

Spain Is Everywhere: Asset Urbanism and the Spatial Avatars of Neoliberalism

Ghost cities with millions of purchased but unoccupied units China. Speculative housing estates constructed in Ireland only to be demolished before ever being inhabited. Penthouses in super-tall and ultra-slender Manhattan towers purchased, for sums like \$90 million, as investments by numbered companies. Housing affordability crises in a large number of cities, from San Francisco to London. The expanding role of real estate investment trusts in configuring America's built environment. Brand new but abandoned airports in Spain. The confounding opacity of mortgage-backed securities. Fifty percent office vacancy in Dubai while hundreds of new office towers are constructed and planned for the near future. This is a brief sample taken from a very deep inventory in what has become a familiar storyline of contemporary urbanization.

MATTHEW SOULES

University of British Columbia

From specials aired everywhere from *60 Minutes* to *This American Life*, and in the digital ink of *The New Yorker*, *The Economist* and lesser known local dailies alike, there is a widespread and emergent impression that the contemporary practices of financial investment and their mineralization into socio-spatial conditions are unprecedented. A truism of the built environment is that it takes its form in relation to a large number of factors and performs in a polyvalent fashion in relation to them. One of these factors is, of course, money and its various abstractions. One aspect of the money factor is the degree to which the increments of the built environment – parcels of land, buildings, and units – perform an investment asset function. Or in other words, the way these tangible ('real') entities function as locations to invest capital in the pursuit of financial gains achieved through escalations in value that are facilitated with buying and selling in the real estate market. While the quanta of architecture and urbanism have served this asset function since at least the time of Vitruvius, when Roman properties were bought and sold in markets not entirely dissimilar to contemporary capitalist models, the degree to which built space functions as an asset is increasing and in diverse ways of which the effects on architecture and the city are under conceptualized. The name that this research applies to this novel phase of architecture and urbanization is 'Asset Urbanism.'



1

ASSET URBANISM RESEARCH PROJECT

In 2012, the federal government of Canada's Social Sciences and Humanities Research Council funded a multiyear project conducted by the author and a team of assistants to document and analyze the characteristics of asset urbanism in selected locations around the globe. This research aims to help establish a framework upon which newly operative concepts of architecture and the city may emerge. This paper attempts to articulate some of the dominant attributes of asset urbanism that have been explored in the research thus far.

THE DRIVERS OF ASSET URBANISM

Asset urbanism can be traced almost everywhere. It can be found in African city centers just as it can in European and North American suburbs. Its drivers are numerous, collectively complex, and truly global. Like most global phenomena, it presents itself through locally differentiated avatars that emerge from a confluence of transnational forces and local particularities. From the long list of global drivers a select few warrant particular mention here. Perhaps most fundamental is the deceptively simple fact of how much money exists in the world as a whole. It is the unanimous assessment of the global financial community, including such institutions as the International Monetary Fund and World Bank, that the value of the world's savings (in such forms as pension, insurance, and mutual funds and bank savings) more than doubled from \$37 trillion to \$80 trillion between 2002 and 2011.¹ The result of this exponential growth is sometimes referred to as 'The Giant Pool of Money.'² Ceyla Pazarbasioglu, of the IMF, describes this vast amount of capital as arising from new wealth creation in rapidly growing economies such as China and India.³ In essence, the productivity of global economic systems and their dramatic role in 'emerging' territories are said to have created a historically unprecedented amount of capital. The relevance of this for architecture and urbanism is how and where the giant pool of money is deployed. Specifically, that a significant amount is funneled into the built environment, at such a scope

Figure 1: Example of 'Urban Ensanche' hyper-expansion archetype. *Arcosur*, Zaragoza, Aragon, Spain. Credit: Lorinc Vass (Asset Urbanism Research Project team member)

and scale, that it is producing entirely new socio-spatial conditions. This allows observers, like David Harvey, to state that the processes of contemporary urbanization are increasingly “driven by the need to find outlets for over accumulating capital.”⁴ A second equally significant and also deceptively simple condition is the globalization of real estate markets – which is now pretty much taken for granted in a manner that obscures just how new a phenomenon it is. A recent article in *The New Yorker*, titled ‘Real Estate Goes Global,’ looks at Vancouver as a case in point. “Almost by chance, [Vancouver] has found itself at the heart of one of the biggest trends of the past two decades—the rise of a truly global market in real estate,” reports the magazine’s financial reporter, James Surowiecki.⁵ He goes on: “[N]othing about [Vancouver’s] economy explains why—in a city where the median income is only around seventy grand—single-family houses now sell for close to a million dollars apiece and ordinary condos go for five or six hundred thousand dollars.”⁶ Indeed, the essay claims that Vancouver’s real estate prices can only be understood in relation to foreign investors (largely from China) making hedge investments within their overall investment portfolios in what is perceived to be a safe and stable, and also lucrative, Vancouver context. In parallel to the globalization of real estate investment and the giant pool of money is the rise of financial instruments, mechanisms, and means to facilitate them. There is a large spectrum of these instruments, mechanisms and means. At the basic end is the emergence of global real estate brokerages that enable investing from afar. Sotheby’s International Realty, for example, was founded in 1976 and now has 680 offices in more than 45 countries. At the more complex end is the rise of real estate investment trusts and mortgage-backed securities which both provide relatively new ‘financialized’ instruments to invest in real estate. These both abstract and distance the investor from the reality of real estate in a manner that effects the built environment in ways that are only now coming into focus.

NEOLIBERALISM

Neoliberalism situates the above-mentioned drivers and lubricates the ways in which they hit the ground in the local avatars of asset urbanism. Much can be said about the character of neoliberalism but for the sake of expediency this paper will limit discussion to two important and interconnected tendencies. First is the term’s defining trait of deregulation. In context after context it is apparent that the deregulation and concomitant interconnecting of markets has facilitated the transnational flow of capital into the built environment. This is witnessed in such things like the influx of lending capital from French and German banks that fuelled the recent property booms in Ireland and Spain or in the ultra-laissez-faire mortgage-backed securities market and subprime lending bonanza in the United States. Second is the somewhat contradictory, upon first glance at least, heavy hand of government in contorting the market with policy and regulation that predisposes certain outcomes. In most cases of amplified asset urbanism, government policies, through incentive regimes and de facto subsidization, feed intensified speculation and the over-building to enable it. Lastly, in that vast majority of cases, it’s not difficult to argue that these policies benefit the few at the expense of the many and leave a litany of challenging conditions in their wake.

THE DYNAMICS OF SPANISH ASSET URBANISM

Insightful geographies to explore the characteristics of asset urbanism are found within the countries most embroiled in the property booms and subsequent

busts pivoting around 2007-08. These countries are widely accepted to be Ireland, the United States and Spain. In the extremity of their conditions, they reveal the tendencies of asset urbanism in sharp relief. Of these three, Spain is perhaps most interesting for architects and urbanists. With a population of roughly 40 million, far larger than Ireland's four million, and more spatially concentrated than the American expanse, the country witnessed an unparalleled amount of building activity during the boom from 1996-2007. "Between 2001 and 2008 around four million new houses have been built and the average number of housing units completed per year was 565,000, more than double the figure of 250,000 for the previous decade," reports Isabel Concheiro in her research on the Spanish boom.⁷ According to analysis conducted at the London School of Economics, Spanish home construction accounted for two-thirds of the housing units built in Europe between 1997 and 2007.⁸ In 2006, at the height of the boom, Spain matched Ireland in the per capita output of housing, completing 18 units/1000 people/year.⁹ The next highest rate of construction within Europe was France's six units/1000 people/year.¹⁰ In addition to housing, a vast amount of infrastructure was constructed during the boom. High capacity highways and freeways were extended by roughly 6,000 kilometres between 1998 and 2009.¹¹ Spain now has the third largest high capacity highway system in the world, surpassed only by the USA and China.¹² Airports were also furiously constructed. Five new international airports were built while thirteen existing airports received new terminals during the boom. At the market's height, the construction sector accounted for 12.5% of Spain's GDP.¹³ All of this activity occurred within a context of dramatically rising property values: Between 1996 and 2007, raw land values increased by 260%.¹⁴ During the same period the national average price for housing grew by 200%.¹⁵

In tandem with intensified construction and price escalation the Spanish economy incorporated the financial means and methods that typically accompany asset urbanism. Between 1996 and 2008 the average length of a home mortgage grew from 18 to 28 years.¹⁶ As José García-Montalvo reported in 2006, "today we are talking about 40 year loans. ... [T]he majority of the mortgages are for 100% of the purchase price plus 10% for additional costs."¹⁷ Within this milieu of easy credit, mortgage debt mushroomed and by the height of the boom the total value of Spanish mortgages reached a staggering 100% of GDP.¹⁸ As in the United States, the Spanish financial system securitized mortgage debts and as Isidro López and Emmanuel Rodríguez report, the process of "securitization ... opened a direct communication between the global financial casino and indebted households."¹⁹ They go on to state that, "the numbers are too dizzying, in just six years (2000-2006) the gross value of securitized assets rose from 8 billion euros to 100 trillion euros."²⁰

A telling indicator of speculative investment and the heightened role of the investment asset function in the built environment are the prevalence of secondary home purchases and the rate of buying and selling. By the height of the boom a remarkable number of Spanish households owned two or more homes – López and Rodríguez's analysis of the phenomenon reveals that 35% of Spanish households owned multiple residential properties.²¹ As an indication of short term ownership geared towards capitalizing on price escalation a survey indicated that 37% of the population had a family member, colleague or themselves who bought and sold housing within the past four years (excluding those who do so professionally).²² A unique characteristic to Spain during this period is the extent of purchases made by foreigners from Northern Europe, a phenomenon

that greatly exacerbated the magnitude of construction in Spain. As Duncan Campbell has reported in *The Guardian*: “Houses in Spain couldn’t be built fast enough. Great swathes of the coast and countryside became clustered with urbanisations, instant housing estates thrown up to cater to what seemed to be an endless stream of Britons, Germans and other northern Europeans.”²³ While there are numerous factors that influenced this influx, speculative investment is undoubtedly significant. As Aitana Alguacil states in important research on the topic: “The fundamentally speculative character of foreign investment can be appreciated from its high concentration in certain geographic areas... . Foreign housing investment tended to be concentrated in island communities (Canarias & Balearian Islands) and the eastern Spanish coast (Andalucia, Murcia & the Valencian Community), which are the areas that registered the highest increases in prices during the upswing of the cycle.”²⁴

One of the profound by-products of Spain’s investment driven building frenzy is a dramatic over-production of built material. Many of the new highways are travelled far below capacity. Some new airports have never had a plane land and now sit abandoned. A vast amount of land in Spain has been prepared for building construction – a process referred to as ‘urbanization,’ in which an area is subdivided into lots and road and utility infrastructure is constructed – only to sit empty and in various states of decay. It’s difficult to accurately account for the total area of empty urbanized land, but some estimates are as high as 290,000 hectares, a surface area that is more than three-and-a-half times larger than all the land area of New York City’s five boroughs.²⁵ It is reported that this stock of empty urbanized land has a built potential capable of meeting demand for the next 23 years.²⁶ And then there are the partly constructed buildings that litter the landscape. Again, hard numbers are difficult to attain, but some reports claim as many as “1.5 million incomplete, unsold and isolated housing units along the Peninsula that are the result of the real estate bubble bursting.”²⁷ Finally, a large number of completed housing units sit empty – at least 3.4 million units, which in the context of Spain’s 16.7 million households is a staggering number.²⁸ Taken collectively, these states of incompleteness and vacancy constitute a defining feature of the spaces of asset urbanism in contemporary Spain.

DEVELOP EVERYTHING

In 1998, the Spanish government passed the *Land Act* that effectively reclassified the entire country into a single territory open to development. In the words of the government: “The present Law aims to facilitate the increase in land supply, meaning that all land which has not yet been incorporated into the urban process, in which there are no reasons for preservation, can be considered capable of being urbanized.”²⁹ This law, which coincides closely with the beginning of the property boom, is emblematic of the type of market liberalization that characterizes neoliberalism. Again in the words of the government in describing the new law: “It must also be remembered that the land market reform in the direction of greater liberalization which increases its offer is part of the necessary structural reform of the Spanish economy.”³⁰ This liberalization proved instrumental in irrigating the entire country with the possibility of asset urbanism.

AGENTE URBANIZADOR

In 1994, the Valencian Community signed into effect the *Regulatory Law of Urban Activity* that created a new actor in land development – the *agente urbanizador*, or ‘urbanization agent.’ In subsequent years, other regional governments would



2

pass laws modeled on Valencia's, with the effect that the *agente urbanizador* became a key propagator of development across Spain. The role and powers of the *agente urbanizador* are exceptional and unprecedented. Granted powers of expropriation, the *agente urbanizador* is a private individual or corporate entity able to develop land regardless of the desires of private landowners. In other words, the *agente* can develop land for private market purposes against the will of private landowners. The only requirement being that he compensates private landowners for the expropriated land. In practice, this compensation is typically derived from the value created through the urbanization (development) process. It is important to note that almost any private business was able to act as an *agente urbanizador*.³¹ As Isabel Concheiro has described: "The creation of this figure was to end the retention of land by owners who refused to participate in urban development [and] to speed up the urbanization process."³² It should also be noted that the original Valencian law emerged from the Left side of the political spectrum as its central hypothesis was that by increasing the supply of urbanized land, the price of housing would fall.³³ It was conceived as an affordability policy. However, prices did not fall. Fernando Gaja i Díaz, a chief critic of the law and a professor at the University of Valencia states: "In summary, the *LRAU* has contributed to the increased production of urbanized land without reducing the land prices that have accompanied the spiraling, inflationary real estate market, meanwhile [it has aided] the concentration of property in the hands of large urbanizing businesses."³⁴

SPATIAL AVATARS

The built environment produced during the property boom along with the aftermath states of incompleteness and vacancy present morphological patterns that constitute the archetypes of Spanish asset urbanism. Three dominant archetypes, selected from a broader inventory established through the author and his team's on-the-ground documentation, are Post-Metropolitan Islands, Foreign Investment Enclaves, and Urban Ensanches.

Figure 2: An example of urbanized land. Aerial view of *Los Satelites*, Majadahona, Madrid. Credit: Josimar Dominguez (Asset Urbanism Research Project team member), photo taken from drone (DJI Phantom Vision 2+).



3

POST-METROPOLITAN ISLANDS³⁵

Post-Metropolitan Islands are mega-developments that are discrete and geographically separate from any existing urban fabric. They are large islands of instant urbanism orbiting as isolated satellites at a distance from an urban center. Their tendency to amass an overwhelming amount of housing without including meaningful amounts of alternate programs renders them post-metropolitan. Such projects can be found around many of Spain's large and mid-sized cities, forming what can be described as an investment archipelago. The most infamous example of the archetype is *Residencial Francisco Hernando* (named after its developer) in Seseña, approximately 30 kilometres from Madrid. The design organizes 13,500 units in a series of mid-rise housing blocks that emphasize repetition and efficiency in the extreme. All aspects of the development preface maximizing the quantity of units at minimum construction expense, resulting in an almost inhuman space of speculation. Just over 5,000 units were completed in 26 buildings before the market collapsed. Of those completed, 2,000 were unsold and vacant in 2009.³⁶ The buying and selling of units by investor-owners was widespread in Seseña. Ángel Afrims' tale, for example, is exemplary: "My family bought various units in 'Residencial Francisco Hernando' at a very good price with the intention of getting a high return. And that is how it has been. We have seen the rise of the end of real estate cycle and we have decided to get rid of them. I have gotten rid of three units that cost me 120,000 euros for 180,000."³⁷ The development is now often referred to as a 'wasteland,' with thousands of residents occupying a partially complete and entirely isolated territory.

FOREIGN INVESTMENT ENCLAVES

The construction of new housing that attracts a disproportionate amount of foreign purchasers occurs primarily along Spain's Mediterranean coast. The amount of building for this market segment is a significant factor in the creation of what is now a vast linear, coastal city that stretches hundreds of kilometers. The developments within this territory fall under what Concheiro calls 'leisure

Figure 3: An example of the 'Post-Metropolitan Island' archetype. Aerial view of *Residencial Francisco Hernando*, Seseña, Toledo, Spain. Credit: Author, photo taken from drone (DJI Phantom Vision 2+).



4

investments’ – with subcategories that relate to either the beachfront or golf, and sometimes to both. In all instances they are a product that emerges out of an alluring combination of a sunny climate and speculation. Golfsapes establish investment desire from scratch in contexts removed from direct adjacency to the shoreline. As a report from the Real Estate Promoters Federation of Valencia affirms, “[w]e are not fooling ourselves: No one speaks about the sport, this is pure real estate speculation.”³⁸ In a manner that echoes the isolation of the Post-Metropolitan Islands, these golf anchored develops are frequently distinct and autonomous. Allowing observers such as Ramón Fernández Durán to announce that “[t]hese new developments are increasingly more segregated from the existing urban fabric and homogenous in terms of nationalities from rich European Union countries.”³⁹

URBAN ENSANCHES

During the property boom almost all major and mid-sized cities in Spain experienced hyper-expansion at their periphery, in a 21st Century version of Spain’s tradition of *ensanches* (extensions). In most instances, these massive territories of rapid development now sit in various degrees of partial completion. For example, Madrid’s “southeastern landscape is currently a ‘stand-by’ landscape, defined by land works and the construction of new roads and infrastructure” awaiting the development halted by the market’s collapse.⁴⁰ Smaller cities experienced similarly massive development programs. For example, Zaragoza, a city with a population of 700,000 in northeast Spain, has a single *ensanche* called Arcosur that was planned to house 70,000 new residents. Only 2,100 units have been completed, resulting in a surreal social condition in which residents inhabit a vast and but largely empty tabula rasa of urbanization.

CONCLUSION: SPAIN IS EVERYWHERE

While Spain presents a set of conditions that are in many respects extreme and unique, it can also be understood to offer in sharp relief the attributes of

ENDNOTES

1. *Fund Management*, (London: TheCityUK Fund Management Report, 2012): 1.
2. “The Giant Pool of Money,” *This American Life*, episode 355, originally aired: May 05, 2009.
3. Ibid.
4. David Harvey, “Foreword: The Urban Roots of the Financial Crisis” in *Subprime Cities: The Political Economy of Mortgage Markets*, ed. by Manuel B. Albers (Chichester: Blackwell, 2012): xv.
5. James Surowiecki, “Real Estate Goes Global,” *The New Yorker*, May 26, 2014. Online. <http://www.newyorker.com/magazine/2014/05/26/real-estate-goes-global>.
6. Ibid.
7. Isabel Concheiro, “Interrupted Spain” in *After Crisis: Post-Fordist Conditions for Architecture*, ed. by Josep Lluís Mateo (Zurich: Lars Muller Publishers, 2011), 13.
8. Sara Schaefer Muñoz, “A Home-Price Puzzle in Spain,” *The Wall Street Journal*, November 26, 2010. Online. <http://www.wsj.com/articles/SB10001424052748703531504575624652193155966>.
9. National Institute for Regional and Spatial Analysis (Ireland). 2010.
10. Ibid.

Figure 4: An example of the ‘Foreign Investment Enclave’ archetype. Aerial view of *Calanova Golf*, Mijas, Málaga, Andalusia, Spain. Credit: Author, photo taken from drone (DJI Phantom Vision 2+).



5

11. Paco Segura, "Infraestructuras de transporte, impacto territorial y crisis," *Paisajes devastados. Después del ciclo inmobiliario: impactos regionales y urbanos de la crisis* (Madrid: Traficantes de Sueños: 2013): 85.
12. Ibid.
13. Organization for Economic Cooperation and Development. 2014 Statistics. Online. <http://stats.oecd.org/index.aspx?queryid=9185>.
14. Calculated from data provided by the Spanish Government's Ministerio de Fomento.
15. Calculated from data provided by Banco de España.
16. Asociación Hipotecaria Española, *Indicadores del coste de la deuda hipotecaria*. 2010. Online. <http://www.ahe.es/bocms/images/bfilecontent/2006/04/26/93.pdf>.
17. José García-Montalvo, "Deconstruyendo la burbuja. Expectativas de revalorización y precio de la vivienda en España," *Papeles de economía española*, 109 (2006): 49.
18. Calculated from data provided by Banco de España.
19. Isidro López and Emmanuel Rodríguez, *Fin de ciclo. Financiarización, territorio y sociedad de propietarios en la onda larga del capitalismo hispano (1959-2010)* (Spain: Traficantes de Sueños, 2010): 29.
20. Ibid, 292.
21. López and Rodríguez, 10.

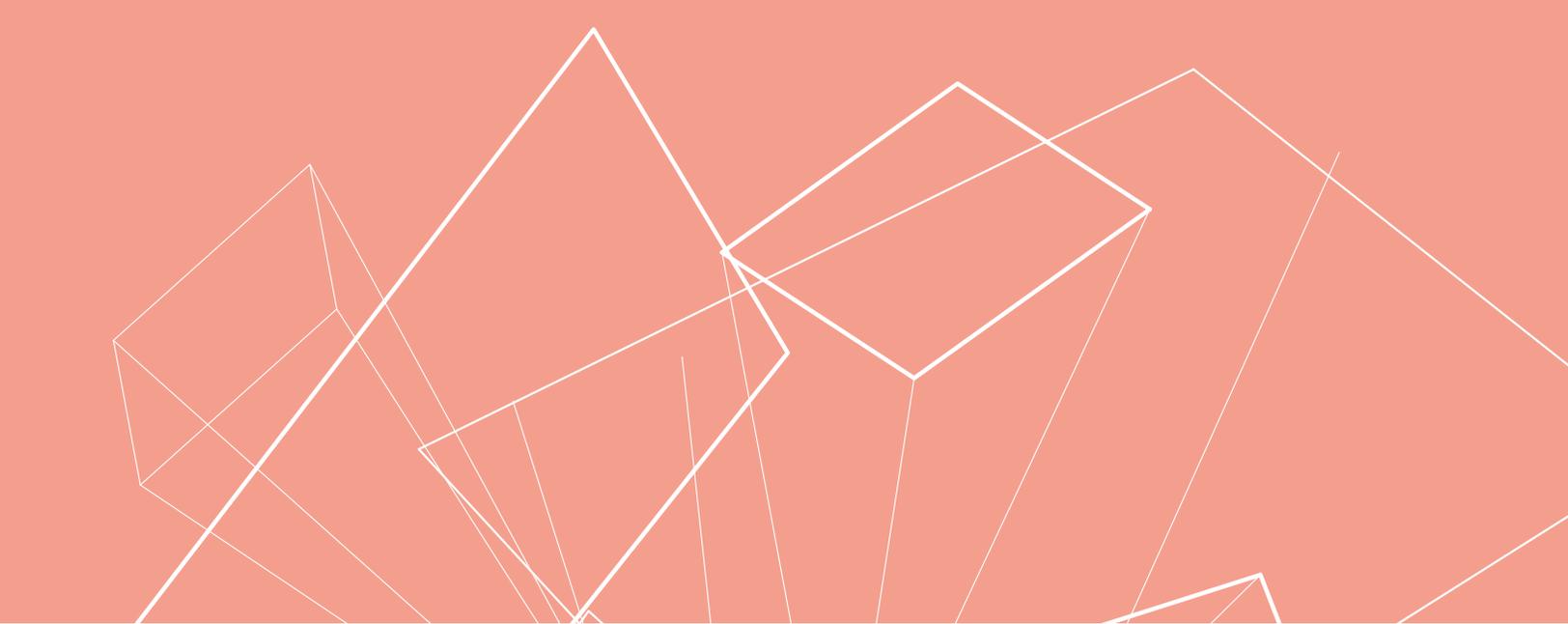
Figure 5: An example of the 'Urban Ensanche' archetype. Aerial view of Arcosur, Zaragoza, Aragon, Spain. Credit: Josimar Dominguez (Asset Urbanism Research Project team member), photo taken from drone (DJI Phantom Vision 2+).

contemporary urbanization that are increasingly found in many diverse locations around the world. Overproduction of built space and its associated social challenges is now a widespread phenomenon. Italy, for example, has two million empty homes.⁴¹ Indeed, Europe as a whole has eleven million.⁴² All through the 'Great Recession' America actually added millions of houses to its unprecedented oversupply.⁴³ In city after city, property values are escalating beyond the logics of local economies, driven by the investment dynamics of a truly globalized real estate market. The importance of re-evaluating Spain now is that the extremity of its conditions can offer useful insights for understanding the spatio-financial phenomena that are defining features of 21st Century neoliberal political economy and its spatialization.

ACKNOWLEDGEMENTS:

This research was generously supported by the Government of Canada's Social Sciences and Humanities Research Council. Research assistants are Josimar Dominguez and Lórcinc Vass, both graduate students at the School of Architecture and Landscape Architecture, University of British Columbia.

22. García-Montalvo, 39.
23. Campbell Duncan, "Economic crisis: The pain in Spain," *The Guardian*, Dec. 4, 2011. Online. <http://www.theguardian.com/world/2011/dec/04/economic-crisis-the-pain-in-spain>.
24. Aitana Alguacil et. al., *La vivienda en España en el siglo XXI* (Madrid: Cáritas Española Editores, 2013): 104.
25. Burriel, E. "El estallido de la burbuja inmobiliaria y sus efectos en el territorio," *Geografía de la crisis económica en España* (Valencia: University of Valencia, 2014): 136.
26. Ibid.
27. Miranda, Edurne. "Zombie Buildings: en España hay 1.5 millones de pisos inacabados y sin vender," *El Confidencial*. Aug. 16, 2010. Online.
28. INE. Population and Housing Census. 2011. Online. http://www.ine.es/censos2011_datos/cen11_datos_inicio.htm.
29. As quoted in Isabel Concheiro, "Interrupted Spain" in *After Crisis: Post-Fordist Conditions for Architecture*, ed. by Josep Lluís Mateo (Zurich: Lars Muller Publishers, 2011), 19.
30. Ibid.
31. Author interview with Fernando Gaja i Díaz, Professor, University of Valencia. Conducted July 7, 2014 in Valencia, Spain.
32. Concheiro, 19.
33. Gaja i Díaz, Fernando. "Una desamortización a finales del siglo xx: el "urbanizador" en la legislación urbanística valenciana," *Ordenación del Territorio y Urbanismo en Castilla-La Mancha* (Spain: ALMUD ediciones, 2008): 138.
34. Ibid, 139.
35. José María Ezquiaga Domínguez uses the phrase 'post-metropolitan archipelagos' to describe aspects of Madrid's urbanization. I have derived 'Post-Metropolitan Islands' from his phrase, although I define it differently from his meaning. To read his use of the phrase refer to "Archipelagos post-metropolitanos", *Cuestiones Urbanas*, 1 (2010): 46-56.
36. "Cuatro bancos se quedan con 2,000 pisos de El Pocero," *El País*, Jan. 15, 2009. Online. Link no longer active.
37. Salido Cobo, Jorge. "Venta de pisos a contrarreloj," *El Mundo*, Oct. 10, 2007. Online. <http://www.elmundo.es/elmundo/2007/10/02/suvienda/1191338644.html>.
38. Miguel Ángel Barroso, "Golf las verdes praderas de la discordia," *ABC News*. Nov. 5, 2006. Online. http://www.abc.es/hemeroteca/historico-05-11-2006/abc/Domingos/golf-las-verdes-praderas-de-la-discordia_1524099560076.html.
39. Fernández Durán, Ramón. "El Tsunami urbanizador español y mundial," *El Ecologista*, 48 (2006): 11. Online. http://www.nodo50.org/ramonfd/tsunami_urbanizador.pdf.
40. Concheiro, 23.
41. Rupert Neate, "Scandal of Europe's 11m empty homes," *The Guardian*, February 23, 2014. Online. <http://www.theguardian.com/society/2014/feb/23/europe-11m-empty-properties-enough-house-homeless-continent-twice>.
42. Ibid.
43. Kirk McClure, "The American housing bubble: Lessons for planners," *AESOP/ACSP 5th Joint Congress 2013 Proceedings* (Dublin: University College Dublin, 2013).



**PERFORMATIVE ARCHITECTURE-
ENTANGLING NEW AUDIENCES**

