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## Campus and the City – A Joint Venture?

The changing relationship between the campus – both academic and corporate – and the city is transforming urban realities. Worldwide, universities and their host cities are evolving into 'knowledge cities'. University and corporate campuses thereby not only take on a central role for the cultural, economic and social development of the city, they are also establishing themselves as laboratories for a new *Denkkultur*. Classical inner-city universities are devising schemes to rejuvenate themselves in a manner that will also benefit their home cities, and greenfield campus universities are in many instances developing a new urbanity in their suburban settings. In addition, a number of new university districts are currently being constructed, especially in Asia, and the campus typology is increasingly emerging as a motor for innovation and synergies outside the academic context in high-tech clusters and corporate centres. In all these developments, different aspirations come variously to the fore: from spatial organisations promoting internal knowledge transfer and social interaction to strategies that foster urban life or dynamic integration with an existing urban context. Without exception the aim is to create an environment that can best nurture the dynamic synergies needed to create sustainable centres of knowledge and learning: incubators of innovation that can flexibly respond to the rapidly changing demands of the knowledge society.

### Greenfield Campus – From Monoculture to Urban Life

Current trends in campus design represent a major turnaround from the monofunctional and isolated greenfield campus, the prototypical model for university development in the 1960s and 70s. The ETH Hönggerberg, for example, is just such an ensemble of monolithic teaching and research facilities forming a cloister-like enclave in a natural open landscape setting where the idea was to provide the solitude and calm thought to be conducive to study and contemplation. However, that same introversion and separation from the city – once seen as advantages – have isolated these

campuses from other civic structures and public life, and hence do not nowadays provide the right environment for the modern knowledge society to flourish. Consequently, many greenfield campuses are now functionally, economically and socially outdated and in dire need of restructuring. ETH Zurich's Science City project and the Uithof campus of Utrecht University show how the development of specialised science clusters and the simultaneous diversification of programmes can turn the monocultural campus into a thriving and innovative urban science district. Similar examples loosen up and enliven the existing academic compounds with smaller structures and (re-)densify them with civic amenities, commercial activities and housing to make them more liveable as well as to create a more welcoming and open image for the university. Typical examples of this are the redevelopment of TU Delft into Delft Technopolis and the Zernike Complex in Groningen. The San Vicente Campus of the University of Alicante was obliged from the outset by its remote location to transplant and develop urban structures on site. Its expensive infrastructures, communal facilities and economic structures also benefit the surrounding neighbourhoods, which would not be able to afford them on their own account.

While the validity of the introverted and elitist campus is being questioned in the Western world, since this 'ivory tower' typology lacks the architectural qualities necessary to reintegrate the university into the public urban realm, it is the prevailing model in emerging Asian economies. Guangzhou University City – one of the largest, if not the largest, university complex in the world – is currently being constructed in total isolation on an island in the Pearl River Delta. This campus city has everything a person might need for working and living, and provides housing for all the university students and the majority of faculty and administrative staff including those working in the support services, as is often the case in China. When it is completed it will have up to 200,000 students and over 350,000 residents.

**High-Tech Campus – Synergies between Science and Business**

Campus design is not limited only to the academic realm. Following the prime example of Stanford University's Research Park, which sparked the rapid growth of Silicon Valley, spin-offs, start-ups and even fully-fledged

technology parks choose to settle in and around universities in order to profit from the close proximity to scientific research and resources. In the case of the University of Bremen, the core of the academic buildings was first densified and then extended with public research bodies, such as the Fraunhofer Institute and the Max Planck Institute, as well as private firms specialising in innovative research and production.

Berlin Adlershof is a similar but even more comprehensive high-tech complex that incorporates the whole spectrum of a science city to the campus of Humboldt University. A technology park, a media city, industrial estates, a residential area, a recreational park, all sorts of communal facilities, and numerous start-ups and spin-off activities have turned Berlin Adlershof into an urban catalyst for the area – a self-sustaining 'city within a city'.

By contrast, the MobileLifeCampus in Wolfsburg is a completely new high-tech campus. Commissioned by Volkswagen with the aim of cultivating creative synergies between science and industry, it has been set up as a 'platform for innovation', to use the company's own terminology. The main tenant is Volkswagen's AutoUni that supplies Volkswagen with applied knowledge, so that the company can retain its competitive edge in a globalised economy. The architecture of the MobileLifeCampus articulates the notion of a dynamic knowledge-cluster through an interlocked ribbon structure: diagonally interlocked spatial corridors represent the close interlinking of the diverse disciplines and fields of expertise. The architect Gunter Henn presents the resulting network of streets and places as a vision of a new campus type, the 'communication campus'. However, the campus itself is situated on a hill like a conventional greenfield university, directly adjacent to the Volkswagen plants at the edge of the city.

High Tech Campus Eindhoven has made a dramatic transformation from belonging exclusively to the Philips Group to opening itself to all comers in an effort to profit from the dynamic synergies that are generated as a result. In a sense, this development mirrors the Silicon Valley effect, where uncontrolled development is allowed to take place. And a similar development is seen in 'Silicon Fen' – England's Silicon Valley – where the firms, individuals science parks that make up the Cambridge Cluster have set up information networks and lobbying structures in order to further their interests and optimise their development and that of the region as a whole.

### Corporate Campus – Closed or Open to the Public?

As the examples of Volkswagen's MobileLifeCampus and Philips's High Tech Campus show, global corporations are also increasingly seeking urban design strategies that will encourage inventive and creative potential within their management and research centres and are looking to the academic and high-tech campus as a development model. If modern urbanism can be characterised as the concentration and collision of different cultural, political and social worlds in a defined space, an important prerequisite is the openness of this space to the outside world. The Nike World Campus in Beaverton, the Vitra Campus in Weil am Rhein, and the adidas Group Herzo-Base in Herzogenaurach are three corporate campuses that can be characterised by their varying degrees of openness.

All three corporate campuses provide excellent working conditions and a wide range of amenities for their employees. They are also all traditional, closed compounds that are only accessible to employees and business-related individuals, although this is slowly changing. The Nike World Campus is still closed to the public, but its measures to make its campus operations more environmentally friendly, especially with respect to mobility, have found positive echoes in the business community and have enhanced the company's image. Since 1981, Vitra has built a series of architectural and cultural landmarks on its home terrain in Weil am Rhein, such as the Design Museum by Frank O. Gehry, that not only allows the public to gain a closer look at Vitra, but also encourages interaction among employees, the work environment, clients and visitors. This reciprocal relationship not only has a positive influence on the company's products but also on the urban context. As a result, the company has become a pioneer among companies now opening their gates to the outside world. The adidas Group Herzo-Base in Herzogenaurach even goes one step further by integrating the public into the concept of the campus. While the World of Sports headquarters is still gated, the World of Commerce, World of Living, and Public World with housing, industrial and public zones act as an interface with the outside world.

Another vision of interaction pushing the boundaries of campus architecture is the Novartis Campus in Basel. Like the MobileLifeCampus, the Novartis Headquarters is to be developed into a 'Knowledge Campus'.

Formerly a production-oriented site, it is currently being transformed into a high-performance workplace with optimal conditions for communication and collaboration. Local and internationally renowned architects have been invited to contribute spectacular architectural gems to the carefully orchestrated master plan by Vittorio Magnago Lampugnani. With this high-quality architectural ensemble, Novartis – like the nearby Vitra campus in Weil am Rhein – affirms its belief that, besides projecting certain qualities or an image to the outside world, the architecture of a building can significantly influence the work going on inside it. According to Magnago Lampugnani, the Novartis Campus should become an authentic city district, with avenues, squares, parks, cafés, shops – only residences seem to be missing. Here again, one has to question whether the desired urban life will evolve since the campus also forms a closed enclave reserved exclusively for the Novartis community's scientific elite.

If corporate campuses represent typically closed communities that are opening to varying degrees to the public, Benetton's strategy to engage in the local community and region creates positive synergies in revolutionary ways. Instead of just welcoming in the public, it invests in it, and this has many far-reaching ramifications from which the business profits in sometimes surprising ways. In all cases, the creation of identity and implementation of reliable corporate values are increasingly viewed as essential, not only for public relations purposes but also for the smooth and efficient functioning of the firm as a whole.

### The New Urban Campus – From City Campus to Campus City

The innate disadvantages of the monocultural structures of inner-city campuses such as ETH Zentrum, IIT, and MIT are partly alleviated by their favourable locations in the heart of the city. In effect, the city and the campus interact with each other, influencing each other's development. The surroundings become more oriented towards the university while providing fertile ground for potential expansion, if not officially annexed then at least through the establishment of incubators and businesses associated with the university; a typical example of this is currently taking shape in Zurich where plans are being finalised for a *Kulturmeile* to be jointly developed by ETH Zentrum, the University of Zurich and Kunsthaus Zürich.

In many respects, the inner-city campus, which seems to optimally fulfil the demands of the knowledge society, could be a suitable model for the contemporary university. Harvard is often cited as a campus that is connected with its urban context. The threshold between the campus and the city is barely perceptible: academic buildings mingle with urban facilities and intellectual exchange and academic life are strengthened through the informal exchange resulting from the close proximity of classrooms, services and living quarters. A conscious effort to further these synergies can be observed in Harvard's large-scale campus expansion plans for Allston, a former industrial area on the other side of the Charles River of its main campus. Harvard intends to develop this site into a mixed-use urban university district within the next 20 to 50 years, integrating academic developments with public functions. In addition to new science clusters, the plan comprises housing, retail, art and culture, and leisure facilities for both the university and the Allston community.

Istanbul Bilgi University is an alternative and highly innovative example of an urban campus university, which both benefits and profits from the city. Distributed across three campuses built on former industrial sites in the midst of the city, the academic community at Bilgi also plays a part in the urban life of Istanbul. Together the campuses form a network of clusters, with knowledge and culture production driving the regeneration of these areas and fostering direct exchanges with the surrounding neighbourhoods.

As we have already seen, the suburban campus has the potential to transform outlying areas into booming urban agglomerations that can crucially affect the development of an entire region; typical examples of this are seen at Stanford University and in Silicon Valley, where developments initiated and partly steered by the university soon took on a life of their own. Another tendency that can be observed is the evolution of suburban campuses into miniature cities in their own right. However, in the case of Berlin Adlershof, Uithof, and ETH's Science City, efforts to bring urban life to a greenfield campus paradoxically reinforce rather than eliminate the sense of separation from the city. These campus projects develop into more or less self-contained autarkic districts, which incorporate or rather imitate all the functions of the traditional city.

## Prospects – Enclaves versus Open Interaction

The desire to enrich academic life with urban life and to project a certain image is often the prime consideration in plans to expand and retrofit campuses today. Space is no longer designed simply to house human activities, but rather to actively influence these on various levels. In the academic and corporate realm, many institutions are attempting to reintegrate themselves, both ideologically and physically, into the urban environment. The resulting mixed-use urban quarters integrate university and/or economic developments with local and public functions in an attempt to create a sustainable campus as well as to foster a lively sense of urban community. Often this form of openness and interaction is seen as having potential for both the institution – be it academic or corporate – and its urban surroundings; in the best-case scenarios this process tends to accelerate structural and infrastructural changes promoting long-term economic growth and stability for all.

Corporations are presented with the difficulty of portraying a strong identity to the outside world on one hand and, on the other, of not being able to allow the public to access company grounds for security reasons. In this situation communication has to operate on another level, often through virtual media and outreach. New corporate campuses attempt to compensate for the missing element of openness with an artificial urbanity – or the local engagement of Benetton, or the environmental agenda of Nike. On an architectural level, the question is whether diagrams can be directly transformed into built architecture with all of its complexities, as in the MobileLifeCampus, and whether this strategy provides the desired enhanced interaction and innovation. Whatever the case, corporations and universities alike are forced to come to terms with a new reality – the success of their future development is very much linked to the environments they produce and the atmospheres they create and these can be influenced at many more levels than has been previously realised.

## Essays and Collection

This book seeks to further a discourse in which campus architects and planners may constructively exchange hard-won insights with representatives from political, economic and social sectors. The latest tendencies are

discussed in a series of essays where practitioners and experts in the field examine international examples. The essays and the subsequent thumbnail sketches of 30 selected campuses shed light on possible future trends and how they relate to the social, cultural and economic urban context.

The authors of the essays present a range of visions of the campus present and future, from its ideological roots to the ingredients needed to create thriving science districts with urban qualities. Gerhard Schmitt and Werner Oechslin open and close this section by focusing on the basic needs and purposes of universities and the challenges they pose. Schmitt emphasises the necessity for a shared vision created by participatory yet steered planning processes, complementary programmes and an integrated sustainability concept that builds on the local and global network. Oechslin takes a very different approach, advocating a careful look back at the universities' architectural and ideological origins. As well as considering the meaning and visibility of the university in modern urban society, he also assesses its prospects for the future.

Andrea Deplazes looks to the historical evolution of campus to point to its proven potential as the foundation of a city; at the same time, with all the talk of virtual networks he also insists that nothing can replace the vitality of the true city. Kees Christiaanse goes one step further by pointing out how campus universities can serve as catalysts for true urban conglomerations, as Stanford and Silicon Valley have already shown. Both Kees Christiaanse and Art Zaaijer demonstrate how the concept of remoteness in a clustered deconcentration combined with a balance of mixed uses or complementary clusters can be a means to reconcile the suburban campus with the contemporary agglomeration. Rather than concentrating solely on the generative potential of the campus, in his designs for the newly founded University College Utrecht Zaaijer also attempts to connect the campus back to the city.

Edzo Bindels and Vittorio Magnago Lampugnani emphasise the importance of the urban public space, which is often neglected in campus projects, turning the campus discourse to the landscape or urban environment where connectivity, pedestrian and public transport networks and possibilities for formal and informal exchange play a key role. The Leer Park project in Dordrecht is an effective engine of urban and social revitalisation,

while the Zernike and Novartis campuses – albeit beautifully designed – are marked by their isolation or gatedness. Here one is confronted by the limiting factors of the greenfield and corporate campus.

As with Leer Park, the projects presented and designed by Riken Yamamoto focus on social interaction and networking, but comprehensively, that's to say, also with regard to architectural detailing and internal organisation. In the Saitama Prefectural University, for example, the architecture becomes the connective landscape – a coherent network of high quality, permeable open spaces that connect two colleges and also serve as a park for the neighbourhood. Similar to the MobileLifeCampus, the campus lies like a some kind of a spaceship in the landscape. The projects by Yamamoto and Henn are both about the direct physical expression of networks – a device for cultivating communication, the ultimate guarantee of the strategic flexibility required by fast-changing needs.

Zhu Wenyi introduces the reader to the megalomaniac reality in China and shows how the Guangzhou University City Group 3 project, a campus of colossal dimension, might be harmonised and humanised. This project also reflects the strong cultural elements that come into play in any campus design.

Janne Corneil and Philip Parsons' practical experience with academic campuses and Wilhelm Natrup's with high-tech parks highlight the extent to which universities, private research institutes and companies alike act as generators of knowledge and innovation as well as identity-forming entities for the campus and the city. These, in return, use the image of these institutions to promote themselves and get ahead in terms of locational competition.

All the authors point out the importance of promoting informal exchange, culture and urban life – according to Corneil and Parsons, a European advantage. Bindels, Corneil and Parsons, Christiaanse, Deplazes, Magnago Lampugnani, Natrup, and Zaaijer for their part focus on urban space and the importance of the relationship with the city as a social and economic backbone for the advancement of the campus. Henn, Wenyi, and Yamamoto explore new possibilities for creating an architecture that fosters transparency and interaction. Schmitt and Steinmetz leave us with the ever important issue of sustainability at all levels of campus planning and design,

while Oechslin reminds us that "The hardest, most demanding task arises from the need for 'prospective', goal-oriented 'speculation', to achieve what is new and not even known yet."

The discourse comes to a head in the simultaneous emergence of two contradictory trends: on the one hand, the dominant trend to create projects that reconcile and reintegrate large-scale institutions with the surrounding urban tissue into open, communicative structures. This trend is mirrored in architectural themes such as transparency, a human scale and open spaces for informal exchange. On the other hand, there is the persistent trend towards gated communities, turning campuses into self-sufficient cities under the guise of efficiency, economy and security, but also sometimes out of necessity. That these trends are not entirely counter-productive and sometimes are even complementary is evident. Each of the campuses featured in this book has found a unique strategy – based on its individual vision for the future – to deal with this conundrum. To what extent the desired development will match the intent is something that time alone will tell.