A standard in many of the apartment block developments in Vancouver at

this time are gyms and shared party rooms; implementing another area for quiet reflection for

either groups or individuals would not be difficult or detract from revenues of sale drastically.

3rd recommendation

New and retrofitting buildings need to embrace technology and the future of social networks. Interactive and online social networking mediums are no longer 'arriving' or new they are known as integral and rapidly dominating parts of all social interactions. Facebook, Twitter, Linkedin, and YouTube take the lions share with dozens of smaller sites and services being offered. Planners must access what children are learning today and what young adults are doing right now. Planning for the future is something which is difficult but not impossible. There are many negatives in relation to the mass use of online information sharing such as identity theft and online predatory behaviors. However, as in any generalization a few negative cases should not condemn the positives associated with social networking.

4th recommendation

Buildings architecture itself must reflect the positive social lives of the people living within. The construction of well lit areas and wider routes of travel will promote positive neighbour interaction. Rather than creating stairwells as simply utilitarian means of travel or emergency exit attempt to embrace the staircase as a main source of travel. Simple aspects of widening the space opening and decorating the walls with common aesthetic accoutrements such as flowers or even cost effective re-print artwork can make the area much more attractive. In this a planner is not only extending the degree of the positive environment the planner is also denying any area of negative interaction. Humans are notoriously uncomfortable and aggressive when given only small areas to live within. In the western world this may not translate to violence because of the strict laws within society but the aggression felt towards being confined does affect people negatively. Offering enough space for people in their

everyday lives is so important because of the negative connotations humans have for

confinement and small spaces.

As mentioned before these recommendations are only but a few singular approaches to

what is a large multi-disciplinary approach to holistic healing within urban environments.

Almost all of the author's and works cited within this paper have much more complicated

points than the ones which have been simply pointed out. Buildings are but a single facet of a

city however integral they may be to the strength and evolution of any city it is important for

any reader to have in mind the whole urban paradigm while thinking specifically of certain

points whether it be single buildings or entire cities infrastructure. Finally, the healing cities

groups approach to this project creates an overlap in the scale of the four aspects of health

resulting in one large aspect with four subsections rather than four separate aspects. It is the

environment in which we not only live in which is important but also the one we create.

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