

How Architecture Regulates

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Abstract:

Scholars are increasingly interested in understanding how architecture affects behavior and how it can be used proactively to influence particular behavior, such as enhancing social interaction or reducing crime. The relevant research spans disparate fields including architecture, geography, urban planning, sociology, and law. The result is a diverse set of concepts, theories, and methods for understanding how architecture regulates. This paper attempts to synthesize the existing research into three meaningful categories. They revolve around communication, interaction, and biases. First, architecture can play a communicative role by expressing cultural or symbolic meanings. Second, the architecture can affect how people interact. Third, architecture can be biased and treat certain social groups or values more favorably. This categorization provides scholars and professionals with a practical and clear perspective for how architecture affects us.

I. Introduction

A reemerging concept in recent legal scholarship is the idea that architecture serves as a regulatory force (Katyal, 2002). This means architecture can be substituted or used in conjunction with traditional regulatory mechanisms, such as the law or social norms. The notion of regulation refers to how architecture can influence and affect behavior. Scholars from architecture, geography, urban planning, sociology, anthropology, and law have found that architecture can regulate us in a many ways. However, there is not a clear conception of the different ways that architecture regulates. This article remedies this by categorizing the different ways in which architecture regulates us.

This article synthesizes the existing scholarship into three categories. These three categories provide a simple and effective way to think about architecture operates. This approach is preferable to wide ranging literature reviews within sociology and anthropology (Gieryn, 2000; Lawrence & Low, 1990). Instead, this article focuses on three categories for how architecture regulates us. They revolve around communication, interaction, and biases. First, architecture can play a communicative role by expressing cultural or symbolic meanings. Second, the architecture can affect how people interact. Third, architecture can be biased and treat certain social groups or values more favorably. We acknowledge that the vast majority of architectural features do not fit cleanly within one category, but often have aspects from several categories.

The goal of this paper is to summarize and categorize how architecture serves as a regulatory force. This paper is not seeking to develop a meta-theory of architecture or a synthesis of all thought on architecture as regulation. Instead, our efforts are synthesizing the existing research to provide an insightful perspective on the various ways architecture affects us. This

leads us to use the terms architecture, buildings, and the built environment in discussing the material world. Also, we do not follow and articulate the distinction between place and space in this paper. For the purposes of this paper, both can serve as a regulatory force. In sum, the goal of our analysis is to allow scholars and practicing professionals to better analyze and elucidate how architecture regulates.

II. Communicating through Cultural and Symbolic Values in Buildings

Architecture can play a communicative role by expressing meaning through the built environment. A variety of cultural or symbolic values can be expressed through choices in materials, colors, forms, sizes, furnishings, and landscaping for a building (Rapoport, 1990). Consider the design of banks that are constructed to express the values of security, trust, and reliability. This is accomplished with techniques such as the use of marble and grand spaces that provide a monumental feeling that the bank will not disappear. This section begins with a short discussion on how law recognizes this communicative function of architecture. Next, we discuss three ways in which architecture serves a communicative role. First, we show how buildings symbolize and reproduce essential elements of cultural life. Second, we consider how architects can manipulate these communicative properties, often to serve commercial ends. Finally, we consider how symbolic and cultural meanings are created and activated through the role of rituals.

The law recognizes the communicative function of architecture in two ways. The most obvious is how government regulates the appearance of the built environment (Costonis, 1989). This is known as aesthetic zoning, which includes controls on billboard and sign advertising, junkyards, and the use of architectural review regulation (Regan, 1990; Tappendorf, 2002). The

content of these regulations ranges from bans on the size of signs, the content of signs, the color of houses in covenants, protection for historical buildings, and the use of design review to ensure buildings comport with societal preferences (Stamps & Nasar, 1997). While there are many purposes for these regulations, they are all targeted at regulating how buildings communicate. The U.S. Supreme Court has held that it was within the police power of the legislature “to determine that the community should be beautiful as well as healthy, spacious as well as clean, well-balanced as well as carefully patrolled ("Berman vs. Parker," 1954)” The second recognition of the communicative role of architecture is in the granting of copyright protection to architectural works. The Architectural Works Copyright Protection Act (AWCPA) extended copyright protection to architectural works, which includes buildings. This protection recognizes that buildings are like other creative works in combining both functional and creative elements (Winick, 1992). In this regard, buildings are akin to other communicative media, such as books and motion pictures. Copyright protection then serves as an incentive to promote the creation of creative and communicative architecture.

The structure and makeup of a school communicates whether it is a welcoming environment. Research has shown that children, parents, and teachers all feel that a clean, well-maintained building with student artwork and suitable colors on the walls contribute to a welcoming environment (Maxwell, 2000). In this case the physical makeup has an impact on creating a social environment conducive to learning. Moreover, research has shown that the communicate effects of the physical environment including, classroom density, noise, furniture arrangement, temperature, and lighting can affect student performance (Ahrentzen, Jue, & Skorpanich, 1982).

Buildings can also represent and communicate socio-cultural traditions and personal identity. For example, consider the role of decorative patterns of the Al-Alkhalaf in Saudi Arabia (Abu-Ghazzeah, 2001) or the Islamic influence on the Petronas twin towers with the floor pattern based on an eight point star. Another example can be found in Bourdieu's sociological research on the Berbers of Algeria. He argued that their buildings not only serve a functional purpose, but also as Gieryn explains, the buildings express a "set of symbolic opposition and hierarchies that order the societal divisions" (2002). Bourdieu found the allocation of spaces in a Kabyle house corresponds to basic dichotomies in the Berber cosmogony (Bourdieu, 1990). Interestingly, the communicative role was recognized by an outsider such as Bourdieu, but was not obvious and realized by the Berber builders. While Bourdieu analysis of the Kabyle house is obviously not translatable to every building in a society, it still shows how buildings serve a symbolic function (Duncan, 1981).

Another similar analysis examines the architecture of American courtrooms and courthouses. Rosenbloom concludes that while the architecture of courtrooms is consistent with social ideology put forth by the Constitution, the same cannot be said for courthouses (1998). Courthouse exteriors traditionally were built in classical styles such as Greek Revival. However, a number of federal courthouses have instead been built in a modern style. Rosenbloom argues that this architectural style communicates a different view of the legal system. The modern corporate exterior provides a perception of law as efficient, predictable, and stable, while masking negative perceptions about the legal system's efficiency and legitimacy. Thus, the examples of the modern corporate courthouse style and the Kabyle house show how architecture expresses cultural or symbolic values.

The communicative properties of buildings do not always express their true meaning. Instead, designers can manipulate the symbolic and cultural values for other purposes. A prominent example of this in contemporary society can be found in Gottdiener's study of themed environments (1997). Despite the variety of themes found in the media, only a few of these are actually used by architects. Almost all buildings rely on the stock themes of the tropical paradise, the American "wild west", classical civilization, nostalgia, Arabian fantasy, and the urban motif. Gottdiener argues that designers use these themed environments in shopping malls to disguise the primary purpose of generating profits. In this theming process, malls avoid fundamental issues involving religion, class, and politics. This is disheartening, because malls have a significant role in society as public spaces where the community interacts. As a result, Gottdiener argues these themed malls reflect a simulation of public life.

The communicative properties of buildings can also be analyzed from a ritualistic perspective. This aspect emphasizes how the meanings of buildings are created and activated through individuals and societal interactions. For example, the sociologist Durkheim describes the two variations of the Navajo House Blessing Ceremony for private buildings and public buildings. The ceremony blessed the new building so that its inhabitants would be graced with peace, harmony, good luck, and general well-being (Frisbee, 1968). Similar cultural and religious rituals exist today as well as more secular rituals of ground breaking and ribbon cutting ceremonies. These ceremonies all strive to create positive communicative meanings in buildings.

III. The Social Ordering of Space

Architecture can influence how people interact with each other through the social ordering of space. This influence can be minimal by encouraging mingling or informal interaction through placement of objects in the interior of buildings, such as water coolers. At the other extreme, architecture, such as that of a prison, can serve to restrict movements of individuals and their ability to interact with others, and effectively dominate individuals.

The legal system has long recognized how the built environment affects social interaction. The predominant trend in the United States has been to create specific geographic areas for specific functions, such as separating residential homes from manufacturing plants. The logic here is that manufacturing plant in a residential area would be “like a pig in the parlor instead of the barnyard” (“Village of Euclid Ohio v. Ambler Realty Co,” 1926, 388). Zoning plays an important role in attempting to create public areas for positive social interaction, such as open spaces, plazas, and parks. Similarly, the Supreme Court has held it permissible to use zoning to contain certain activities, such as the location of adult movie theaters, which contain harmful secondary effects (“City of Renton v. Playtime Theaters,” 1986).

Our discussion of social ordering proceeds by examining the minimal influence exercised by architecture to the more substantial role played by architecture in social ordering. First, we consider how architecture can affect informal social interaction. This then leads us to consider the stronger role that architecture plays on our conceptions of personal space and territoriality. Finally, we discuss how architecture can serve to dominate and discipline people.

A. Social Interaction

Our built environment can be structured to encourage or discourage social interactions. A simple example of this is that hallways tend to discourage social interaction, while circular rooms tend to encourage social interaction (Osmond, 1957). It is well recognized that elements such as common stairwells, the placement of water coolers, and front porches can all facilitate social interaction. A prominent example of how architects can facilitate social interaction is found in the creation of open space plazas within New York City. Since 1961, the city typically bargains with developers to create plazas. Many of the early plazas tended to be vast under-utilized spaces. Whyte began to study the properties of successful plazas and found that successful plazas had plenty of sitting places and included other features such as fountains, food stands, and activities to watch (Whyte, 1988). The city then incorporated Whyte's proposals when bargaining with developers. The result was the creation of new plazas that were popular places for enjoyable social interaction (Gifford, 2002).

The same principles of influencing social interaction, but on a larger scale, can be seen in the "New Urbanist" movement. This movement counters the current trend of American suburbs, which feature sprawl as well as the separation of functions through zoning. (Ross, 1999) The New Urbanist movement seeks to create cities and neighborhoods that encourage social interaction and civic engagement with the goal of developing stronger communities (Katz, 1993). The interaction is created by creating compact neighborhoods with a mixture of activities and buildings (Talen, 2002). Descriptions of life in these small pedestrian-oriented towns can be found in Kuntsler's account of Seaside, Florida and Ross's chronicles of his time in Celebration, Florida (Kuntsler, 1993; Ross, 1999). The rationale behind New Urbanists is supported by Putnam's research, which shows that suburban sprawl is a significant contributor to civic

disengagement (2000). This has led scholars, such as Frug, to argue that the New Urbanist ideas, if implemented by changes in local land use ordinances, could create better communities (1996).

B. Personal Space & Territoriality

Our built environment can affect social ordering by interacting with our perceptions of personal space and territory. We illustrate how our perceptions can affect social ordering with two examples. First, we consider the relationship between privacy and architecture. The second example explains how architecture and the perceptions of territoriality can be used to reduce crime.

Privacy is often considered a process of exclusion, where we try to be alone or get away from others. These ideas are readily incorporated into the design of buildings by creating areas of solitude. For example, by the creation of individual offices instead of using open-plan cubicles. However, the environmental psychologist, Irwin Altman, argues that this design will not truly meet our privacy needs. Instead, he argues that privacy is a process whereby a person sometimes wants to be separated and at other times wants to be in contact with other people (Altman, 1975). Consequently, designing spaces that permit little interaction will not provide privacy. So instead of having a room set aside for solitude, Altman argues for building environments that are responsive and able to meet our changing privacy needs. This allows an easy alteration for either getting together with people or for creating separation.

Territoriality considers how people exert control over a specific space. This can occur through a number of ways from symbols, such as a personalized pinup calendar in male work areas, or the use of formal barriers such as fences and gates. One notable use of territoriality has been to reduce crime. Oscar Newman argued that a significant reason for why crime occurred in

public housing was because the residents could not express territoriality by marking out and defending their property in large, high-rise style buildings. Newman argued that buildings needed to be designed with “defensible space” that reduces anonymity, increases surveillance, and reduces possible escape routes (1972). This change is partially manifested in the shift towards low-rise public housing. Today, the concept of defensible space is part of a larger movement to reduce crime through architectural measures (Clarke, 1997; Jeffery, 1971; Taylor, 2002).

C. Disciplining Spaces

The design of buildings can also order social interaction by effectively dominating and controlling people. For example, the design of prisons is purposefully built to allow the use of techniques of surveillance, segregation, and classification. These techniques allow for the exercising of power over inmates thereby disciplining them. The use of buildings to discipline behavior is used in a variety of buildings going beyond prisons, such as hospitals, schools, shopping malls, and theme parks. Concern over these types of disciplining environments is evident in the Courts protection against waivers of Fifth Amendment right of self-incrimination. In *Miranda*, the court recognized that “coercion can be mental as well as physical,” and therefore custodial interrogation may be unconstitutional ("Miranda vs. Arizona," 1966, 444). Our discussion first considers Michel Foucault’s analysis of disciplinary technologies. Next, we discuss Markus’s historical architectural research on how buildings shape society.

Michel Foucault emphasized the important of surveillance in disciplining people. His work was inspired by Jeremy Betham’s panopticon, which sought to reform prisoners. The panopticon was a tower that allowed an observer at the middle of the tower to view prisoners in

cells at the edge of the tower. An important component of the panopticon was that it was possible for a guard to view the prisoners, but the prisoners could not tell if they were being watched. A prisoner in the panopticon would feel as if they were always being watched. This feeling of being watched was the result of the architectural setup. (Foucault, 1979) An important point here is that when architecture disciplines, “it does not matter who exercises power. Any individual, taken almost at random, can operate the machine.” (Foucault, 1979, 202) Betham’s panopticon held external control over its prisoners, while coercing internal moral reform through surveillance (Markus, 1993).

Foucault’s analysis found that the ideal of the panopticon is reflected in other forms of architecture from hospitals, asylums, military camps, and schools. The essential element was the use of architecture with a theme of continuous surveillance and the feeling of general visibility. The promise of the panopticon was that it could “transform individuals: to act on those it shelters, to provide a hold on their conduct, to carry the effects of power right to them, to make it possible to know them, to alter them” (Foucault, 1979). The result is that architecture can serve as a regulatory mechanism that “contributes to the maintenance of power of one group over another and functions as a mechanism for coding their reciprocal relationships at a level that includes the movement of the body in space as well as its surveillance” (Lawrence & Low, 1990).

The architectural power of surveillance is widely recognized to affect behavior. A common use of surveillance is to deter crime as well as catch offenders. The modern day exemplar of surveillance is the city of London, which uses thousands of cameras in an attempt to deter and combat crime (Rosen, 2001). The architectural power of surveillance also affects specific social groups. Goodman argues that homosexuals in South Africa “move through public

spaces under the eye of a social gaze, they must also consider the implications of visibly deviating from prescribed norms” (Goodman, 2001). In this case, surveillance is a combination of social norms and law. Through this public gaze, gays and lesbians are made to feel as criminal wrongdoers. This public gaze is partially countered through the creation of gay bars that provide a safe haven for socializing.

The idea that buildings have power has also intrigued the architectural scholar Thomas Markus. He has written an excellent descriptive history of buildings around the Enlightenment that shows how buildings shape people. He discusses in detail how the architecture of schools, hospitals, prisons, hotels, and public baths are designed to discipline people. (Markus, 1993) The disciplining occurs through surveillance and architectural manipulation that reflect other philosophies.

In discussing schools, Markus begins by noting that educators recognized the power of architecture. For them, the design of the building was as powerful as the content of their teachings. Numerous handbooks provided details on both teaching methods as well as illustrating details of schoolrooms, furniture, and equipment. The design of schoolrooms often favored various theories of pedagogy in handling interactions between students and monitoring by other students and teachers. For example, schools varied from designs where a monitor would sit at a desk or for every few aisles. Other changes included layouts in a U-shape to prevent students from making eye contact with children from other classes in rooms with multiple classes. While Markus’ research focused on buildings in the Enlightenment, his analysis is still very relevant today. New school designs nowadays reflect new teaching methods. For example, consider the ‘open plan,’ in which class space is not concretely divided but intended to

provide flexibility in teaching and activities. The lack of walls also eases the surveillance of students by teachers and of teachers by their colleagues (Markus, 1993).

In sum, Markus provides us with significant detail on how buildings affect our freedom. Specifically, how buildings can control the spatial ability of actors as well as define a set of rules that govern their interaction—define the locations, the paths of movement, their visual paths, their programmed encounters, and place limits on chance encounters. The building and other actors determines who does what, where, with whom, when and observed by whom. While we focused on prisons and schools, this analysis of how architecture disciplines can also be extended to other buildings such as shopping malls, casinos, theme parks, and hospitals.

IV. Biased Space

Architecture can also affect people through embedded biases. The biases are manifested by architectural characteristics that favor a particular people or certain values over others. Simply put, architecture is not neutral, but social and political. As a result, architecture can serve to maintain and reproduce social values and classifications through exclusion and segregation. This is illustrated with the examples of gendered spaces and the disability movement. We could have just as easily discussed other examples of embedded values relating to biases regarding age, race, class, and ethnicity. A third example focuses on how architecture can embed values such as reliability, efficiency, or safety (Pultar, 1997). Our example shows how the value of fire safety was embedded in the design of buildings.

A substantial literature has documented the gendered nature of spaces (Franck, 2002). An obvious example of embedding social classifications can be found in the design of public toilets (Bankst, 1991; Weisman, 1992). Until the late 1980s, it was common for plumbing codes

in public gathering spaces to require a higher number of toilets in men's rooms than women's rooms. This code was built on the assumption that men were more likely to attend sporting events and conventions. For many years, women patiently waited in line for a toilet. Until recently, this gendered design was not publicly discussed. While trivialized as "potty parity" laws, a substantial reworking of public buildings sought to equalize the number of toilets. Since it takes longer for women to use a toilet, new laws are emerging that provide more toilets for women than men. The result is a shorter wait for women and sometimes a wait for men.

Another gendered space is the architecture of home, which reflected and reinforced the role of the "home as woman's place and man's haven" (Wajcman, 1991). Consider the design of Victorian home with separate areas for activities such as cooking, eating, washing, sleeping, and formal social functions. This design effectively segregated a number of activities by gender. However, this segregation has changed over the last one hundred years. Today's houses reflect a more egalitarian relationship with an emphasis on family rooms and an open-plan kitchen. This example shows how buildings can be stamped with our assumptions and views of gender relations. Moreover, it shows how the built environment can change these biases.

The gendered nature of the built environment can also reinforce and reproduce social classifications. This is evident in spatial segregation of women in the workplace, with areas for males and females. For example, nearly one-third of all women work in teaching, nursing, or secretarial work. These jobs are characterized as "open-floor" occupations where the women have little control over their space, privacy, and their knowledge. In contrast, higher status managerial "man-work" occurs behind closed doors that provide privacy and control over their work. Spain argues that these spatial conditions of "men's jobs translate more easily into political power than do the spatial conditions of women's jobs; men have greater control of

knowledge and resources” (Spain, 1992). Thus, the gendered nature of these spaces affects the ability of women to access knowledge and engage in activities that would allow them to gain power and privilege. If women and men don’t share the same workplace, “women do not receive information that can be translated into higher status – in the form of higher wages, for example.” The result is that gendered spatial segregation reinforces and reproduces lower status work for women. Not surprisingly, workplace integration often results in greater pay for women with a consequent reduction in job satisfaction for males.

A similar critique of spatial segregation limiting and enforcing social agendas can be found in the design of our cities. Zoning ordinances do more than just protect our health, safety, and general welfare, they also enforce social agendas. Zoning in the United States creates a separation of the domestic space as a woman’s place from the rest of the city. The separation has concrete effects on the lives of women. A car-centered culture makes it more difficult for women to run errands, lengthens the time for errands, creates a need to chauffer children, and isolates families (Hayden, 2002). Lasker, building on this argument, argues that the zoning of adult entertainment results in placing these establishments in spaces to which men have historically had access and women have been protected from (Lasker, 2002). As a result, women are denied access to participating in such discourse and entertainment, and thus, zoning aids in reproducing traditional sex roles, sexuality, and gender differences.

A second example considers that until recently the urban environment discriminated against those with physical disability and limited their mobility. This limited their access to other people, employment, and fundamentally, to knowledge. Over the last fifty years, society has recognized this built-in bias and has required itself to reshape the built environment to ensure disabled people can better participate in society (Welch & Palames, 1995). The recognition of

the role of architecture was first formalized and examined in a 1965 amendment of the Rehabilitation Act. This led to the Architectural Barriers Act of 1968 which mandated that buildings designed, constructed, altered, or leased with federal funds must comply with standards for accessibility. In 1975, Congress passed the Education for All Handicapped Children Act. This required public schools to treat children with disabilities in the least restrictive environment and involved the removal of barriers. In 1986, the Air Carriers Act expanded the removal of architectural barriers to air travel. This culminated in the 1990 passage of the American with Disabilities Act, which required employers, businesses open to the public, government services, and telecommunication carriers to ensure accessibility largely through architectural modification. As a result of these laws, the architecture of the built environment has been reshaped (Dunlap, 1997). These changes include ramps and curbcuts to foster the mobility of those in wheelchairs. Other changes include the use of lever handles, instead of doorknobs, and adding raised markings on elevator controls for the visually impaired.

The final example of biases built into architecture is that of fire safety (Lai, 1988). The value of fire safety has been incorporated into buildings in London for almost a thousand years. The Assize of Buildings was an early building code in 1189 that placed requirements on buildings to prevent the spread of fire. By the fourteenth century, building code regulations required roofs to be covered with tile, lead, or stone. To this day, building regulations still incorporate the value of fire safety into the design of buildings. These regulations affect where buildings are located, the materials used in their construction, the interior design, and the incorporation of fire detectors and sprinklers. Similarly, other biases are built into buildings such as concern for public safety, preventing nuisances, or maintaining sanitation. All of these examples illustrate how biases are embedded into architecture.

VIII. Conclusion

This article provides three simple ways for thinking about all the varied ways in which architecture can regulate. They include how architecture functions in a communicative role; how architecture affects social interaction or ordering; and how architecture can be biased to favor certain groups or interests. This insight is novel and practical for scholars and professionals within architecture and the law. Additionally, these insights may be applicable in fields outside of architectural planning, such as internet law and policy.

This article succinctly shows the many ways in which architecture regulates. The typology provided should allow scholars and professionals to better understand and elucidate how architecture may affect people. This is a much-needed step to simplify the diversity of ways for analyzing and discussing how architecture regulates. Additionally, this categorization is a first step in developing a theoretical approach that captures how architecture regulates.

This article also has implications beyond architecture in a physical sense. Scholars have argued that the architecture of cyberspace regulates behavior (Lessig, 1999). This article provides those scholars with a categorization of how physical architecture affects people. Scholars within internet law and policy can then build upon this work to develop insights for how the architecture of cyberspace can regulate. After all, there are some obvious parallels. In sum, this work could have affect our understanding of both physical and virtual architecture.

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