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**Digitizing freeways:
researching urban resources**

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At the beginning of his study on Los Angeles *Los Angeles: The Architecture of Four Ecologies* Reyner Banham writes “ ... like earlier generations of English intellectuals who taught themselves Italian in order to read Dante in the original, I learned to drive in order to read Los Angeles in the original (Banham 1971:23).” Banham implies, that Los Angeles can only be experienced while driving. The metropolis, the ‘urban sprawl’, cannot be experienced walking but only through the car. ‘Autopia’ became one of the ‘Four Ecologies’ of Los Angeles and he states that the ‘automotive experience’ “prints itself deeply on the conscious mind and unthinking reflexes (ibid.:214).” Cees Nootboom draws upon this image of the city in his essay “ ‘Autopia’(1973) and Passages from ‘The Language of Images’(1987)” and writes about the character of Los Angeles: “It is, if one can say this, a ‘moving’ city, not only a city that moves itself – breaks itself down, builds itself up again, displaces and regroups itself – but also a city in which movement, freedom of movement, is a strong premise of life (Nootboom 2001:15).” Nootboom continues how the everyday live depends upon the system of the road. The constant Movement of the city repeats itself: “The other cars are mirror images of you in your car. You are driving behind yourself and in front of yourself, next to yourself and opposite yourself, you are the taillights of the one in front of you. Everything is on the move (ibid.:21).”

The above description can be seen as a typical everyday experience expressing mobility and connectivity typical of our times. The highway stands for constant movement in the ‘real’ reality and also constitutes an image for the digital exchange of information in a ‘virtual’ reality. Further the highway is a cultural space, a phenomenon depicted in the fictional world of films.

In the context of the Shinkenchiku Housing competition 2007 we were investigating possible urban resources that provided for habitation as well as addressing contemporary issues of urban sprawl. Based on our interest in the cinematic experience of contemporary urban space we started to look at Los Angeles and freeway systems where smoothness and the mobile view are the main features. At the same time the discussions about mega-cities in particular on Lagos, Nigeria offered a different perspective on freeway systems, where the idea of constant movement turns into the opposite. Both systems adapted to the local situation and offer a valid public space. (FIG 1)

Heat : the drama of movement

Inverting the relationship between American urban space and the cinema screen, Jean Baudrillard argues that the cinema – its spectatorial possibilities, its simulated visualities – are not restricted to the screen but extended outward into our urban reflexes. “The American city seems to have stepped right out of the movies”, he writes: “To grasp its secret, you should not then



Figure 1

begin with the city and move inwards towards the screen; you should begin with the screen and move outwards toward the city (Baudrillard 1988:56).”

One of the films that depict the Los Angeles Highway experience is Michael Mann’s *Heat* featuring Al Pacino and Robert de Niro. In the scene in which Vincent Hannah (Al Pacino), head of the Los Angeles Police Department arrives at the crime scene under one of the main freeway junctions, he immediately grasps the complexity of the planned crime in relation to the geographical specificity of the site. Vincent states how the chosen spot incorporates perfect timing, directionality, surveillance and disappearance. In *Heat* this is a strategic way how Michael Mann introduces a typical situation where the static is positioned within the fluid. In another related and crucial scene, which is also a turning point in the film, movement becomes the driving force. This time Vincent enters the scene, which takes place on the freeway, from above via helicopter. The scene dramatizes a smooth inter locking of different motions and builds up towards the unexpected encounter between the two main characters. Vincent meets his opponent, the head of a crime business, Neil Macaulay played by Robert de Niro. The movement of two cars on the highway is choreographed by the camera view. The camera guides the spectators view through intertwining views of the city, framed by the windshield. In this scene the inside of car and outside highway merge into one spatial experience. Hannah is not only relying on his own view, but is guided by the above helicopter through walkie-talkie, which adds a further view onto the freeway system.

This relates to one of Giuliana Bruno’s claims that the parallels between cities and architecture entail a total overhaul of how we once conceived film viewing. No longer “fixed” as a voyeur, the spectator is now a “voyageur” who moves through a film as someone walking through a building or a city, assembling views according to whom and where she is and what she wants to see (Bruno 1997:10). In the described scene of Vincent and Neil the movement of the voyageurs is channeled towards a speeded up car chase.

Flow : emerging counter sites

The idea of the *Flow* project picks up on the phenomenon of a mobile view but the captivity of experiencing the urban space from the car is questioned. Baudrillard describes driving as private telematics in his essay "The Ecstasy of Communication": "where [a] person sees himself at the controls of a hypothetical machine, isolated in position of perfect and remote sovereignty, at an infinite distance from his universe of origin. Which is to say, in the exact position of an astronaut in his capsule, in a state of weightlessness that necessitates a perpetual or orbital flight and a speed sufficient to keep him from crashing back to his planet of origin (Baudrillard 1998:128)." Should the automotive experience be opened up in order to initiate an architectural project? Are there options for developing new urban strategies in order to populate the edge situation of the freeway to enable communication and physical transition? How can the scenography of the city be incorporated into the highway system and vice versa?

Our proposition is: merging the highway and the city in order to make space at the edges of the highway for new forms of habitation which straddle the edge between static and fluid lifestyle and new forms of social arrangement.

Counterspaces

The processes of transformation in a time of technological and social change allows for a new evaluation of transportation and habitation systems which might lead to new social and public spaces. The biggest potential for urban development within mega-cities was seen at the edge of the highway, which formulates a borderline within the city. For this edge situation we started to develop occupational strategies, looking for adequate programs in relation to digital design methods. (FIG 3)

These new sites that straddle the edge of the highway can be related to what Michel Foucault has described as 'heterotopias' – "places [that] are absolutely different from all the sites that they reflect and speak about (Foucault 1986:24)." In their irreducible heterogeneity in relation to the surrounding spaces, they are "something like counter sites, a kind of effectively enacted utopia in which the real sites, all the other real sites that be found within the culture, are simultaneously represented contested, and inverted (ibid.)." Among those sites Foucault lists the transportation system such as trains or sites of temporary relaxation such as cafes and beaches. He discusses these sites as examples of a particular principle of heterotopia: The capability "of juxtaposing in a single real place several spaces, several sites that are in themselves incompatible (ibid.:25)." The idea of the counter-site, seems also applicable to the freeway system. One could imagine that these spaces allow for the emergence of different social spaces that are not linked to a known type of program. As another thought one can relate this idea of counter sites and new programs, to processes happening right now in mega-cities like Lagos, Nigeria where infrastructure (a highway system) has been imposed as an image of modernity. In the seventies the entire city was covered in a network of highways and motorways. Twenty years later the image of smoothness and continuity has become dysfunctional to the traffic flow. Through permanent traffic congestion the idea of flow turned into a strategy of go-slow processes. The highway became an informal exchange area where every gap between vehicles became a

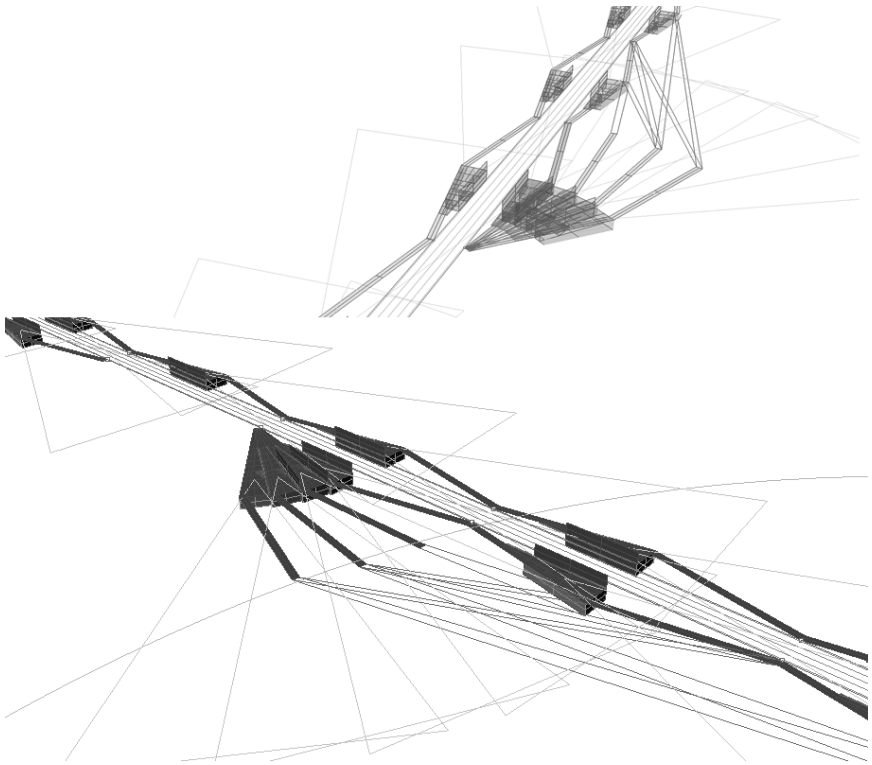


Figure 3

continuous interface between vendors and consumers in cars, a high-density public place. The idea of infinite flow has turned into the reverse. Rem Koolhaas describes this phenomenon in “Fragments of a lecture on Lagos”: “What seemed an improvisation proved to be a systematic layering where the enormous amount of miniscule transactions necessary to stay alive in Lagos [...] where made possible through the arrangement, intersection, and mutual confrontation of people and infrastructure (Koolhaas 2002:179).” These characteristics made us think that mobile forms of organization could be transferred to the urban sprawl. Highways in mega-cities could act ideally as zones where the technological and the social merge to create new forms of interaction. With this possible political potential of the imagined counterspaces on the highway one can refer to Saskia Sassen’s argument, that globalization and digitalization signal new possibilities for political action. She argues that power has not dispersed geographically nor gone entirely virtual. The digital, as she points out, is never only technological. Even the realm of finance, which is perhaps the most highly digitized activity in our time, cannot be thought of as exclusively digital. Electronic financial markets require enormous amounts of material, not to mention people. Moreover, what takes place in finance is deeply inflected by culture, material practices, and imaginaries that exist alongside cyberspace. According to Sassen, the promise of the city

in an era of globalization is precisely what the city promised in times past: “The other side of the global city,” she writes, “is that it is a sort of new frontier zone where an enormous mix of people converge. Those who lack power—those who are disadvantaged, who are outsiders, who are members of minorities that have been subject to discrimination—can gain presence in global cities, presence vis-à-vis power and presence vis-à-vis each other (ibid.:25).”

Subeconomies and programming counterspaces

The idea of breaking the smooth flow of the highway creates the necessary voids for sub-economies to emerge. Out of the external and economical limitations one often can observe new loose self-organizing formations that are essential for the renewal of the city from the inside. Through new media that are more and more available social groups can gain easier access to these processes and possibilities. As a consequence specific areas like highway edges might acquire a different meaning, as a cultural political turning point. These places of discontinuity within the city, which started as a fracture, have gained a space through processes of layering and accumulation. Sassen has described these places—developed from in between situations—as new terrains. “In constituting them as analytic borderlands, discontinuities are given a terrain rather reduced to a dividing line (ibid.:17).” This phenomenon allows for long-term transformative processes of the urban highway context.

Methodologically, the construction of the counter spaces on the edge of the highway pivots on the installation of a mix of economic and habitational operations, which is constituted by a series of different types of small hyperactive industries. Trying to describe some of the operations leading to a new highway ecology one might have to highlight certain advantages like the possibility of instant communication, virtual as much as the direct physical contact plus the quick speed of moving on the highway with its instant mobility. One can imagine that these counter spaces can develop or adapt depending on demand and larger cultural processes.

Designing counterspaces

Examining the pattern of the highway system we located points of interventions. Existing generic moments within the highway system, for example the layering of a motorway exit, fly-over and cloverleaf situations were interpreted as specific geometries in their relation to program.

These located geometries became blueprints for a specific spatial experience within the new habitable structure. This approach offered the possibility to relate the movement of the real highway space with a typology of forms, generated by motion. These principles were used for designing individual units: the *plane type*: a one directional path on zero level, a smooth continuous movement; *slope type*: a one directional path splitting into two paths where one stays on zero level the second moves up and down; the *warp type*: two paths leading in two directions are creating an intersection through weaving; the *loft type*: one spiraling path that incorporates different directions at different heights. (FIG 4)

The aim is to create a spatial experience which comes close to the experience of an unfolded space where the inside and the outside turn into one immersive experience. Our interest relies on the spatial experience that includes views and speed and suspense. Thus the physical ex-

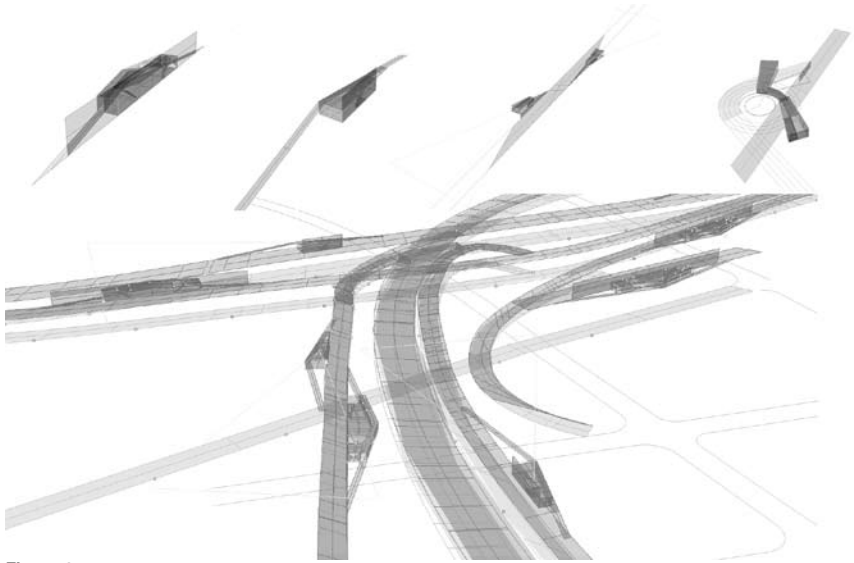


Figure 4

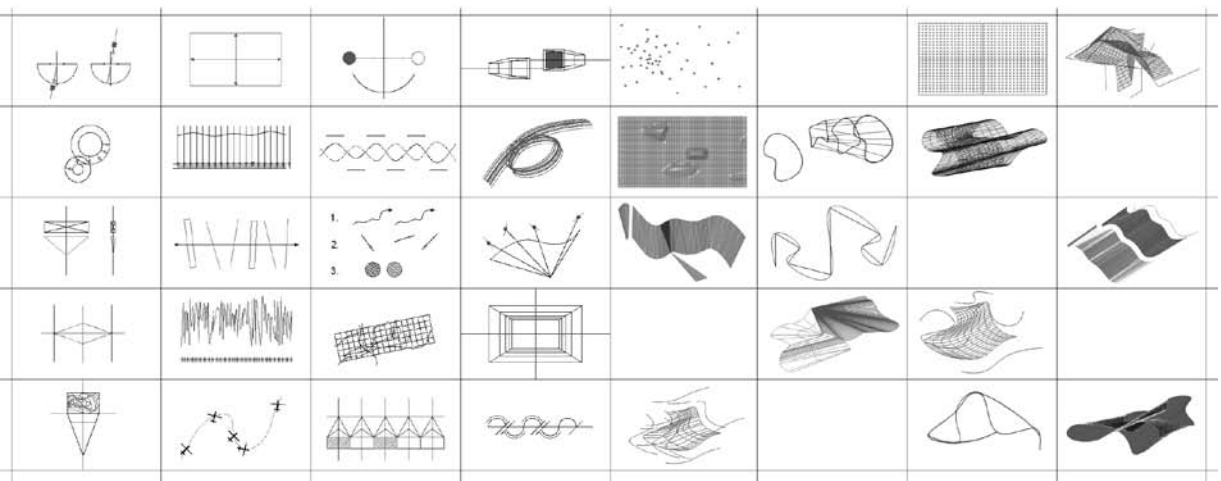
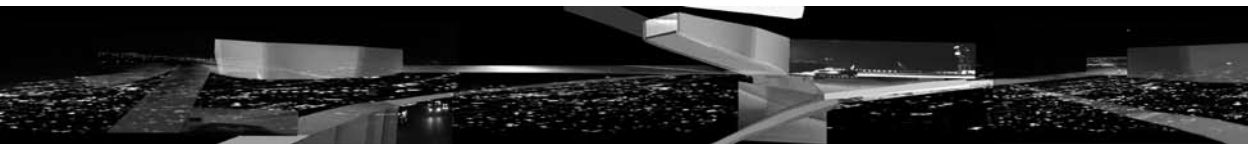


FIG 5

FIG 6



perience points towards the psychological realm. Trying to express these spatial conditions in an architectural proposition we examined the potential of digital tools in relation to dynamic forms. Within that process digital tools were confronted with analog cinematic tools like: long shot, traveling shot, swish pan etc.. Thus the cinematic tools function as an interface between the experience of the site and the form experiments. (FIG 5)

Counterspacing freeways

In the future one can imagine, that these units connect to larger communities along the highways, forming temporary adaptable industries and housing structures. Within this context CAD/CAM technologies could play a significant role enabling mass production in relation to a specific site while still achieving low cost structures within expensive high-cost mega cities. The scenario could be imagined as self-organizing and adaptable over a certain period of time allowing for flexibility in order to incorporate different social groups, so they can appear and disappear over time. These ways of accumulations articulate an alternative to commercial urban occupation. Concluding one could say that the approach pursued shows a possibility how to develop a spatial concept in relation to movement and time combining cinematic and digital tools. (FIG 6)

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Credits

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- FIG 3. Occupational strategies © bredella /lahusen
- FIG 4. Flow types and perspective © bredella /lahusen
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