Flow and Interchange – Mobility as a Quality of Urbanity

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Recently I made a trip, together with a group of architects, to Chemnitz, the industrial city in Saxony known from 1953 to 1990 as Karl-Marx Stadt. We were going to make a study of part of the city center. Within a few years of unification, the transformation of the city was remarkable. One Volkswagen plant was up and running, there were very few Trabbants to be seen because most people had a new car, and the landscape was dotted with brightly colored, shiny service stations (I was told there were too few). In a melancholy presentation of their 1990 Masterplan, the city planners explained to us how they wanted to reinforce the cultural and retail shopping facilities in the center yet; at the same time, we learned that large new shopping centers were being built at the junction of the regional highways outside the city. The planners lamented that the descending curve of public transport use was the exact inverse of the ascending curve of car ownership. It was ironic that the great open spaces in the socialist city, made at a time when there weren't many cars, were to be infilled with perimeter blocks and pedestrianized at the very moment that inhabitants of the many housing estates were eagerly exploiting their new regional mobility by driving between center and periphery to discover the most accessible and convenient shopping and leisure facilities.

The contradictions facing the Chemnitz planners illustrate a predicament of contemporary urban design and planning: the re-identification with the traditional language and devices of urban design seem unable to positively engage the thrust of commercial development and popular desire; indeed the goals of sustainable planning seem to be in conflict with the contemporary forces of urbanization. How did this come to be? In the 1970s, architects turned their backs on the problems of the greater metropolis, directing their attention to the historic center, just at the moment when the functionalist tradition most needed a critical analysis of the direction and symbols of modernization. These directions and symbols might be summarized as: first, the increase in the scale of development projects - shopping malls, office parks, tall buildings - which created a conflict with their immediate context.

Second, the status of infrastructure, which has changed from a self-sufficient service element to the most visible evidence of the city as network - and an attractor of overlapping activities - such as the presence of highways, high speed trains and the role of the airport. Finally, the steady increase in the ownership of cars (especially in Europe), has brought to traditional ideas of density and public space new demands for mobility and access.

The abandonment by architects of these issues led to the unnerving spectacle of a polarized ideological struggle: the idea of the city of motonvays versus the idea of the city of cut stone. Two examples that illustrate these opposed visions are the Corporation of Glasgow's 'Highway Plan of Glasgow,' which was to be a principal instrument in making that city the 'most modem in Europe," and the Paternoster Associates' project for office development adjacent to St. Paul's Cathedral in London (1989).[2] In the former almost every recognizable feature of the city has been obliterated by a vision of steel and glass slabs connected by new motonvays, while in the latter, curtains flutter from the open windows of various stone (-clad?) classical buildings that surround a pedestrian plaza. There are no cars. What drives both of these visions are their respective attitudes towards traffic. The Glasgow plan has become a vehicular diagram, while the aim of the Paternoster Associates is to recreate, as far as possible, a pedestrian city.

Whichever image of the city is in fashion, the experience of the city is increasingly subject to the flows and interchange generated by the increased circulation of people, vehicles and information. The rhythm of these flows, which changes the character and function of space over time, has come to have no less significance to the experience of the city than the height of its buildings, the width of the streets and the disposition of its monuments. The traffic of people, vehicles, and information are also the environment and material of the city. In this paper, I propose that the spaces for traffic of people and vehicles are as important a measure of urbanity as traditional static urban spaces. Vehicular traffic, which has certainly created conflict in the 19th-century city, in the contemporary city is a measure of the need and desire for

mobility and access and requires the transformation of both traditional public spaces and the rennovation of the first generation of roads and highways.

Despite the problems of locating freeways in cities and the consequences of the proliferation of automobiles, people have a strong desire for the convenient, fast, private transportation afforded by cars. If, in the dispersed regional city there are an infinite number of starting points and destinations, then the automobile is the most effective surface-transportation yet devised. Mobility means access to opportunities for employment, healthcare, recreation and social interaction. To reconcile the demand for mobility with the need to develop livable and sustainable cities, it is worth asking two questions: how can the advantage of automobile accessibility be brought to everyone, and how can the city be equipped for a mobile culture? In a more general sense, how can transit be adapted to the urban and suburban landscape, and how can the urban landscape be adapted for transit?[3] Urban design and planning should no longer have to resort to extreme measures to accommodate either car or pedestrian. I will show in a few examples, from the scale of a region to that of the street, how the system of roads and roadscape are gradually being adapted to a more integrated use by both vehicles and pedestrians. First, however, I will refer to some of the ideas that argue for just such a 'city for traffic.'

THE DYNAMIC CONTEMPORARY CITY

In the 1960s, Melvin Webber stated in two articles ("Community without Propinquity" and "Non-Place Urban Realm"[4]) that the coming city was moving away from an order based on the specificity of fixed places to a larger urbanized environment, where the manifestation of community was not based on propinquity but rather on shared interests. The spatial corollary of this was that physical density would no longer be an exclusive characteristic of urbanity. If, at that time, these propositions seemed radical, in today's city, especially the newer cities of the South and West in the United States, the pattern of settlement that has evolved reflects the demand for mobility and access and therefore cities such as Atlanta, Houston and Phoenix are fields of alternating density containing an unlimited number of origin and destination points. What nourishes this diversity is traffic and the ability to select home, work, school, and leisure. The movement of goods - for example, overnight trucking in and out of the city - and movement of commuters inspired urban geographers in the 1970s to describe the city not as a single spatial entity but as a city-region, defined not by political boundaries but by the flows of goods and people: cities as Daily Urban Systems.[5] The propositions of Melvin Webber, for one, call not for a replacement of the traditional grammar of city-building but for a new grammar that reflects the effects of communication on the traditional roll call of urban public spaces. Thus the increase in mobility and the means of communication should increase the number, types, and nature of public space.

JB Jackson considers that the increase in the number, use, variation and versatility of automobiles now promises to produce a miraculous revival of street life, an auto-oriented public forming into ad-hoc groups in strips or partially empty parking lots - the ideal unstructured public spaces for spontaneous, temporary group interaction.[6] Variation refers to a proliferation of new kinds of vehicles such as the jitney-van services, normally associated with third-world metropolises, but now springing up in American cities, new kinds of buses that can respond to variable routing demands, and ridesharing programs that are an alternative to solo-driver commuters at rush-hour.

The spatial correspondent to the units of vehicular traffic is the zone of the road itself. Variation in the types of vehicles should be matched by a variation in the type of roads and in the equipment and landscaping of these roads. 'Roadscape,' to adapt a term from Victor Gruen,[7] is all that we see from a moving vehicle: outdoor spaces, buildings, and traffic itself. Just as the streetgrid defines the layout of cities, the hierarchy of roads and the spaces and services adjoining them - the highways, interchanges, rest stops, streets, parking lots, and "strip malls" - organizes the suburbs. Rather than residual or leftover space, the roadscape should be seen as a contiguous realm, the site of smooth and fluid interchange between freeway, arterial road or city street and adjoining land. If roads are so instrumental in the urbanization of the city-region - what are their urban qualities? One answer is to be seen in the effects of the second generation of motorways - beltways, whose function is between that of the pure engineering structure of the national highway systems and traditional urban boulevards. The recent completion of numerous beltways has been instrumental in changing the form of the city from a concentric figure, connected by the interstate to other similar concentric figures, to a city as a 'field of centers', accessible from the new circumferential path of the beltway. The addition of beltways to a city's radial motorway system creates the figure and movement qualities of a network. The interchanges between radial and circumferential motorways create a new map of regional advantage - of ideal locations within a city-region.

In the fields of design, planning and engineering there are current examples that demonstrate how intervention in the spaces and equipment of the roadscape can become instrumental in the urbanization of the city region. The projects have been carried out by individuals, including myself, architects, developers and city planning authorities. They range from a new 200 mile highway that is understood as a new organizing 'street' for clusters of cities, to a proposal for the design of 'left-over' city that are equally comfortable and convenient for cars and for pedestrians, and finally, to a scheme to give different urban boulevards a distinct character of their own. Rather than describe the architectural qualities of these projects, I will examine to the relationship between traffic, the roadscape, and the building.

PROJECTS
Highway 40: reconceptualizing the highway

What role, in urban planning terms, can an Interstate Highway assume? In a conversation with a development group in North Carolina, I was told that the concept behind their projects was to build a city at the scale of the southern forest — a green, low-density city of four to five stories in height and stretching from Raleigh in the east to Charlotte in the southwest of the state. The developers considered the 'main street' for this city to be US Highway 40.[8] The mobility and access, afforded by the highway, would connect the clusters of small cities that are characteristic of North Carolina with their new commercial, retail and manufacturing parks. This linear development comdor would attract urban functions directly along its spine yet, at the same time, give access to the rural landscape. The isolated office building - set with its car park and landscaping - which seems so out of place in a conventional urban or town setting, is here part of a larger structural system that is recognizable and convenient. US Highway 40 as the 'Main Street" of the regional American City recalls the utopian projects for linear cities and presents a different model for urbanization than a continuously expanding radiocentric city. The ideas of these developers follow the traditional aims of the State of North Carolina. Since the Good Roads Movement of the 1920s, political leaders in North Carolina have tried to avoid big cities and instead, by creating a network of well paved roads, enable industry to develop at low densities around small cities.

Barcelona: the Ronda de Dalt

A new kind of urban highway is the second beltway of Barcelona, completed in time for the 1992 Olympics.[9] Of particular interest is the northern arc, the Ronda de Dalt, between the interchanges at the Diagonal Avenue (NW) and the Trinitat Park (NE), designed by a team of architects and engineers led by Bernardo de Sola. The second beltway was conceived to accommodate not the highest possible through-capacity but the highest desirable capacity as a collector and distributor between regional and local networks. The section of the highway changes constantly in order to adapt to the different morphological circumstances of the city, yet its significance is not just as a new piece of urban infrastructure but as a generator of new cityscape. Where the slower traffic lanes cantilever over the express lanes, they act as new frontage streets to the formerly separated neighborhoods above. Often the highway is covered with public buildings, sports grounds, or parks to connect and form the new public spaces of social housing estates. Finally, as in the case of the Olympic structures of the Vall d'Hebron Park and the Velodrome, the beltway is the best location to place leisure facilities that will function from the local to international scale. The Ronda de Dalt demonstrates in contemporary terms the lost idea from the 1920s of the urban highway (parkway) as an instrument of connection and convenience, mobility, and access, and a support for communities and urban life.

Atlanta: equipping the city for a mobile culture

The previous examples have described the management, conceptualization and morphological transformation of urban motorways to interact with and even accrue to themselves classic urban functions. Yet every characteristic of cars and trucks moving at speed is contrary to the desired qualities of pedestrian space. In 1994, the Olympic Committee and the Society of Architects of Atlanta organized a competition for new American Public Space. The unusual sites that were chosen were an entrance/exit ramp; a parking lot; a street and traffic island; and two street intersections suspended over the Interstate Highway. How many times in Atlanta, or other cities of America, are these sites repeated? Where highway and city interact new types of urban sites are generated with particular attributes of scale, space, and speed, that are both specific yet generic. Our interest was not to find an individual solution for each site. but rather to equip the streetscape with utility and informational services, street furniture, and surfaces, in order to support the informal and everyday events typical of places where cars and pedestrians mix. Our assumption was that between the territorial scale and dynamic experience of the freeway and the defensive concept of the pedestrian pocket there is an alternative milieu - spaces that are car and pedestrian friendly, that is, a zone where informal and everyday events that are typical of car and pedestrian areas may take place. Perhaps these roadscape sites might become the venue for the qualities that had once been imagined for the highway, that is, the place where transportation and architecture equal civic design.

The 'Streetscape' site had two goals: first, to connect the disparate elements along a typical streetscape and second, to provide shelter to mark the spaces where different modes of public and private transport meet. The interventions are seen as simple projects of urban restructuring using modifications to the surface and the addition of equipment to provide a public space that allows the maximum correspondence between pedestrians and vehicles. Another consideration was how a public space might link the experience of drivers on the expressway with that of pedestrians and drivers on the adjacent streets? The 'Overpass' project seeks to integrate these three scales - pedestrian; street; and interstate highway - by introducing elements that are recognizable from the interstate yet also mediate the experience of the site at grade. The perforated metal 'Scaffold' arcs support signage panels, lighting and projection equipment, as well as the roofs for bus and jitney stops. The modified environment provided by the "scaffold arcs" transforms these bleak fragments of cityscape to new urban public places that are nourished by pedestrians and vehicle equally.

Chemnitz

Returning to the city of Chernnitz, the question that was set at the Architekturforum of 1995[10] was how can future development synthesize the heterogenous fragments of the
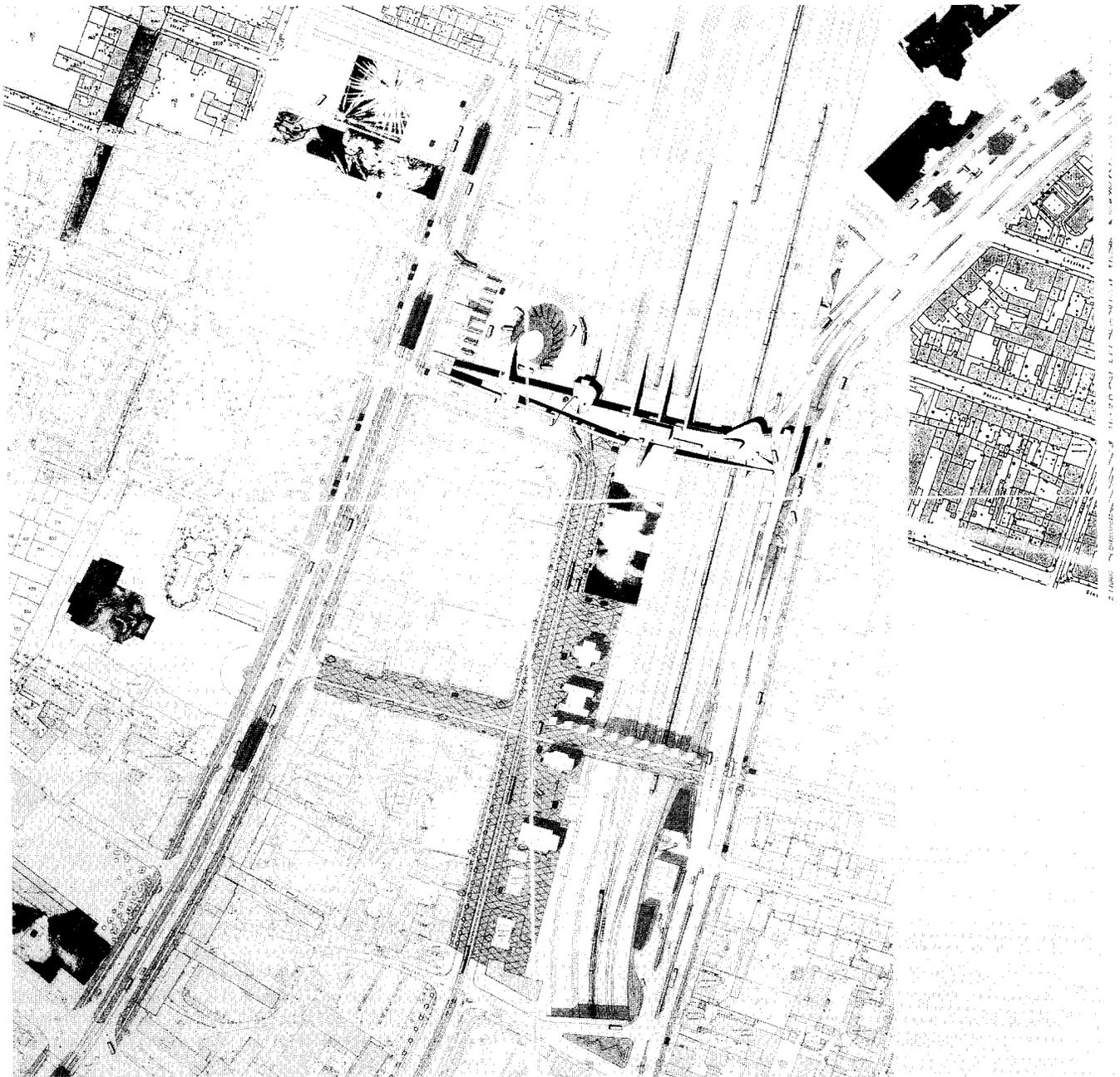
Fig. 1

historic center of Chemnitz - in particular, the relationship between the bus and railway stations and the three main boulevards they intersect. This question is complicated by the dramatic increase in the ownership of private automobiles and the appearance on the periphery of large shopping centers. There are two elements to our project: a new facade structure, a fifteen to thirty-meter-wide concourse, that functions as an east-west connective element, set within an atrium, inserted into the front of the existing station shed and the recasting of the three main north-south boulevards that intersect the station and are structuring elements in the city center. The boulevards have been re-designed for three

specific urban roles — a boulevard for moving people by varied means of public transport; a boulevard that is a sequence of hard landscapes; and, a boulevard for moving private vehicles at fast and slow speeds. The driving lanes, pavements, street furniture, and kiosks as well as landscaping along each boulevard have been designed to suit the different character of these urban environments. Thus the project consists in the modification of the existing program and form of the north-south boulevards, which intersect the new station access zone, whose program, just as the streets it connects, is flow and interchange. The architecture of the station building and the boulevards is a filter for different

Fig. 2

kinds of traffic which reconciles the contradictions in a city that is scaled to both pedestrians and automobiles.

What seems relevent to both planners and designers is not so much cars or highways but rather the effects of the requalification of infrastructure — which is understood to include vehicles, the roadscape and the social dimension of traffic on contemporary urban life. The system of streets, boulevards and highways have capacity for a much greater variety of use — and a much greater potential as interactive structures in the grammar of city building. How else can our ever expanding cities — the regional multi-centered city — function and provide its citizens with the mobility and access?

NOTES AND REFERENCES

[1] Oakley, CA The Second City Blackie, Glasgow 1967 p 259-6

[2] Paternoster Square   Paternoster Associates   Greycoat PLC London 1990

[3] These questions and others are addressed in the following articles: Crawford, M + Wachs, M (eds.) *The Car and the City: The Automobile, the Built Environment, and Daily Life* p 274-84 U Michigan 1992; Lave, C "Cars and Demographics"

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[4] Webber, M 'Order in Diversity: Community without Propinquity' *Cities and Space: The Future Use of Urban Land* J Hopkins 1963 and 'The Urban Place and the Non-place Urban Realm', *Explorations into Urban Structure,* University of Pennsylvania, Philadelphia, 1964

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[6] Jackson, JB "On the Road: Behind the Wheel or on Foot" *Casabella* no.586-587 jan-feb 1992, also: "Truck City" *A Sense of PLACE, a Sense of TIME* Yale, NH 1994 p 171-186

[7] Gruen, V "Cityscape and Landscape" *Arts and Architecture* Sept 1955 p 18-37 also: Ockman, J ed.*Architecture Culture 1943-1968* Rizzoli 1993 ,

[8] 'Main Street' Development Newsletter Chapel Hill, NC

[9] From an unpublished interview with Bernardo de Sola (with Albert Ferre) 1995, see also Font, A 'Edges and Interstices: The Ordering of the Borders of the New Barcelona Ring Road' *Quaderns* 193 p 112-19

[10] unpublished proceedings of the Architekturforum Chemnitz May 6-14 1995.