Traditional Environments and the New Urbanism: A Regional and Historical Critique

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This paper uses an analysis of the public/private interface in towns in Sonora, Mexico, during the late colonial and Porfirian eras to examine New Urbanism's use of traditional environments as design precedents for public spaces. It begins by exposing the cultural and historical limitations of New Urbanism's "traditional American town," and it asserts that understanding the historical conditions and regional particularity of social production of the built environment is requisite to an informed use of historical precedent in design. Following an outline of the historical context for urban transformations in the Mexican Northwest and an introduction to the methods used, it presents an analysis of changes in the public/private interface in the towns of Alamos and Hermosillo. The concluding discussion summarizes the argument that a regional "new" urbanism of the Greater Southwest must be accountable to the region's social history.

In 1951, for the premier issue of the journal Landscape, J.B. Jackson wrote an essay entitled "Chihuahua, As We Might Have Been." As the title suggests, Jackson asked his readers to consider how the imposition of an international boundary in the mid-nineteenth century led to the evolution of two distinct landscapes in what had been a single region unified by climate, physical geography, and culture. In particular, Jackson noted how in contrast to New Mexico and Arizona, where a rural settlement pattern prevailed, the Chihuahuan landscape was one of towns and cities. The capital, Cuidad Chihuahua, despite its lack of wealth, had a "dignity and scale that would put many North American cities to shame." To Jackson's eye, even small towns in Chihuahua had a distinctly urban quality, arising from their compact and continuously-built form. In his words, the Chihuahuan towns, whose streets were formed by contiguous buildings, were "detached from the countryside, self-contained, and within limits remarkably urban" — qualities whose origins could be traced to the regional culture and economy of the colonial period.
Forty-five years later, against the backdrop of wider concern over the social and environmental failings of North American cities, these qualities of towns in the Mexican Northwest which Jackson deemed “urban” have a renewed relevance for the American Southwest. Among other problems, social critics and urbanists have emphasized a decline in public life in recent decades, linked to a parallel decline in both the quality and quantity of public space. Various related causes have been identified, among them privatization of public space, dominance of the automobile over pedestrian movement, replacement of street-level commercial activity by blank facades, and social land use fragmentation of the city.

Emerging from these criticisms of public space is a body of planning and design work loosely termed “neotraditional urbanism,” whose inspiration can be found in pre-industrial and pre-automobile urban landscapes. Neotraditional urbanism has a number of variations on both sides of the Atlantic, and it is unified in being a reaction to the social and spatial end-products of modernism in architecture and planning. In the United States, it has emerged most coherently as “the New Urbanism,” growing out of the work of a small group of architects and urban designers dedicated to the rebirth of “traditional” North American planning principles. This paper challenges New Urbanism’s definition and use of traditional precedent by examining the historical and regional particularity of precedents for public space in the Greater Southwest (FIG.1).

New Urbanists contrast “traditional” models of neighborhoods and Main Streets with the post-World War II suburb, which they claim is responsible for the loss of public life and urbanism. Although there is some variation in emphasis, the projects of New Urbanists share certain characteristics: higher density than most suburban development, nonhierarchical grided street patterns, town centers with a mix of commercial and residential uses, neighborhood focal points created by parks, churches or civic institutions, and “pedestrian-friendly” streets created by small setbacks, placement of garages on alleys (often with accessory apartments above), and use of interactive facade elements such as porches, balconies, and bay windows.

Through the efforts of its promoters, the New Urbanism has been made highly visible in mainstream media, and has seen relatively rapid acceptance: its guidelines for physical layout of neighborhoods have been adopted by local planning commissions, and several HUD programs have adopted New Urbanist principles for public housing. As of the late 1996 there were reportedly 102 neotraditional projects under construction or in the planning stages. Yet, however strong its appeal, neotraditional urbanism has been legitimately questioned on several grounds, including its heavy reliance on nostalgic imagery, its implied environmental determinism, its deployment in suburban settings, and its class exclusivity. Despite the potential validity of these criticisms, this article focuses on a different aspect: New Urbanism’s limiting definition of “tradition.”

HISTORICAL AND CULTURAL LIMITATIONS OF “THE NEW URBANISM”

In 1992 New Urbanism proponent Andres Duany wrote in The Wilson Quarterly that “the suburb is the last word in privatization, perhaps even its lethal consummation, and it spells the end of authentic civic life.” The alternative to the privatized suburb, according to Duany, was to be found in “the traditional American town.” Duany cited examples of such places, including Marblehead, Massachusetts; Princeton, New Jersey; and Oak Park, Illinois. In a similar vein, a 1995 Newsweek article on New Urbanism highlighted the early-twentieth-century planning principles used in such communities as Scarsdale, New York; Mariemont, Ohio; and Lake Forest, Illinois. The argument I make in this paper is not that designers today cannot learn from such places, or even that what New Urbanists are learning isn’t valuable. Rather, it is the limiting cultural and historical perspective of New Urbanism as currently defined that I would like to challenge.

While I personally share many of its goals, I believe that New Urbanism’s adoption of a narrow set of precedents is problematic — specifically that “the traditional American town” New Urbanists have invented is both timeless, ignoring the changing historical conditions which produced it, and placeless, leaving regional and local cultures unaccounted for. Rather than relying on some kind of generic “American” urban form which has no particular place or time, a more appropriate approach is to seek precedent for design in specifically regional and local urban history, recognizing changing economic and social conditions of production. In the American Southwest, this means searching the region’s heritage as part of New Spain (from ca. 1610 to 1821), and as part of Mexico (1821 to 1848-54); and it means attempting to understand the interplay of that heritage with Euro-American planning and design ideals imported into the region after the Mexican-American War. The striking similitude in the urban environments of Arizona and Sonora (FIG.2), evident in photographs taken as late as 1900, half a century after the Gadsden purchase, is compelling evidence for the relevance of the Mexican Northwest’s urban history as a design precedent in the American Southwest.

In addition to the rationale that towns in the Mexican Northwest embody some of the urban qualities presently lacking in North American cities, a further reason to investigate the potential of these urban environments as design precedent is the connection between participation in public life and multicultural representation in the urban landscape. Dolores Hayden has recently argued that a more inclusive public history needs to be represented in the urban landscapes of American cities, an argument that links ethnic identity in the public spaces of the built environment with a sense of belonging to the broader culture — a “more inclusive cultural citizenship.” Because people seek identity in their environments, it is important that the history of various ethnic groups be visible, and perhaps even tangible, in the city. All too often, the history of
America’s immigrant groups has been overwritten by urban renewal, highway projects, and other development enterprises that (re)present the face of the dominant culture. For Latinos, Asians, or other ethnic groups to feel fully part of the city, Hayden argues, the built environment must embody and impart their cultures.13 Following this argument, New Urbanism’s goal of increasing participation in public life would seem realizable only to the extent that it includes a broad range of cultural precedents for urban design. How well does the New Urbanist model of “the traditional American town” — Princeton or Marblehead or Oak Park — represent plural cultures? In the Southwest, invoking one of these places as precedent certainly represents the most recent immigrant group in the region. But to what extent can the region’s significant Latino population, or growing numbers of Asian- and African-Americans, find expression and identity in that model?

Much of the landscape identity of Mexicans and Mexican-Americans in the Southwest has been lost since the turn of the century, its erasure linked to the attitudes of Euro-Americans during the hegemonic shift in the region beginning in 1821 and increasing in extent and pace after mid-century. Spanish and Mexican urban fabric has been lost first through piecemeal replacement in the late nineteenth and early twentieth centuries, and then through wholesale demolition, including urban “renewal,” during the latter part of this century.” It is, therefore, necessary to look south across the border, as J.B. Jackson did, to recover the material conditions of urban cultural history and contemporary identity.

In addition to these cultural limitations, the model of the “traditional American town” suffers from historical short-sightedness. The characteristics that Duany and others cite as useful precedent have been extracted from historical time and divorced from the processes of change that shaped them. In this respect, New Urbanism is not unlike early efforts in historic preservation, also motivated by a desire to preserve and reproduce essential qualities by “freezing” buildings in time. In so doing not only is much of the social history to be commemorated lost because the social processes of renovation, addition, or demolition go unaccounted for, but such projects also run the risk of financial failure because eighteenth- and nineteenth-century spatial patterns can be unsuitable for twentieth-century social practices. New Urbanism’s appropriation of the physical forms of “the traditional American town” without accounting for the social relations that produced them faces many of the same problems.

A specific example serves to illustrate this point. New Urbanists have extolled the virtues of alleys in “the traditional American town,” both as a means of keeping garages from dominating the residential streetscape, and as a location for affordable housing in the form of apartments for the elderly and the young. Without denying the potential of the alley to serve these or other purposes, I would argue that a closer examination of the alley’s social and spatial history is necessary to a full understanding of how and under what circumstances it worked, especially with regard to how it may reproduce inequitable social structures. It has been shown, for example, that alley housing in Pennsylvania did not arise uniformly, as the New Urbanist characterization might suggest, but instead came about in response to a particular phase in the development of industrial capital, and in relation to the regional geo-
graphical distribution of steel mills. Further, this housing took on new uses and acquired new meanings as the social economy changed over time. Without an understanding of this social history, reuse of the urban form may be problematic.

PUBLIC SPACE AND PUBLIC LIFE

While Andres Duany might be accused of being overly dramatic in sounding the death knell of all civic life and attributing its demise to the existence of the suburb, underlying his assertion are two sets of connections central to the concerns of urbanism and to this paper. The first is how the social and the spatial are connected (i.e., what is there in the physical design of suburbs that works to diminish or even deny civic life?). The second involves how the relationship between public and private defines what is "urban" (i.e., how does the interface between public and private "work" to create the sort of conditions Duany [or Jackson] would call "urban"?). In this paper these two questions are brought together by conceptualizing the public/private interface as the socio-spatial connection between the internal organization of private buildings and the external ordering of public space, and by exploring how that interface changes over time in relation to broader societal reordering.

These questions employ a number of terms that have been both widely and loosely used in a literature that crosses several disciplines: "social" and "spatial," "public" and "private," and "urban." Without attempting a full theoretical discussion, suffice it to say here that social relations and spatial structures are taken to be mutually influential in the broadest sense: human activity always "takes place" - that is, it always has a spatial dimension. And at the same time that "space" is continuously produced through social activity, the physical configuration and the interpreted meaning of the built environment also condition social relations. The terms "public" and "private" are taken up later in the paper in conjunction with an explanation of syntactic analysis of the public/private interface. Finally, with respect to what constitutes an "urban" environment, I would simply suggest that it is associated with maximizing the potential for social encounter - in contrast, for example, to the privacy and spatial isolation intended by suburban design. Arguably, it is the purpose of public space in urban environments to maximize the potential for social encounter - be it for political, economic, cultural or other uses. Urban public space comprises the continuous "field" for social encounter that connects the enclosed private spaces of households and other institutions.

The analysis of these relationships presented here draws on the theory and methods of "space syntax" as developed by Bill Hillier and colleagues at the Bartlett School, and, set within a political-economic framework, it interprets the public/private interface as a system of socio-spatial controls on access. In comparing the urbanism of the late colonial period (1770-1810) with that of Porfirian Sonora (1880-1910), I also rely on the work of Anthony King* and others who have shown how urbanism is connected to the mode, or organization, of production. Insofar as the late colonial period and the Porfirato represent two different modes of production, a comparison may highlight changes in social and spatial relations. Also, because these were periods of relative economic prosperity, as new public and private spaces were built, there occurred an active construction of social relations in the urban environment. Such a comparison can show how changes in the social relations of production were constituted in the public/private interface. But prior to examining these changes in detail, the following sections present first a very brief overview of the historical context for urban change, and then an introduction to the methods.

THE HISTORICAL CONDITIONS OF URBAN CHANGE IN SONORA

Like the towns in Chihuahua that J.B. Jackson described, Sonoran towns have a distinctly urban quality, despite their small size and relative isolation. These towns are organized around a center which is both symbolic and functional, and their outer edges are well-defined: in other words, the transition from "city" to "country" is neat. Within these cities buildings line the streets continuously, their facades actively shaping the public space into streets and plazas. Commercial and residential uses live side-by-side, and doors that give access to interior spaces are frequent along the street wall. Trips from the house down the street to the abarrate (small store) to buy eggs, a coke, or some other small thing make for frequent passage between public and private spaces. Public space often becomes an extension of private space, as when families pull their chairs out into the street to enjoy the relative coolness of the evening and greet neighbors, or when merchants appropriate the sidewalk for displaying goods. Pedestrian activity still dominates small towns and many parts of bigger cities, making the streets lively places at certain times of day and night, and increasing the potential for social encounter. Many of these qualities of Sonoran towns have their foundation in colonial ideals of town life which became enmeshed with the physical geography of this desert region and the political economy of the Spanish empire.

In the region most of the riverine towns have pre-Hispanic origins. These indigenous population centers became the focus of Jesuit missionary efforts beginning in the second decade of the seventeenth century. Mission cabeceras and visitas such as those strung along the flood plains of the San Miguel, Sonora, Mocetzuma and Bavispe Rivers developed around an agricultural economy that mixed subsistence and surplus production to supply nearby mining settlements. Mountain towns, on the other hand, were founded by Spanish and Creole miners from the mid-seventeenth century onward. However, the ephemeral nature of early mining activity meant that few of them developed into permanent settlements. Instead, as mines played out in one location and new discoveries were made in another,
towns were built, occupied and abandoned in quick succession. The populations of mission villages in the seventeenth and early eighteenth centuries numbered in the hundreds; and although mining settlements might have briefly exceeded one or two thousand inhabitants during a boom, most had far fewer miners working claims on a sustained basis.

While most of the settlements of the early colonial period thus remained small and only loosely connected by commerce and ecclesiastical administration, a regional hierarchy of settlements began to emerge after the Bourbon reforms in colonial policy produced a small boom in settlement and mining activity in the "far north" of New Spain after 1770. The distribution of haciendas, small villages, and emerging commercial centers with substantial urban populations reflected the patterns of resource extraction and trade within the colonial political economy. This period saw the first (documented) attempts at urban planning, when royal inspectors issued orders for regularizing streets and the creation or improvement of public spaces in keeping with Spanish colonial policy. Together with the rise in mercantile wealth and the beginnings of capital accumulation, these efforts produced the first public buildings, defined public spaces such as the plaza central and the alameda (an outlying park for promenading), and saw the construction of substantial private residences in the town center. If the urban planning prescriptions of the "Laws of the Indies" and their subsequent reformulations were not carried out to the letter in the Northwest, certain of their ideals were (or became) sufficiently embedded in the culture to produce the characteristic form of New World towns: the central plaza, with its church and government buildings, from which emanated a loosely geometric gridiron of streets lined continuously with residences of families whose status in colonial society derived from caste and wealth and correlated directly with proximity to the plaza.

For nearly six decades following Mexico’s declaration of independence from Spain in 1821, urban development faltered in the best cases and was reversed in the worst. Towns were repeatedly threatened by a combination of indigenous resistance, regional power struggles among prominent families, and foreign attempts to disrupt the process of (independent) state formation. In the first instance, uprisings by the coastal Yaqui, Mayo and Seri Indians interrupted trade and communication routes and affected the availability of labor for colonial enterprises. Meanwhile, in the north, Apache raiding of rural cattle ranches and agricultural settlements forced abandonment of many towns and villages. Power struggles among Sonoran elites in combination with ambivalence over the federal role in state governance led to relocation of the capital and its administrative functions four times between 1821 and 1879. Also disruptive to urban development were foreign attempts to wrest control of the region and its resources away from the new nation: by the French in 1867, and by American filibusterers at mid-century.

In the three decades prior to the Mexican Revolution, during what is now called the Porfirato (named after the Mexican president Porfirio Diaz who assumed dictatorial powers between 1876 and 1910), strong centralized control at the federal level combined with a high level of foreign investment to create a relatively prosperous economic climate in the Northwest. Relative political stability and economic growth resulted in urban expansion, and consequently the architectural and urban transformation of Sonora’s commercial and administrative centers. In particular, the port city of Guaymas, the capital of Hermosillo, the regional agricultural center of Ures, and the colonial mining center of Alamos all underwent a period of growth and change that saw both extension in terms of area and changes within the core. New districts added at the edges of the colonial core extended the existing street grid and contributed new open spaces. In the center, needs for new kinds of commercial and institutional spaces concomitant with the transition to a capitalist economy translated into selective demolition and replacement of the built environment. City governments ordered straightening of streets and funded new plaza landscaping to conform with European ideals. Finally, as household composition changed, so did the internal arrangement of urban houses.

Each of these changes contributed to a transformation of the socio-spatial character of the public realm and altered the configuration of the public/private interface. The next section briefly introduces the theory and method of space syntax I will use to analyze the structure of this interface. Following that, I compare socio-spatial construction of the public/private interface in these two periods of economic growth, approximately 100 years apart.

**SPATIAL SYNTAX OF THE PUBLIC/PRIVATE INTERFACE**

Space syntax is a theory and set of analytical techniques that permit interpretation of certain (intended and realized) social relations in the built environment. It recognizes individual spatial elements and the patterns of connection among them in the plan dimension of buildings and cities, based on how users see and move through complexes of rooms, or streets and open spaces. The methods have been used to analyze relationships between intensity of use in public space and physical design, between physical design and financial success of shopping centers, and between social knowledge, political power and the historical development of building types, among other research efforts.

In sociological terms, the purpose of any building is spatial definition and differentiation of a social category (or an "institution" such as a household, clinic or retail store) from the rest of society. The physical enclosure of such a category, therefore, creates "private" space, space to which access from the continuous "public" space of the town is controlled. A building’s internal divisions ordre social relations within that category by simultaneously partitioning and reconnecting various activities and the people who engage in them. These
connections and barriers, which comprise a "system of access," can be read in plan much like a map of the institution's social relations. The physical form of the building materializes these relations, and in so doing, reproduces them.12

Although the dichotomy suggested by the terms "public" and "private" also suggests that their respective spatial organizations might be studied independently, I would argue that a more fruitful approach for revealing the nature of urbanism in a particular place and time is to examine the interface between the two: between the institution and the continuous space of the city; between private lives and public life. In controlling access, the boundary between public and private space does the work of relating these two scales of social reproduction: that of individual institutions, and that of collective society. To paraphrase Kevin Lynch, people use space to manage social relations,13 and a study of the life of public spaces in a city must also consider how space is used to construct the social distance between public and private realms.

Space syntax distinguishes among three "kinds" of people with respect to the public/private interface: inhabitants (people who "belong to" a category); visitors (those who are allowed access by the inhabitants); and strangers (those who do not have access). Any one person obviously belongs to all three of these categories at different times: i.e., as the inhabitant of a house, as a visitor to an office building or store, and as a stranger moving between them. Public space is thus the domain of strangers—the continuous space outside of, and connecting, the individual domains of inhabitants. Public space is experienced primarily as movement between private spaces, and it is this movement, in combination with the points of access to private spaces, that creates the potential for social encounter in the urban environment. In these terms, then, the public/private interface can be conceived as a multilayered means of controlling access, configured socially and spatially to permit varying degrees of permeability to inhabitants and visitors and to exclude strangers. The attributes used here to describe the syntax of the public/private interface are permeability, integration, and depth. Integration and depth are related to the overall intelligibility of a complex, which is defined as the ability to understand the structure of the whole from the parts.14

To explain these terms, it may be helpful to contrast a bank and a retail store, as examples. Both of these buildings may have the same adjacency relationship to the street; but more important with respect to social relations is their permeability — how the connections are structured. A bank probably has only one front or "public" entrance, and its exterior walls may be quite "solid" — constructed of masonry or concrete, providing limited visual access into the building in addition to its already-limited physical access. The bank’s permeability to the street is thus relatively low, resulting in restrictions on potential encounter among people who work in or use the bank and "strangers," a situation that corresponds to cultural conventions regarding financial transactions. By contrast, a retail store with multiple or continuous access (such as a roll-up grate that separates the private space of the store from the public space of the street only when the business is closed) has a high physical and visual permeability, which is also to say that it maximizes the potential for unrestricted encounter.

Depth can be portrayed graphically utilizing the methods of space syntax. Reading from left to right, the accompanying diagram shows how plan relationships are translated into graph form (FIG. 3). The plan views on the left are three versions of the same generic building form (i.e., the same adjacency pattern). In the center, figure/ground reversals more readily show the connections among individual spaces. The graphs on the right indicate the configuration of permeability: the number of spaces a person must pass through from the street (at the bottom) to reach any given space, and therefore the relative degree of control over its access. The upper graph is deep, a linear sequence of spaces in which there is only one route possible. Generally speaking, deeper graphs indicate segregated complexes with strong control. The middle graph provides a shallower syntax, and shows a branching pattern of relationships. Because the spaces at the ends of the branches have no connection with one another, tree-like patterns are indicative of hierarchically ordered controls. In the lower example, because there is more than one way to reach any given space from the others, control is weaker, and there are more opportunities for

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**FIGURE 3.** Graphic analysis of spatial syntax, showing deep, hierarchical and "ringy" structures. (Adapted from B. Hillier, "Specifically Architectural Theory," Harvard Architecture Review 9 [1993], pp. 11-12.)
encounter. In using apparently similar forms, these diagrams emphasize a distinction basic to space-syntax theory: that between visual (or geometric) order based on adjacency, and "underlying structure" based on the configuration of access. The social implications of changing the pattern of connections between rooms without changing the geometry of the plan itself are apparent in the graph representations, and can be easily imagined by assigning a "function" to the plan such as that of a house or bank.

In each of the plans in Figure 3, there is a single point of access, a relatively impermeable and therefore controlled boundary. This is characteristic of an institution that is segregated from the public space of the city. The next drawing shows similar plans, but with multiple points of access, making for a more permeable and active interface and a greater degree of integration between the private and the public realms (Fig. 4). Two variations are presented. The upper one represents public access limited to the echelon of rooms facing the street, or a relatively shallow but "wide" public/private interface. In the lower plan, the entire depth of interior, private space is integrated with public space through access. Although Figures 3 and 4 are presented here as generic illustrations of the analysis of permeability, integration and depth, they also approximate the syntactical properties of colonial and Porfírian era buildings, respectively. The next section examines changes in these properties in some detail, based on analysis of building and urban plans of the historic cores of Alamos and Hermosillo, Sonora.

CHANGES IN THE PUBLIC/PRIVATE INTERFACE OF SONORAN TOWNS: THE LATE-COLONIAL PERIOD

On the northern frontier of New Spain there were separate colonial institutions governing religious conversion and resettlement of indigenous people, expansion and protection of the political frontier, mining exploration and development, and civil settlement. Each had material expression in the colonial landscape: misión, presidio, real de minas, and pueblo. Urban environments eventually grew out of each of the four settlement types, although the distinctions between them were not always as clear-cut as colonial policy dictated: for example, civil settlements such as Hermosillo and San Miguel de Horcasitas developed from former presidios. In what is now the state of Sonora missions far outnumbered civil settlements and presidios, and as noted above, most mining settlements were temporary, lasting only until production declined or a new discovery elsewhere promised more lucrative rewards.

The one exception to the latter pattern is the southern town of Alamos, established when silver was discovered in 1683. Early on, the wealth of mineral resources assured Alamos an important role on the frontier of the Spanish empire: it attracted immigrant peninsulares from Spain and Creoles from the Mexican interior who possessed the financial means to develop the mines; merchants and their Mexico City backers to export the silver bullion and return coffee, spices, clothing and other goods from Europe; and colonial administrators who desired a base of operations that had at least some of the trappings of a civilized, urban life. The mineral wealth of Alamos also attracted a labor force in the form of lower-caste mixed-bloods and indigenous Yaquis and Mayos. In the late 1700s Alamos had a population of approximately 5,000, with another 3,000-5,000 living at nearby mining camps.

Although complete historical records of the colonial built environment do not exist for Alamos, a general picture emerges from a combination of documentation of extant buildings and ruins, descriptions by inhabitants, royal inspectors, and other visitors to the town; and comparison to similar conditions elsewhere in Mexico. In Alamos, as in other Spanish colonial towns, the large houses of the local elite surrounded the plaza and church, with distance from the plaza being a function of status in the community. These urban residences were a family's base for town life. But most families also had large houses at the sites of rural production: mines and cattle ranches. The public/private interface between urban house and street was shaped both by the internal socio-spatial organization of the colonial household and the external organization of colonial society.

Like the houses of the upper class in eighteenth-century colonial society in other parts of the world, the elite residences of colonial Alamos make the social and spatial distinction between "front" and "back" — that is, between the side of the house that made a formal presentation of a family's social status to the rest of a community, and through which the owners and visitors of equal standing came and went; and the opposite side of the house, through which servants and visitors of lesser standing entered. The result was a spatial segregation of access according to status in the colonial political economy.

It is important to note that in this pattern Alamos was not representative of colonial urban planning, in which most blocks were two solares (lots) deep, precluding a "back" entrance. This late-eighteenth-century pattern grew out of a
more haphazard arrangement (probably due to Alamos’ rapid initial growth as a mining center and its frontier location) that existed in 1850 when the royal inspector Rodriguez Gallardo reported that the town lacked regular blocks or streets, and that the adobe houses were separated from one another leaving open space between where the poor constructed their shacks.46

Rodriguez Gallardo issued orders that the houses be built contiguously to form streets. A similar situation was described in Arizpe, capital of the Intendency in 1779. And an urban plan produced the following year showed a regular grid of streets and blocks superimposed on the existing layout, which had little recognizable order.44 Thus, the impetus for a recognizable street layout and a consciously formed public space came not from elite families, who, as one historian has noted, lacked a tradition of collective policy-making,45 but from colonial administrators.

Differentiated access corresponded to a similar separation inside the house of spaces used primarily by servants and owners. The colonial urban house was organized around two, or sometimes three, patios. In the front, a portal created a layer of semiprivate space along the street (FIG.5). A single entrance channeled visitors into the zaguan and then the front patio, which was usually a formal garden with ornamental plantings. This patio in turn gave access to the surrounding spaces associated with the accumulation and display of wealth: the entertaining, eating and sleeping rooms of the owners. Meanwhile, the back-, or tras-patio(s) allowed access to the spaces of household production and economic activity: kitchen, bakery, laundry, workshops, storerooms, carriage houses and stables, as well as servants’ quarters. A history of the most prominent family in Alamos gives this description of the character of the back patios:

The courtyard was a busy, noisy place; mule-trains arrived from the mines carrying silver bars either to be stored or taken to the assay office; laundresses washed clothes in tubs, others hung them up to dry; grooms cleaned out stables, saddled horses or hitched mules to carriages; oxcarts brought vegetables, fresh butter, eggs, cheeses, poultry, jerked beef and suckling pigs from the farms; small boys rode on the rumps of donkeys piled high with firewood or sacks of charcoal, and barefoot Indian servants scurried in and out of the kitchen. . . .47

Syntactical analysis of this socio-spatial organization shows that the colonial courtyard house is characterized by “tiers” which correspond to the organizing role of the internal patios (FIG.6). Each tier is composed of this central space and then a large number of rooms that are socially equidistant. It is important to note the difference between a situation where these rooms are communicating and one where they are only accessible through the patio: the difference between a hierarchical “tree” arrangement and a “ringy,” multiple-route configuration. Research to date indicates that the second condition predominated, suggesting that the necessity for hierarchical control of access was accomplished by the patio configuration; within tiers, spaces were equally accessible. Generally, a single passage allowed access from one tier to another, a fairly strong control. The existence of separate tiers also reflects the fact that colonial houses combined functions of production and reproduction, and that individuals of different social status predominated in each set of activities.

These houses were relatively impermeable: access was generally limited to the front and back entrances, and visitors passed through a zaguan, a rather narrow hall that made the interior more easily defended. A detailed look at the buildings’ apertures, however, reveals that while physical access was tightly controlled, the urban residence allowed visual access at certain times by virtue of a system of inset shutters. Windows usually had a size and proportion similar to doors, but were (and still are) made impassable by iron bars on the exterior. Behind these, solid wooden shutters with smaller, inset panels allowed partial or full exposure. Similar panels in the entrance door could be opened to permit passers-by a framed view of the front patio during the day, integral to the facade’s function of self-presentation. Controlled visual access thus increased the visual permeability of the public/private interface without sacrificing control over physical access.

The colonial interface between public and private realms in Alamos was thus configured in relation to the internal spatial organization of the house, and this internal differentiation in social status and economic function set up an external differentiation in public space (FIG.7). In the center of Alamos, as wealthy mine owners and merchants constructed their urban houses facing the plaza or along the main routes out of town, calles de servicio (service streets) emerged on the back sides of courtyard houses, resulting in two systems of movement in the town. These were not exclusive, but, for example, elite women, who ventured into public only to attend church, visit extended family members, or make the trip to an outlying hacienda,48 were unlikely to be seen on one of the back streets; nor were Yaqui laborers likely to use the continuous portales around the plaza.49

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The spatial segregation of colonizers and natives typical of colonial cities worldwide was reproduced at the scale of the town as well as that of the individual household in Sonora. *Mestizos, mulatos* and *indios* who did not reside as servants in the elite residences lived at the periphery of town or in impermanent shelters at the sites of rural production — mines and *haciendas*. The areas at the edge of town, described as "ramshackle suburbs" by one historian, rarely appear on early maps (indicative of the colonizers' perception of these environments and their inhabitants as peripheral or even inconsequential), and they are only infrequently mentioned in contemporary descriptions, making historical study of their socio-spatial form difficult, if not impossible.

**THE PORFIRIAN ERA**

One hundred years later, near the end of the nineteenth century, the shift from the colonial mercantile economy toward industrial capitalism was underway, and the social organization of production had changed significantly. Concomitant with the process of regional incorporation into the world economy (within which Mexican independence is one event), foreign investment in transportation and communications infrastructure increased the accessibility of Sonoran resources to development for external markets. In this process, Hermosillo emerged as the commercial and administrative center of the state, with significant growth in a few other towns as well. The urban population, around 12,000 in the 1890s, was predominantly *mestizo*, and class division along socioeconomic lines had replaced the colonial caste system.

Paralleling this economic and political transformation, three related socio-spatial changes affected the syntax of public and private space. First, many of the functions of economic production were moved out of the house in accordance with the new specialization and division of labor under industrial capital. This affected the space needs and internal organization of the private house, as did the second change, spatial separation of extended families. It became less common for several generations of a family to live in one house, resulting not only in changes in the internal organization, but also in the use of public space. The fact that extended family members might live across town, combined with the fact that more people left home to engage in economic activity, meant a higher intensity of use of urban space and more frequent crossing of the public/private interface. This was especially true in the case of women, whose social and economic status in urban areas began to change during this period. The third change affecting the public/private boundary was the development of new, specialized building types to accommodate distinct activities not only of mass production and consumption, but also of social reproduction, such as schools, hospitals, and social clubs. Each of these institutions developed its own type of interface with public space in a mutually influential process.
These socio-spatial transformations can be generalized in three patterns of change in the built environment. The first was subdivision and new uses for the large residences of the urban elite; the second was the introduction of new kinds of buildings into the urban fabric; and the third was the addition of new districts to the city. The analysis here focuses on the first pattern.

An examination of transformations of urban houses in the nineteenth century reveals on the one hand that the courtyard form, with its one or more patios, was amenable to subdivision, and on the other that it could accommodate a variety of uses (FIG.8). Subdivision typically occurred in two ways: multiple patios could be separated, as at the left of Figure 8; and single patio could be divided longitudinally, as in the center example. In either case, the syntactic properties changed substantially, as the graphs show. Through changes in the configuration of internal and external access, this seemingly simple form was appropriate for different uses, as the hotel conversion at the right of Figure 8 shows. Other courtyard houses were converted into schools, hospitals and offices.

Analysis of documentation for approximately 55 buildings in Hermosillo and Alamos, of which the three diagrams in Figure 8 are representative, produces the following observations about the spatial syntax of the public/private interface: 1) through subdivision, the number of building entrances along a street increased, making the overall permeability of the “street wall” greater; 2) the social distance, or depth, between the street and the main living space decreased; 3) even though there were fewer rooms in a house, there might be as many, if not more, levels of control, meaning greater depth overall; 4) relatedly, access was more hierarchical and less integrated in nature; and 5) the patio tended to lose its role as a collector and distributor, and its position relative to the street became quite variable. In sum, the overall intelligibility of the house was lost in subdivision, and a decrease in the physical distance between living spaces and street appears to have been compensated for, in many cases, by increasing the hierarchy of controls on access.

As a result of the subdivision of individual houses, the configuration of alleys and front streets was transformed in a variety of ways. Since subdivision frequently meant reducing access to a single “front” door, some calles de servicio became front streets lined with the smaller residences typical of the nineteenth century, such as Calle Chihuahua in Hermosillo. Some of these houses were adapted from existing structures at the back of large houses; others were built new. Other alleys retained something of their character as service areas, as blacksmiths, leather workers, and laundresses located their workshops and residences in the traspatios of former elite residences.

Changes in use and thus the internal structure of private space caused changes in the public realm through the reconstruction of the public/private interface. Where commercial activity developed along major streets the effect of these changes was a “widening” of the public realm to incorporate

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FIGURE 8. Late-nineteenth-century syntax, Alamos and Hermosillo.
the front echelon of rooms in existing buildings (as suggested by Figure 4), particularly at corners, which were often the first spaces to be put to commercial use. In many cases wealthy businessmen subdivided their own houses to create retail space (FIG.9). In others, families who no longer needed (or could afford) a large house either sold off or rented out the corners. Not only did public space begin to extend inward, but private space extended outward (FIG.10), a practice which continues to define the street life of "el centro" today. Such changes added levels, or depth, to the public/private boundary at the same time that they increased permeability, resulting in a more complexly configured boundary that accommodated the new social relations of mass consumption.

CONCLUSION: INFORMING DESIGN PRECEDENT

The preceding analysis is by no means exhaustive, but it does begin to show patterns in the socio-spatial transformation of the public/private interface between the late colonial and Porfriean eras in Sonora. This transformation occurred at the intersection of global, regional and local processes, resulting in physical forms that reflect changes in both larger-scale political-economic structures, and locally specific conditions of social production and reproduction. In general, the shift from a political economy based on resource extraction and creation of a captive market through colonization and subjugation of the indigenous population to one based on individual capital accumulation within a globalizing economy was accompanied by increased complexity in the public/private interface; permeability increased in accordance with the needs of mass consumption, but this was countered to some extent by a greater degree of control on access through increased depth and segregation. The distinct boundary between public and private life and space that characterized the colonial period was blurred as public space began to incorporate space that was previously private; and in reciprocal fashion private interests appropriated the public space of the street, resulting in an increasingly interactive interface, raising the potential for social encounter in public spaces. Thus the urbanism of the colonial periphery was transformed through the spatial practices associated with capitalist production and consumption, practices which had both global and local components.

This particular study of urban change in Sonoran towns illustrates the limitations of the New Urbanist definition of tradition. Documenting transformation of the public/private interface shows how "the traditional American town," as a timeless model, denies the very processes of change which produce the built environment. And in the context of the Greater Southwest, this study points out how New Urbanism’s model also denies regional variations in cultural tradition — not to mention cultural diversity within a particular city or town. These historical and cultural limitations lead New Urbanism to a definition of "tradition" which is ultimately false.

My criticism is not about whether the use of historical precedent in design is appropriate, but rather about which histories are used and how they are used. By selectively appropriating and interpreting historic built form, designers create "precedent," a process through which a building or street or plaza becomes a representation, necessarily imbued with the ideology of the designer. This is to say that precedent, like any representation, is constructed in the service of an idea: to justify design decisions about form, functional layout, style, etc. Appropriation of the past by (re)presenting it as design precedent is one of the ways that designers play a role in the social production of the built environment, and it is one of the processes by which architecture is implicated in social reproduction.

By illustrating one particular instance of the historical and regional specificity of the built environment, the analysis presented here reveals the flaws in New Urbanism’s representation of the past as design precedent, and in so doing suggests something of its underlying ideology. In its exclusion of temporal change and cultural diversity, "the traditional American town"
model implicitly speaks of New Urbanism’s basis as a response to widely held fears current among the property-owning class about neighborhood deterioration and the growing presence of populations of non-European origin. By positing a familiar (in both senses of the word) environment where residents are known to one another, the “traditional American town” of the New Urbanism allays these fears. The New Urbanism is not about public space as the common ground of strangers; rather, it seeks to create the space of inhabitants and visitors, of people known to one another through residential propinquity. It thus promotes a very limited “public.” Exposing this ideology allows consideration of a corrective: design precedent that is known to one another through residential propinquity. It thus accounts for the mutually influential processes of cultural and spatial change.

For the Greater Southwest, a “new” urbanism must extend its geographical horizon to incorporate the full range of regional urban precedent, not just Euro-American models imported after the 1880s. Cultural identity in the Southwest depends on recognition of the region’s historical and contemporary ties to the Mexican Northwest, and comparative research is needed to document the history of socio-spatial change on both sides of the border as a prelude to interpretation as design precedent.

Forty-five years after J.B. Jackson reflected on “Chihuahua, As We Might Have Been,” his essay continues to have relevance. “Looking south” across the U.S./Mexico border points the way toward a more pluralistic and inclusive precedent for urban design. For the Greater Southwest, and indeed for any region, the creation of design precedent must account for the mutually influential processes of cultural and spatial change in the production of the built environment.

REFERENCE NOTES

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12. However, these projects still chose a single, dominant tradition as a precedent.

13. I focus on Spanish and Mexican urbanism rather than Native American settlement forms because, with the notable exception of the Pueblo cultures, most groups in what is now the Southwest did not have an urban tradition.


19. Buildings set back from the street or with side yards have been introduced sporadically in small towns since the 1940s; newer subdivisions in the larger cities are also built on North American models of detached single-family homes, although with important distinctions.
22. Here "urban" refers to town-dwellers, people whose primary residence was in town, such as merchants, colonial administrators, and artisans — many of whom also operated rural enterprises.
24. On these regulations for the laying out of new towns, see, for example, D. Crouch, D. Gaur, and A. Mundigo, Spanish Town Planning in North America (Cambridge, MA: MIT Press, 1982). One of the later revisions of this sixteenth-century document was the 1787 "Instructions for the Laying-Out of the Villa of Pitic," now Hermosillo, capital of Sonora. It is generally accepted that this document was drawn up after Pitic was already established, but it did serve as the basis for the later founding of towns in what is now Texas.
26. This section synthesizes several sources and presents the author's interpretation of space syntax applied to the concept of the public/private interface. It does not strictly adhere to the theory and methods developed and published by Hillier and his colleagues at University College London, especially in the concept of a public/private interface, which is not used by Hillier. Also, I have not used the full range of analytical techniques of space syntax in this study, and to that extent, the work presented here is preliminary in nature.
30. Here I follow Hillier and Hanson (Social Logic of Space) in distinguishing between the space of individual, isolated "cells," and the continuous space that gives access to each. Only insofar as it is continuous (that is, without any barriers to movement, and therefore accessible to all), is space considered "public."
Introducing any controls on access results in the creation of semiprivate space, as in the case of present-day shopping malls or "gated" communities. This definition differs from (but overlaps) that set up by Habermas or Arendt, whose public is defined in opposition to the state, and whose space is of ten metaphorical. See, e.g., C. Calhoun, Habermas and the Public Sphere (Cambridge, MA: MIT Press, 1992).
31. A present-day North American elementary school, which separates out the category of children and their teachers from the social milieu, can serve as an example. Inside the school, space is divided among rooms with varying degrees of access for children, teachers, administrators, and support staff. The existence of classrooms, library, teachers' lounge, etc., together with their spatial relationships to one another, represent one form of social reproduction as the late-twentieth-century American institution of "public education." In another society, children might acquire the skills and knowledge required of adult members through an entirely different socio-spatial arrangement.
32. Of course, it is always possible to subvert intended socio-spatial relationships through individual and collective actions at a range of scales.
34. In space syntax, only integration and depth are actually measured; permeability has a more general usage related to connectedness of individual spaces. I use it here as a relative measure of the openness or accessibility of the public/private interface.
35. Although Alamos experienced several economic downturns during the period covered by this work, it was not until the Revolution (1910-17) that the town fell into serious decline. Its revival since the 1950s is related to its colonial importance: the ruins of the colonial built environment have become attractive to North American "snowbirds" (and some wealthy Mexican nationals) who have rebuilt the urban patrónato around the plaza, and in concert with the local, state and federal governments, endeavored to preserve the architectural heritage.
36. Instituto Nacional de Antropología e Historia (INAH) — Sonora, Departamento de Monumentos Históricos.
39. With respect to synctactical analysis, general patterns of building layout in this period can be derived from comparison with the plans of urban houses and haciendas in other parts of Mexico.
41. This distinction was based on colonial criteria of race, and codified in a caste system.
which put peninsular-born Spaniards at the top, and descended through "pure"-blood Mexican-born Creoles and various categories of mixed-bloods to indigenes.

42. I am indebted to Dr. Eloy Mendez Sainz of the Colegio de Sonora, Hermosillo, for this observation (personal communication, September 1996).

43. R. Acosta, "La Ciudad de Alamos."

44. The description was that of Padre Morfi, as cited in Gobierno del Estado de Sonora, Historia General de Sonora, Vol.1, p.227. The map was drawn by the engineer Mascaro and is published in Navarro Garcia, Don Jose de Galvez, ill.122.

45. Voss, Sonora and Sinaloa, p.72.

46. Stagg, The Almadas and Alamos, p.27.

47. Ibid., p.44

48. This practice continued into at least the mid-1930s when the botanist Howard Gentry recorded a system of paths that connected the poor Indian barrios at the edges of San Bernardo without passing through the center of the village. He interpreted this as resulting from race and class divisions within the village. H.S. Gentry, "Caminos of San Bernardo," Journal of the Southwest Vol.37 No.2 (1995), pp.135-141.

49. King, Urbanism, Colonialism and the World System.

50. Gerhard, North Frontier of New Spain, p.29.

51. Some Indians, such as the Opatas, Jova and Pima, had been either assimilated or severely reduced in population numbers; the Yaqui, Mayo and Seri resided mostly outside of urban areas. See E.H. Spicer, Cycles of Conquest: The Impact of Spain, Mexico and the United States on the Indians of the Southwest, 1533-1960 (Tucson: University of Arizona Press, 1962); Gobierno del Estado de Sonora, Historia General de Sonora, Vol.2; and Album Directorio del Estado de Sonora (Hermosillo: Gobierno del Estado, 1906).


53. Controls on access also took new forms during this period, particularly legal measures defining property rights and restricting acceptable public behavior.

54. While it is no doubt beyond the reach of most practicing design professionals to engage in scholarly research into historical social conditions of the production of the built environment, there is (and long has been) room for more collaboration between scholars and practitioners. For scholarly research to be meaningful to designers, it must be communicated in ways that are accessible to designers. The methods of space syntax provide one such means, and much of the work being done by the Space Syntax Laboratory is exemplary in this regard.