

Urbanism as a stimulant for interactive minds: the new engineering precinct in context

by Anton de Jongh

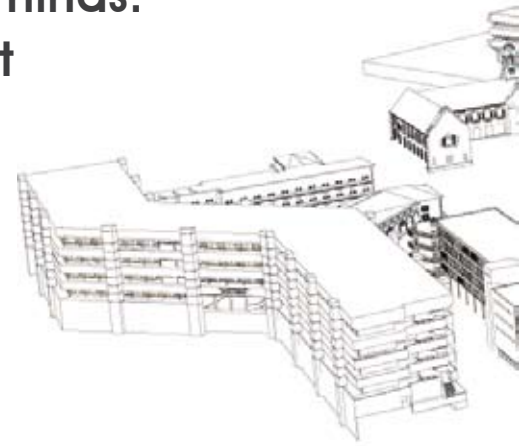
The University of Pretoria's new Engineering building and interphases with its surrounds have certain similarities to the thriving community that was Iron Age Mapungubwe.

Seven centuries prior to the day the existence of Mapungubwe (in the Limpopo Province) was revealed to the University of Pretoria (UP), a civilisation existed and was confronted with challenges little different to those of today. Food production, sustainable water resources and the storage of these resources are fundamental to any civilisation and require innovation and engineering skills. To evolve and partake in the remote competitive trading environment of Great Zimbabwe required that the inhabitants hone their skills in mining, bead-making and jewellery-making, transport and many others. It may well have been the exposure to the convergence of these ideas and skills that further fuelled the innovative culture of these people... to the point that they were flexible enough to relocate to the north.

South Africa has inherited a political, social and commercial legacy of compartmentalisation and segregation. Fortunately, the

phenomenal growth in access to electronic information, in conjunction with the implementation of one of the most progressive constitutions internationally, has changed the social/intellectual landscape dramatically. Computing capability is constantly increasing, and so does man's ability to acquire knowledge. Factors that affect the rate of growth include the increased availability and variety of educated people, cross-pollination of ideas between previously segregated areas of science and culture, silicon-based tools of computing and communication and an increased understanding and enhancement of the process of thinking and creative thought. These include psychopharmacology, cognitive science and the study of memes as replicators.

Due to the convergence of the human brain's growing capability and the availability of information, educators will advise that learning, as a linear process, is enhanced by the ability of the individual to randomly attach and assimilate information. This process should not be limited to cyberspace, but should be proactively promoted in the built environment. Progressive corporates have recognised this



phenomenon and have planned their corporate environments, as horizontal interactive workspaces, to promote the movement and interaction of staff of all designations, in the pursuit of innovation.

It follows logically that the built environment of the University's Engineering precinct should not only enhance the learning experience, but should also promote interaction with science, culture, the arts, social skills, sustainability, respect for the environment and heritage, as well as the expression of views.

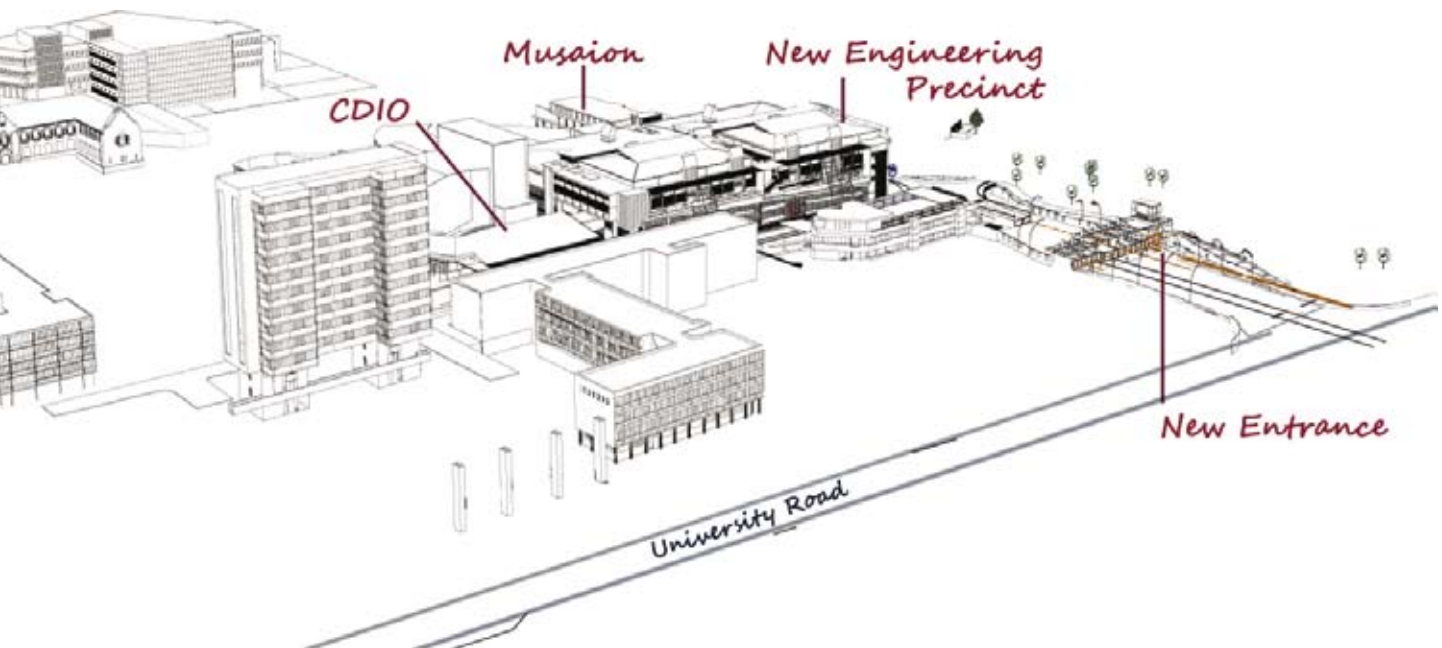
Urban interaction

With the Old Arts Building as main focal point on the Hatfield Campus of UP, the urban landscape began to take shape in 1912 when the planting of the tree avenues was commissioned. This later defined the main axis and central student space of the campus. The twin converging axes were established and defined by College House and the Old Club Hall, as designed by the Department of Public Works and Gerhard Moerdyk respectively. The Aula complex followed, but extensions to the stage tower blurred the original intent of the master planners.

The new development seeks to recreate the clarity of the campus's urban landscape through the



→ The parkade approached from the new entrance in University Road.



introduction of a cultural spine, which defines the convergent axis and elevates points of convergence, as people spaces. As people move along the spines, they are subliminally drawn into interactive people spaces and are exposed to social events, heritage, the arts and an exchange of ideas.

Due to pressure on the availability of space and infrastructural requirements, the urban landscape is layered. This aspect creates the opportunity to link into the existing elevated pedestrian walkways via the Aula deck. The main Engineering concourse becomes the second

connectivity spine, linking with the existing engineering precinct, the Conceive, Develop, Implement and Operate (CDIO) space, the Musaion music library and the Aula. This innovation puts movement-impaired people in the mainstream, as they will have direct access from their vehicles to all aspects of campus life. The CDIO space is placed in a convergent node, stimulating interaction and the cross-pollination of ideas.

Architectural response

The architecture is responsive to the urban context. It seeks to be anti-

iconic and would rather provide a transparent view onto a landscape, a square or the inherited building fabric. It transcends the realm of its built fabric to create positive internal and external connectivity between spaces, thus providing the canvas to introduce interactivity and communication in a flexible environment. ➔

References

1. Bacon, J (2006). *The parallel bang*. Normandy House Publishers. Houston, Texas.
2. Schoeman (2004). *Mapungubwe and Great Zimbabwe*. [Online] Available at: www.southafrica.info. Date accessed: 2009/07/23.
3. [Online] Available at: www.mapungubwe.com/cultural.htm. Date accessed: 2009/07/23.



➔ Innovative use is made of natural vegetation to cool the building.



Anton de Jongh is the managing director of ARC Architects (Pretoria). He graduated from the University of Pretoria in 1981 with a BArch degree and is the principal agent of the University of Pretoria's Engineering Building Parkade Project.