

Learning from Chinese Gardens and Las Vegas in an autonomous vehicle

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The paper looks at possible relationships between transportation, architecture, and urbanization analogically, through comparing ways of framing cities from a perceiving subject in motion, the windshield on an autonomous vehicle.

The architects of a Chinese garden staged an experience within a garden; “*Learning from Las Vegas*” designed for a view out the windshield. This research takes on those methodologies, zoom out and apply to a fiction city that is seen passively. In this city garden, the autonomous vehicles curate the experience of passengers. Passengers get in and instruct a destination, and the vehicles drive themselves to the places by the calculation of an algorithm. The paper looks at the possibilities of autonomous vehicles design our cities particularly in terms of the way they literally frame views of the designed environment.

A Chinese garden, known as Yuan (园),¹ is a landscape garden style that can be mainly divided into two types: one vast garden used by the emperors and the imperial family, built for pleasure and to impress; another more intimate garden that was built by scholars, former officials, merchants and generals. This type was made for reflection and to escape from the outside world. The Chinese created idealized miniature landscapes and expressed the relationship between man and nature.² The careful contrast of windows and walls is crucial to the experience of viewing different scenes as one while moving along the designated route. In Chinese, this is called YiBuHuanJing (移步换景).

The construction of scenes can use a compositional technique, Jiejing (借景),³ which means “view borrowing.” Jiejing allows the garden to have a carefully framed landscape, but at the same time, not constraining itself within its walls. Complementary to the subcategories of Jiejing are three more techniques that are related to the discussion.

¹ Feng Chaoxiong, *The Classical Gardens of Suzhou*, 2008

² Baridon, Michel, and Guy Schoeller. *Les Jardins: Paysagistes, Jardiniers, Poètes*. Paris: Robert Laffont, 2002. p. 348

³ Rinaldi, Bianca Maria., and Franco Panzini. *The Chinese Garden*: Birkhäuser, 2011. p. 64

Tianjing (添景), “adding to the view”; Yijing (抑景), “suppress the view”; and Zhangjing (障景), “blocking the view.”⁴



Humble Administrator's Garden, Suzhou.⁵

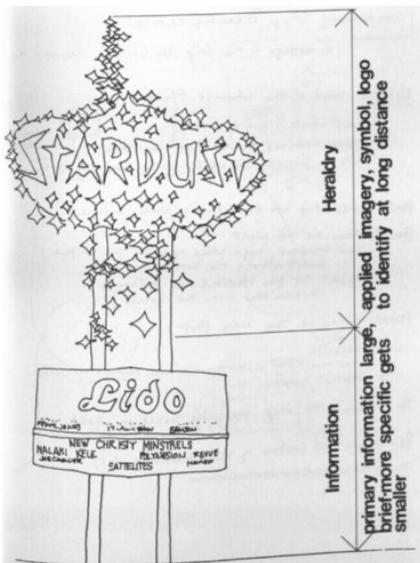
The garden borrows the “beautiful” Temple Pagoda from afar and blocks the rest of the “unsightly” city by letting the foliage overgrow.

Las Vegas was a garden for Denise Scott Brown and Robert Venturi. In the 1960s, the Strip was a cacophony of competing neon signs; it was loud, flashy and garish, basically the exact opposite of what the modernist idea of architecture and cities should be. In their book “*Learning from Las Vegas*,” they articulated “Las Vegas is analyzed here only

⁴ 杨臻 (Zhen Yang). *中国古代园林的构景手法*. (*View Framing Techniques in Traditional Chinese Gardens*)

⁵ Source, Image.Amanaimages.com. Accessed December 17, 2018.
<https://amanaimages.com/info/infoRM.aspx?SearchKey=25242010859>.

as a phenomenon of architectural communication.”⁶ The architectural symbolism on the Las Vegas strip was a model of communicating at multiple speeds and distances. For example, the “Stardust” sign has two depths of fields. The lower part has specific messages that is readable only at lower speed and from a closer distance.⁷ The upper part can be seen from afar in a fast-moving car to attract traffic into the casino. The visual qualities of the symbols were not structural or programmatic expressions; the symbols serve the perceiving subjects, the people and the city, not the architect.



Casino signage⁸

⁶ Venturi, Robert, Denise Scott Brown, and Steven Izenour. *Learning from Las Vegas*. Cambridge, MA: MIT Press, 1977. p. 3

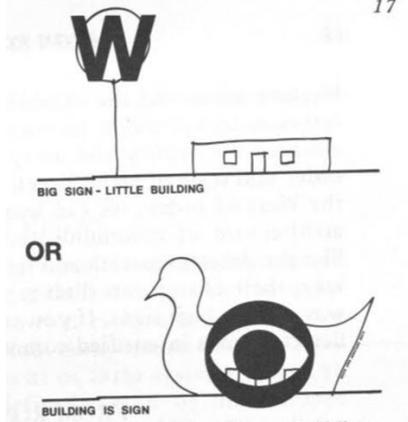
⁷ AI, Stefan. *The Strip: Las Vegas and the Architecture of the American Dream*. p.101

⁸ Venturi, Robert, Denise Scott Brown, and Steven Izenour. *Learning from Las Vegas*. Cambridge, MA: MIT Press, 1977. p. 67

An autonomous vehicle (AV) is a vehicle that can sense its environment and move with no human input.⁹ Many leading institutions, such as the University of Michigan MCity Lab, the MIT CSAI Lab, and many corporations like Audi, Tesla and Uber are conducting studies on this technology. In the near future, people will still move around quickly in vehicles, yet the way people look at the streets, the interaction of people and the vehicle, the city congestions and the parking conditions will all change. What a future person will see through the windows of an AV is different from what Denise Scott Brown and Robert Venturi saw from the window of their car in Las Vegas. The future person can perceive more depths than just the enormous signages, because the autonomous vehicle does not require him/her to pay any attention to driving, and the vehicle smooths out all the frictions in the ride.¹⁰

⁹ Gehrig, Stefan K.; Stein, Fridtjof J. (1999). Dead reckoning and cartography using stereo vision for an automated car. IEEE/RSJ International Conference on Intelligent Robots and Systems. 3. Kyongju. pp. 1507–1512.

¹⁰ Colomina, Beatriz, and Mark Wigley. *Are We Human?: Notes on an Archaeology of Design*. Zurich: Lars Müller Publishers, 2016.



Duck vs. Decorated Sheds, *Learning from Las Vegas*, Venturi, Scott Brown and Izenour, 1977. p.17



Frank Gehry, Disney Concert Hall, Los Angeles, USA¹¹

Is this a new “duck”? Will the autonomous city be a duck city?

There are possibilities that the algorithm of the autonomous system adopts the “blocking view” method and prefer to go through some neighborhoods over others when time factors are similar. Questions like what neighborhoods is it avoiding and how can

¹¹ Source, Image. "Downtown LA Looking towards Disney Concert Hall, Los Angeles County," Getty Images. Accessed December 17, 2018. <https://www.gettyimages.com/detail/photo/downtown-la-looking-towards-disney-concert-hall-los-royalty-free-image/109434715>.

designers address equity in the algorithmic curation become valuable. For example, in the photograph below, there are two recycling material trading businesses behind the signage in Jinan City. The signs were put up to block the businesses from being seen on the road when the city was competing for the National Model City. Part of that qualification process works a lot like observing a city in an AV, the inspection team would ride in vehicles and examine the “beautifulness” and “harmoniousness” of the city. In this case, Jinan city decided that the two trash recycling businesses were not worthy of being seen, and they were edited out.



Behind the Signage, Jinan¹²

The “Blocking Enclosures(围挡)”, which I think is an interesting interpretation of “Signage.”

¹² *The “ecology” behind Blocking Enclosures.* July 2017. Jinan Times, Jinan, China.

Another concern that AV raises is if the freedom of observing results in extending the competing signage to a further depth. Or would the literal signage communication become obsolete when there was no more mindless traffic? Does the architectural form then go towards a full “Duck” mode, so that instead of signage, buildings themselves become pieces of symbols?

Robert Venturi’s other book, “*Complexity and Contradiction in Architecture*” may have introduced some interesting architectural responses that are more meaningful than “ducks” in an autonomous era. For example, the Bruges Cloth Hall¹³ is a seemingly disproportioned building. However, the communicational quality of the Cloth Hall is something we can learn from, a building like this can be looked at in three sections based on the depth of message it tries to convey. There are details to be perceived from up-close; the scale of the base merges with the context of the plaza; and the extravagant tower serves as a landmark to the city and can be seen from afar. When autonomous vehicles take the symbolic competition to a future depth, a building with a formal quality

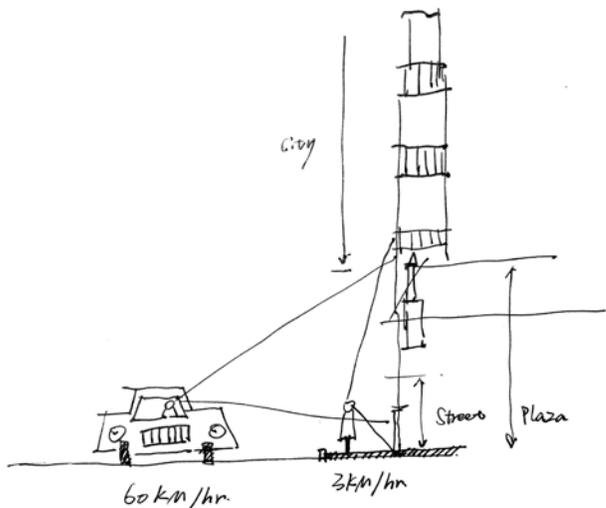
¹³ Venturi, Robert. *Complexity and Contradiction in Architecture*. New York: New York Graphic Society, 1966.

like the Cloth Hall can still communicate with observers from afar, but at the same time, it does not give in to becoming a new “duck”, neither does it give up communicating with people at proximity. In a city garden, architecture form like the Cloth Hall is both micro and macro; it not only serves as an element to be borrowed from a far depth, but also actively construct a view with the plaza by embracing the contradiction of the form within itself.



Belfry and Cloth Hall¹⁴

¹⁴ Zug55. "Bruges: Belfry and Cloth Hall." Flickr. September 28, 2016. Accessed December 17, 2018. <https://www.flickr.com/photos/zug55/29356983344>.



Is the Cloth Hall still considered disproportionate when the tower is not meant for pedestrians in the nearer distance?

Through the design of algorithms and framing, the autonomous vehicles curate people's urban experiences, consciously or unconsciously, they are ultimately designing our cities. The Bruges Cloth Hall suggests a good design that adapts to the new transportation, it has contradictions within its aesthetics, but it is ethical to its contexts and it communicates well to human moving at various speeds. Architects should not use design to "block the view" and frame anyone out, nor should we step backward and design ducks. The architecture of the autonomous era needs to make the city inclusive, communicative, comprehensible and comforting.

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