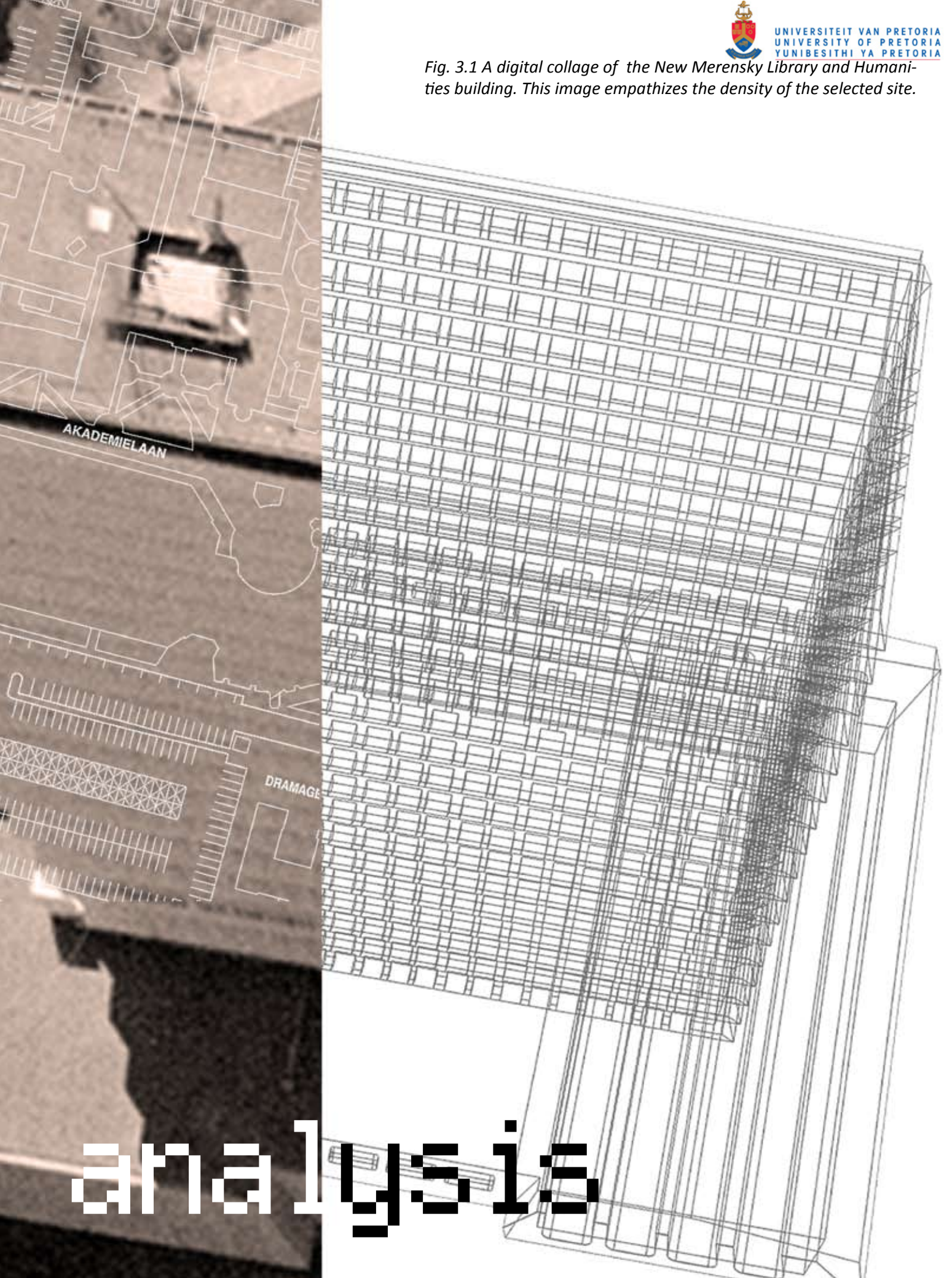




3.site

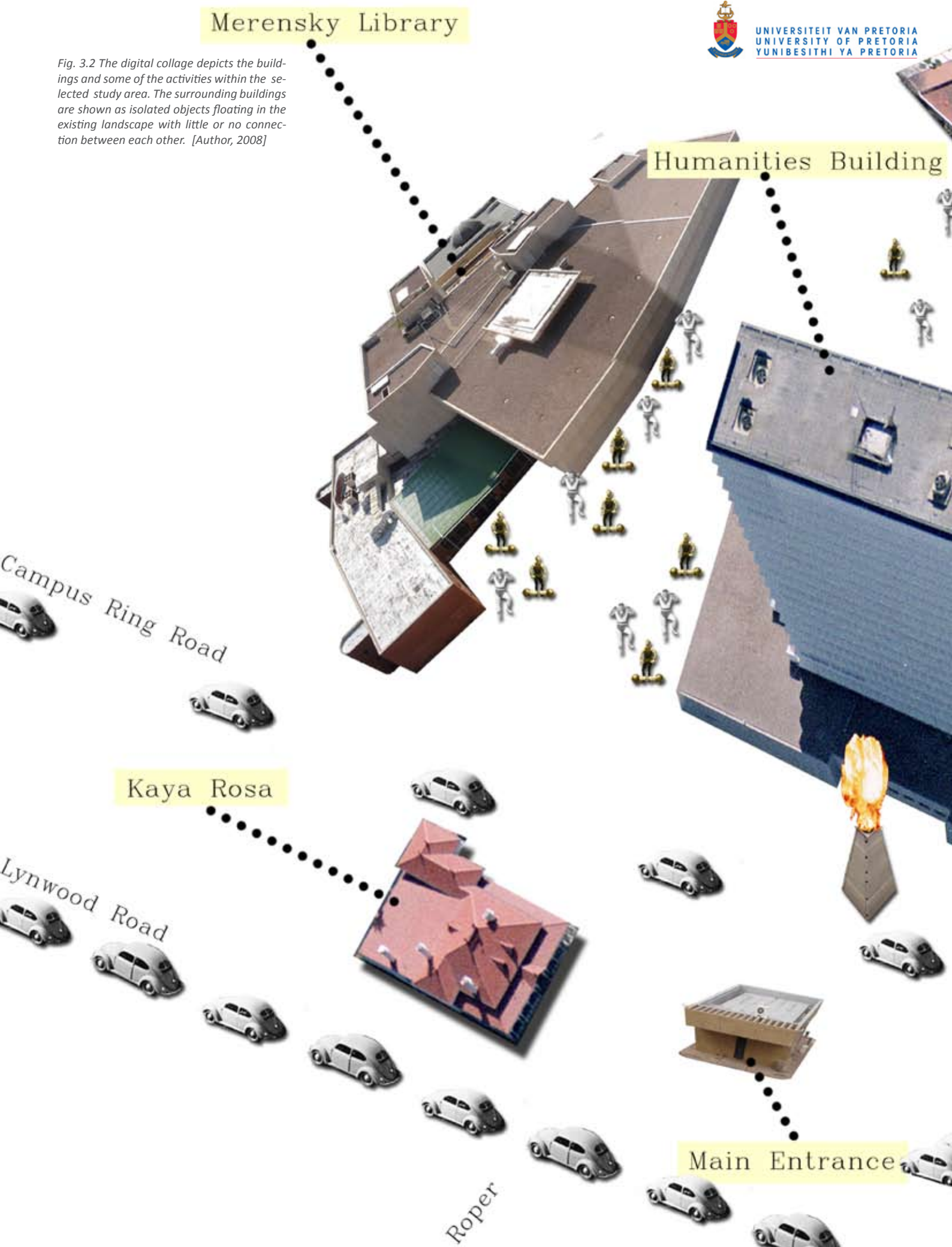


Fig. 3.1 A digital collage of the New Merensky Library and Humanities building. This image empathizes the density of the selected site.



analysis

Fig. 3.2 The digital collage depicts the buildings and some of the activities within the selected study area. The surrounding buildings are shown as isolated objects floating in the existing landscape with little or no connection between each other. [Author, 2008]



Humanities Building

Kaya Rosa

Main Entrance

Campus Ring Road

Lynwood Road

Roper

Student Centre

TUKS FM
Broadcasting Station

Piazza

Economic & Manage-
ment Sciences

International Students

Parking

3.1 Site Selection

The site for the proposed intervention is located on the main campus of the University of Pretoria, and includes both the Humanities Building and the Department of Library Services. It is positioned directly behind the main vehicular and pedestrian entrance of the university, west of Roper Street, north of Lynnwood Road and south of the University of Pretoria Student Centre.

The site has design potential with regards to its location, dense campus setting and iconic image. However, any intervention faces a range of problematic issues. The podium of the Humanities Building functions in complete isolation from its surroundings. Both the library and the Humanities tower were designed on a monumental scale, with very strong edge definitions. The buildings do not relate well to the surrounding environment, and traversing the spaces between them proves intimidating and overpowering at times. When observed from inside out, the user finds that light quality is ignored, with few windows and minimal natural light penetration allowed.

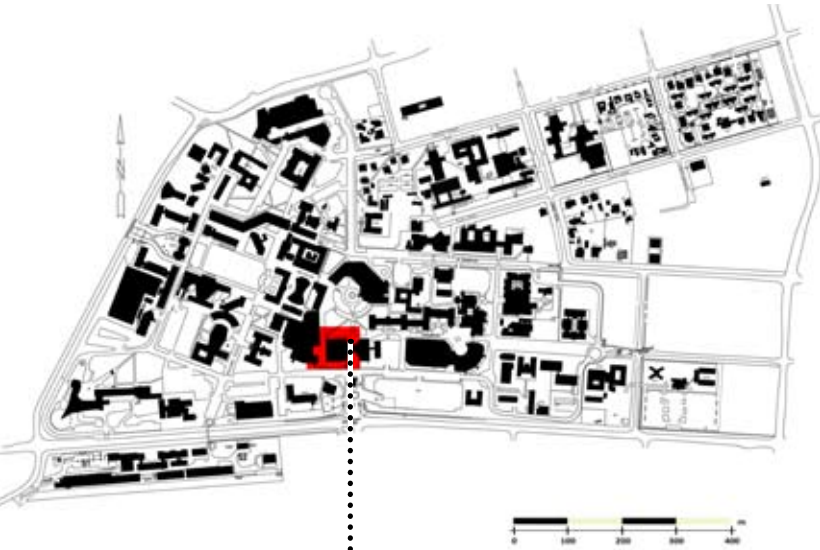


Fig. 3.3 Figure ground map of main campus with location of selected study area.



Fig. 3.4

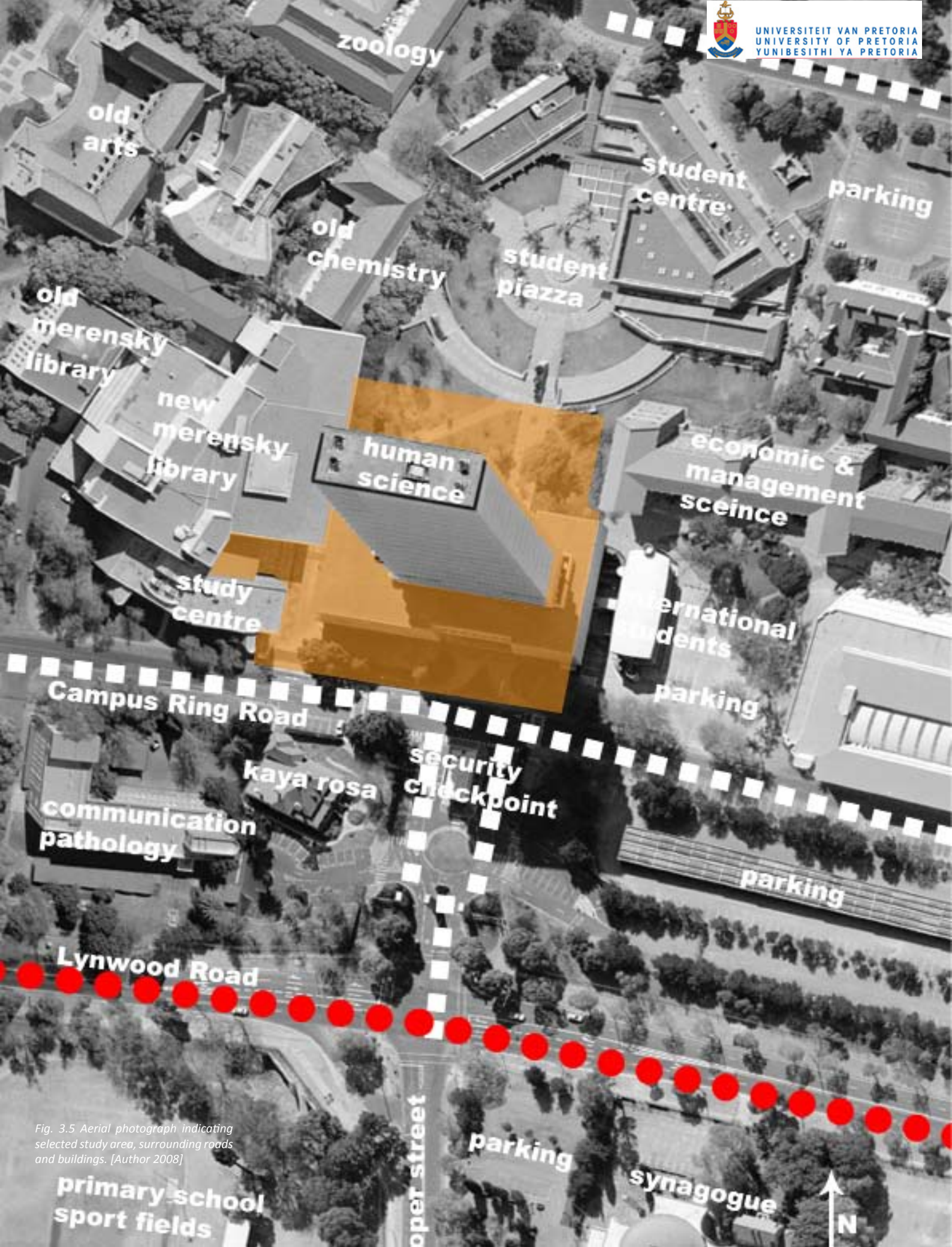


Fig. 3.5 Aerial photograph indicating selected study area, surrounding roads and buildings. [Author 2008]

3.2 Contextual Response - Surrounding Buildings

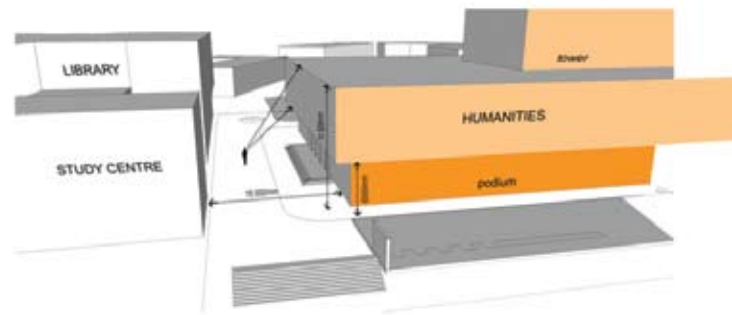
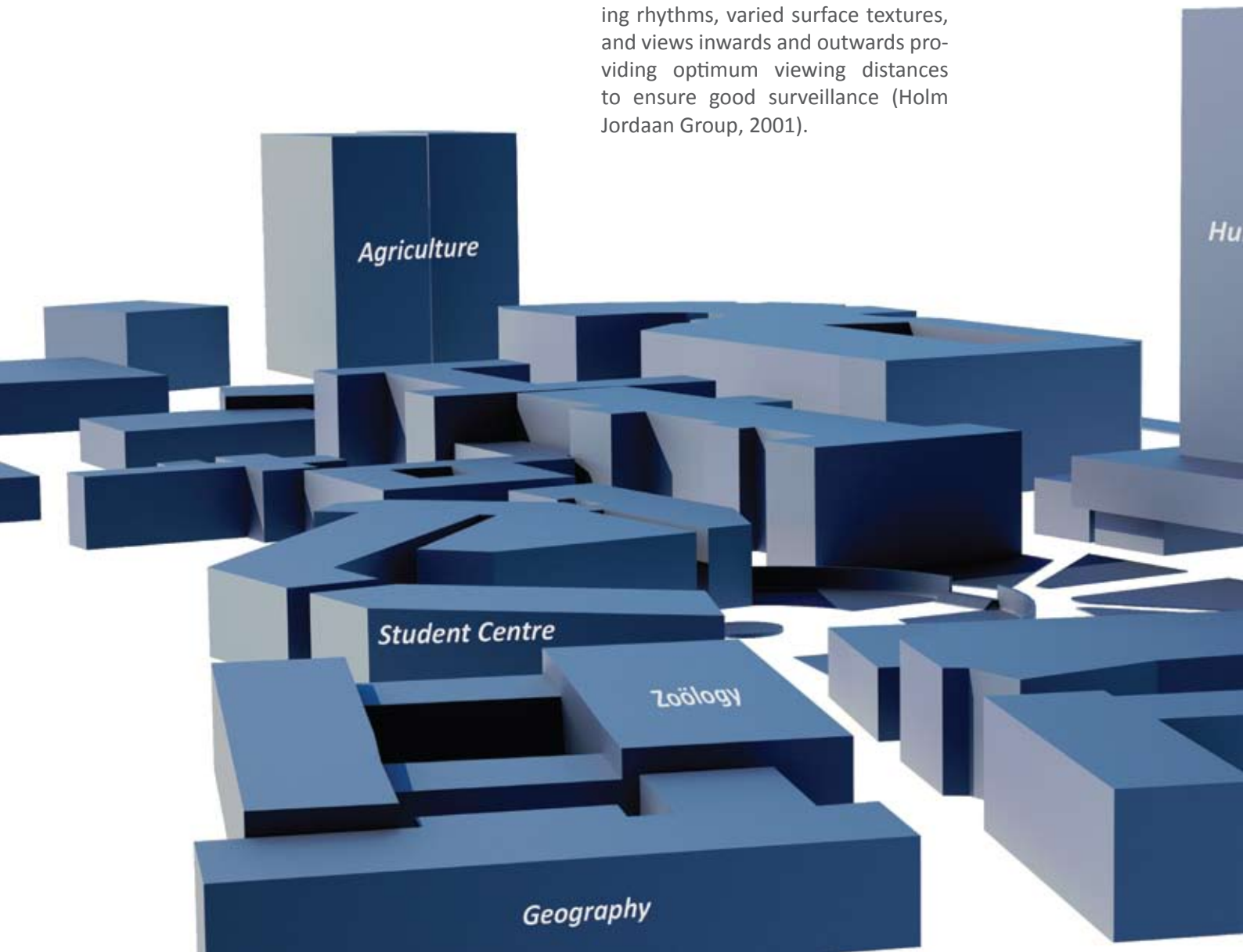


Fig. 3.6 3D diagram illustrating the scale of the space between the Human Science building and the Academic Information Centre. [Author, 2008]

Scale: The battle for quality is won or lost at a small scale.

The building should take account of human scale and proportions, movement on foot and the full range of the senses, including fine-scale articulating rhythms, varied surface textures, and views inwards and outwards providing optimum viewing distances to ensure good surveillance (Holm Jordaan Group, 2001).



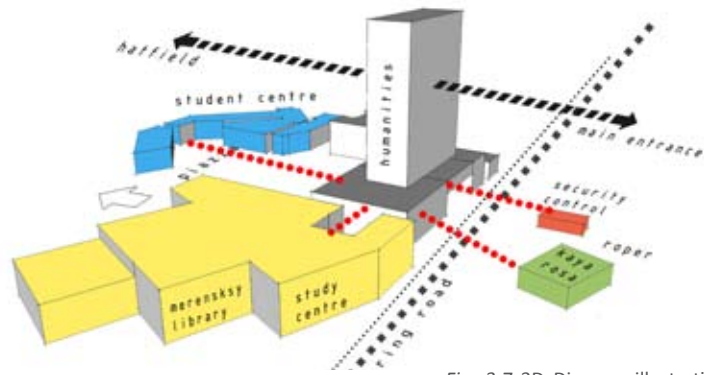


Fig. 3.7 3D Diagram illustrating site context, views and main circulation axis. [Author, 2008]

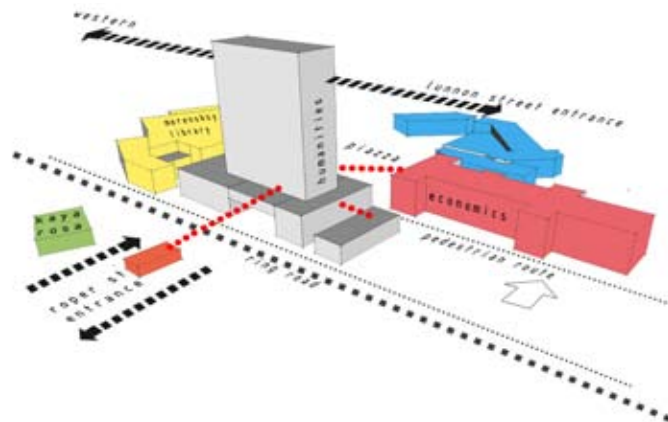


Fig. 3.8 3D Diagram illustrating site context, views and main circulation axis. [Author, 2008]

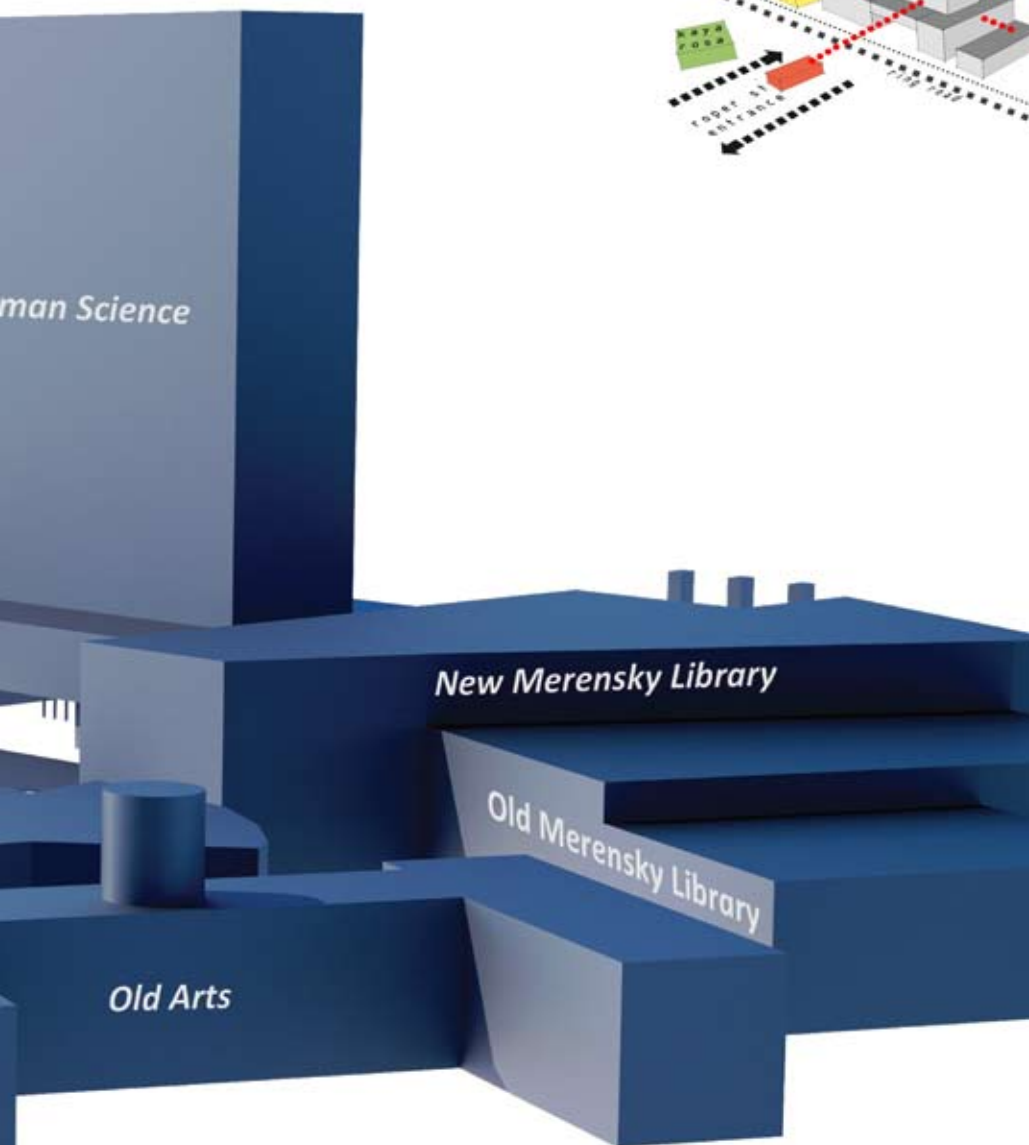


Fig. 3.9 3D rendering of the central part on the main campus of the University of Pretoria. View from East towards West. [Author, 2008]

3.3 Climatic Data

Steppe climatic zone.

Temperatures

Minimum monthly average is 4.5°C in Jun/July.

Maximum monthly average is 28.6°C in January.

Mean annual rainfall:

Approximately 700mm, of which 80% falls in summer

(November - March).

Precipitation is mainly in the form of heavy thunderstorms, sometimes accompanied by falls of hail.

Humidity

Average monthly humidity: 59%.

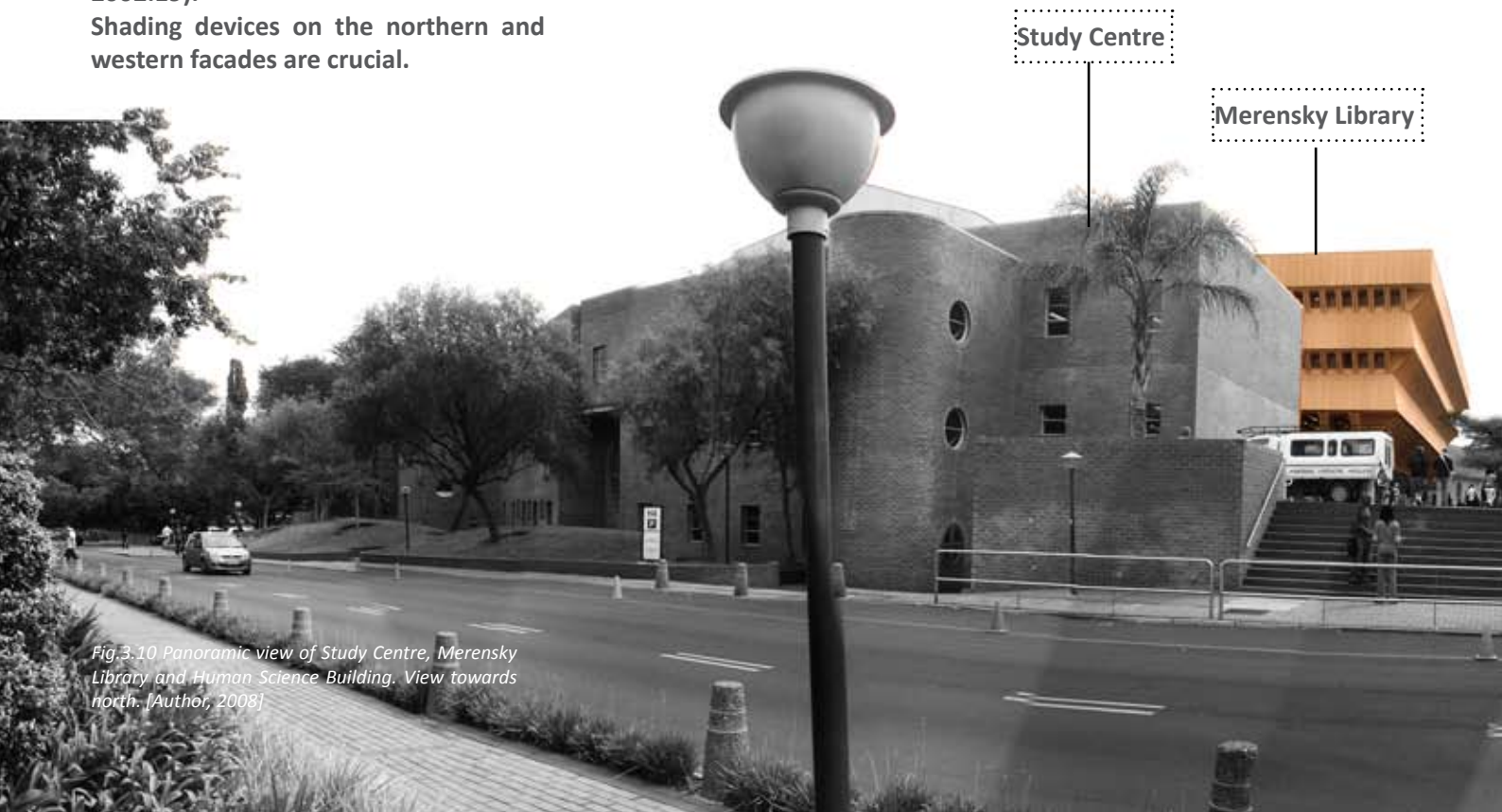
Vertical sun angles

Summer solstice (21 March / 23 September) – 64.24°

Winter solstice (22 June) – 40.73°

Solar incidence is high in the Pretoria region with a maximum of 80% sunshine in summer and a minimum of 67% sunshine in winter. The percentages translate into solar radiation energy as 8Whr/m²/day in summer and 4.5Whr/m²/day in winter (AAL 310, 2002:19).

Shading devices on the northern and western facades are crucial.



Study Centre

Merensky Library

Fig.3.10 Panoramic view of Study Centre, Merensky Library and Human Science Building. View towards north. [Author, 2008]

Wind channels are generated as a result of the scale and density of the existing fabric surrounding the site. This alters the micro-scale atmospheric pressure, increasing wind velocity. The area between the Department of Library Services and the Humanities Building becomes an intense wind channel during late winter.

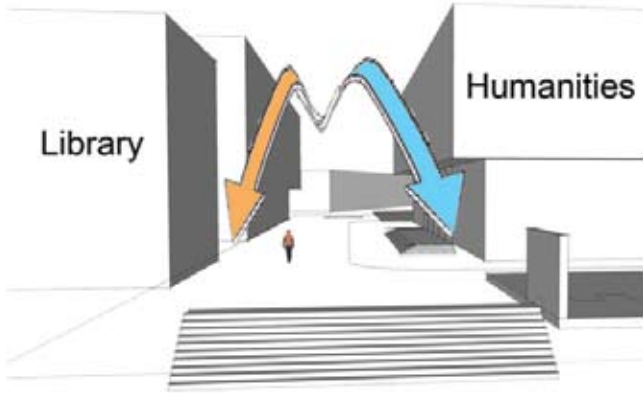


Fig. 3.11 3D model demonstrating wind channeling between Human Science Building and the Academic Information Centre. [Author, 2008]

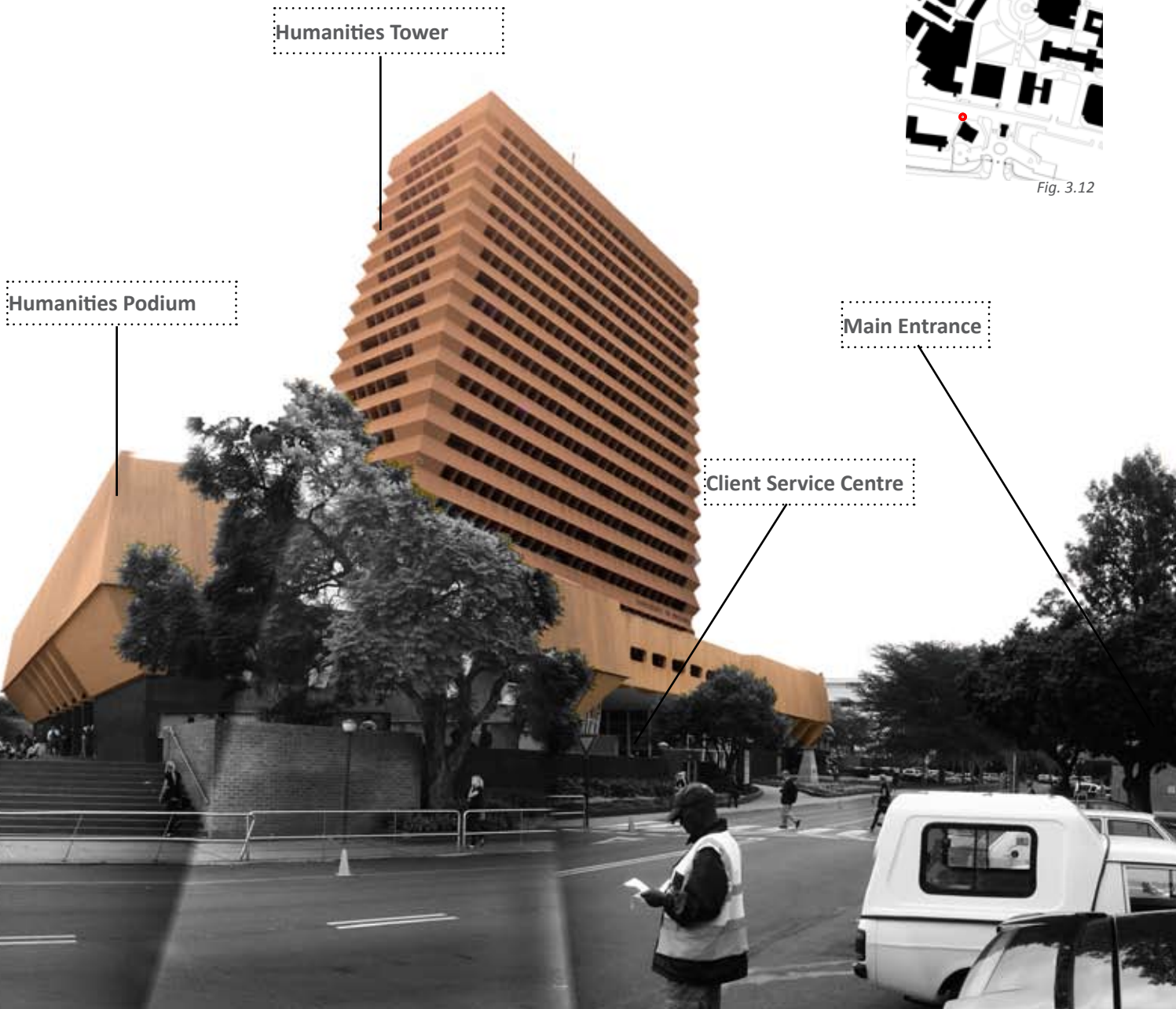


Fig. 3.12

Winds

Winter: South-Western and North-Eastern.

Summer: East /North-Eastern to East-South Eastern

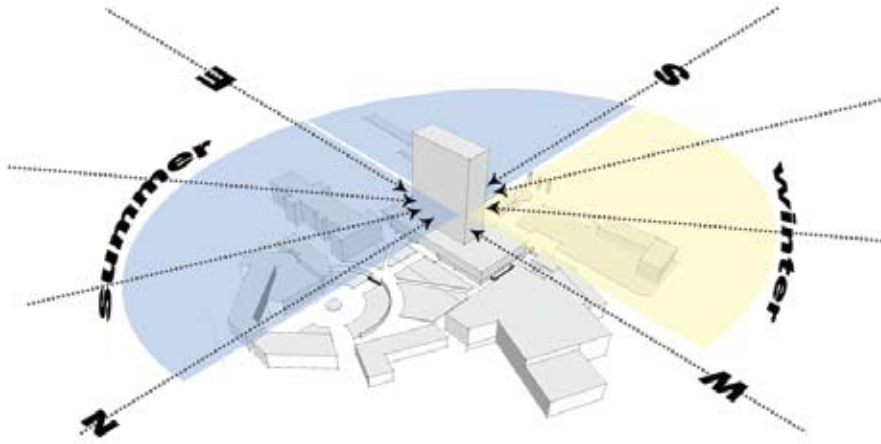
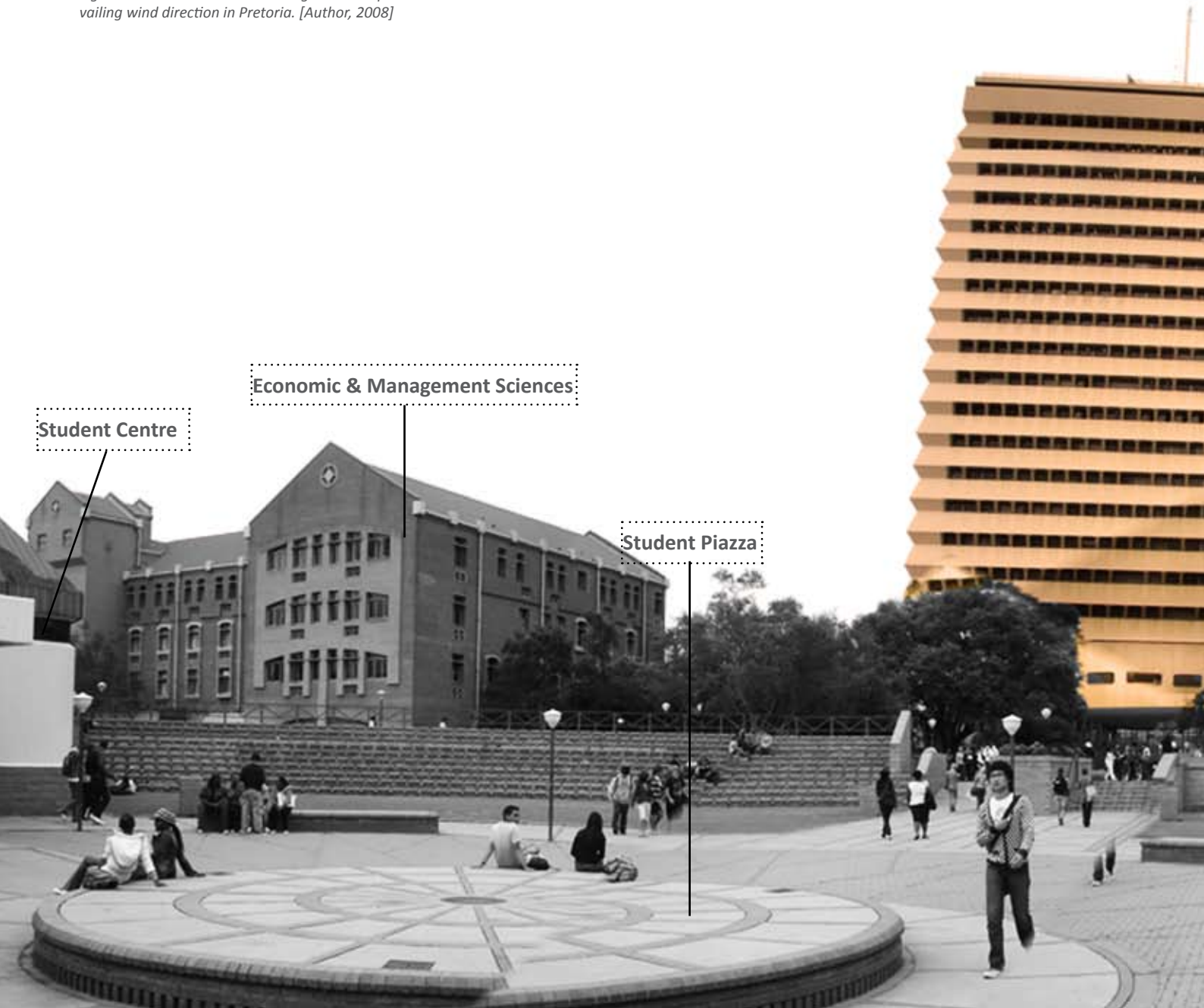


Fig. 3.13 3D model demonstrating seasonal prevailing wind direction in Pretoria. [Author, 2008]



X - Roper Street (Main Entrance)
 Y - Lynwood (East/West)
 Z - Humanities Tower (Vertically)

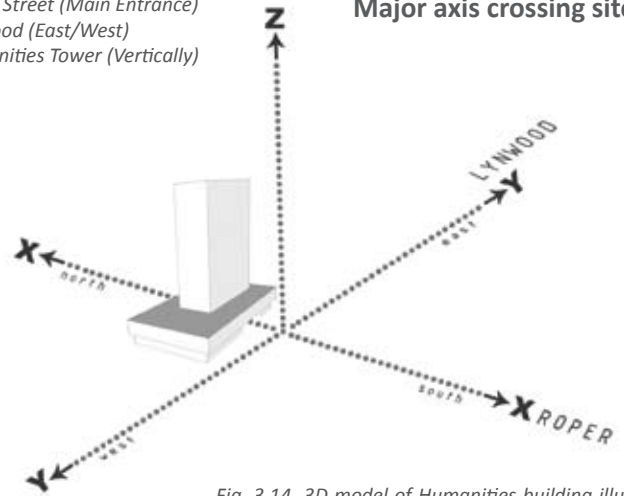
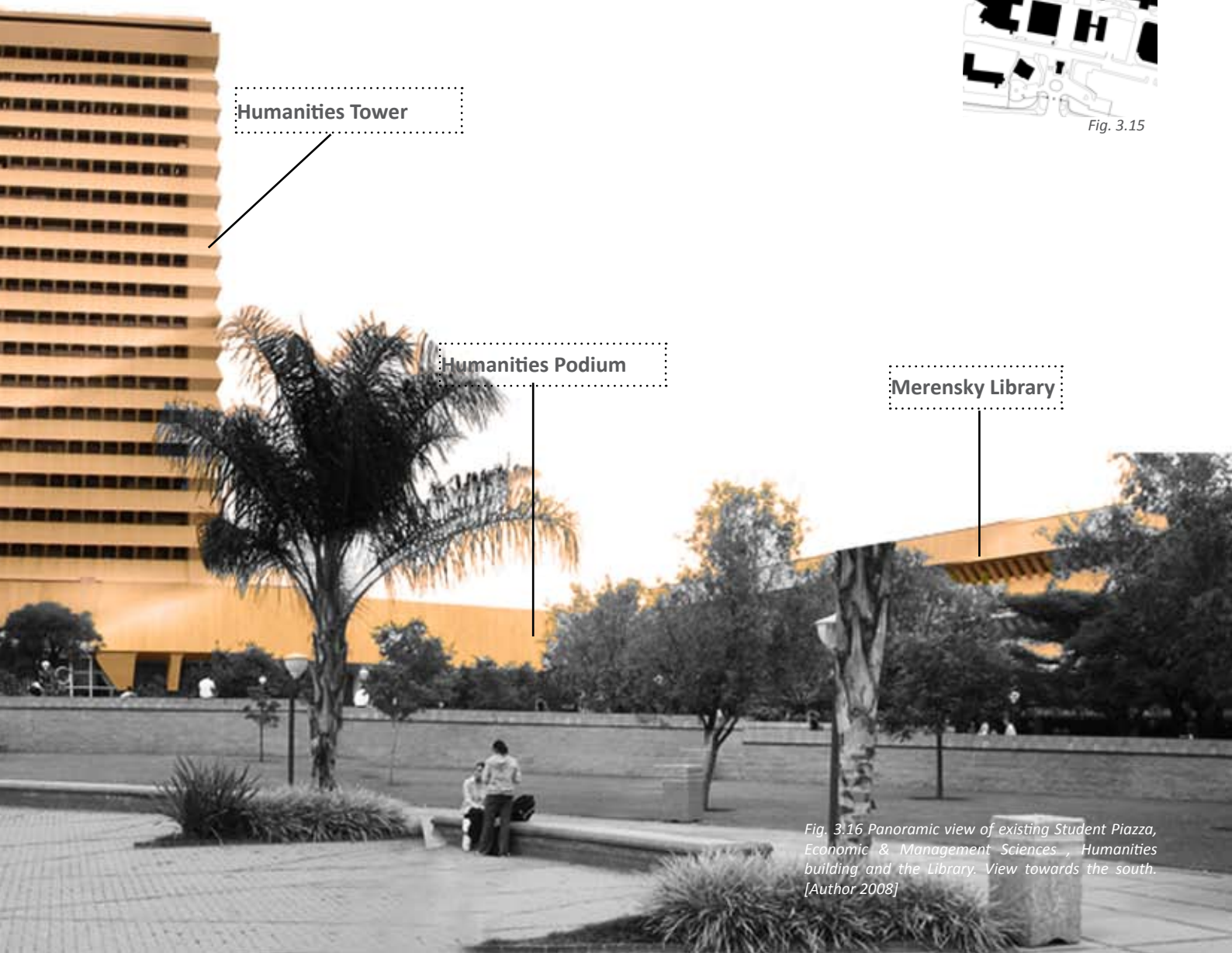


Fig. 3.14 3D model of Humanities building illustrating the three major crossing axis. [Author, 2008]



Fig. 3.15




Humanities Tower


Humanities Podium


Merensky Library


Fig. 3.16 Panoramic view of existing Student Piazza, Economic & Management Sciences building, Humanities building and the Library. View towards the south. [Author 2008]

3.4 Pedestrian pattern & activities

- 

stand
smoke * talk * eat *
*wait * show off
- 

sit
reading * talking * eating *
* rest * smoke *
- 

walk
hurry * talk * eat *
* smoke *
- 

play
run * jump * relax *



Fig. 3.17 Diagram illustrating pedestrian movement and activity on and around the selected study area. [Author, 2008]

The images depict where the greatest concentration of student activity occurs between the Humanities Building and the library. These specific areas make an attempt to accommodate the users of the buildings. However, they lack proper infrastructure. The highest concentration of activity tends to occur around the major building thresholds. The colour-filled section indicates pedestrian 'dead' zones. These zones are vast and mostly formless and require serious redesign for a more efficient use of space.

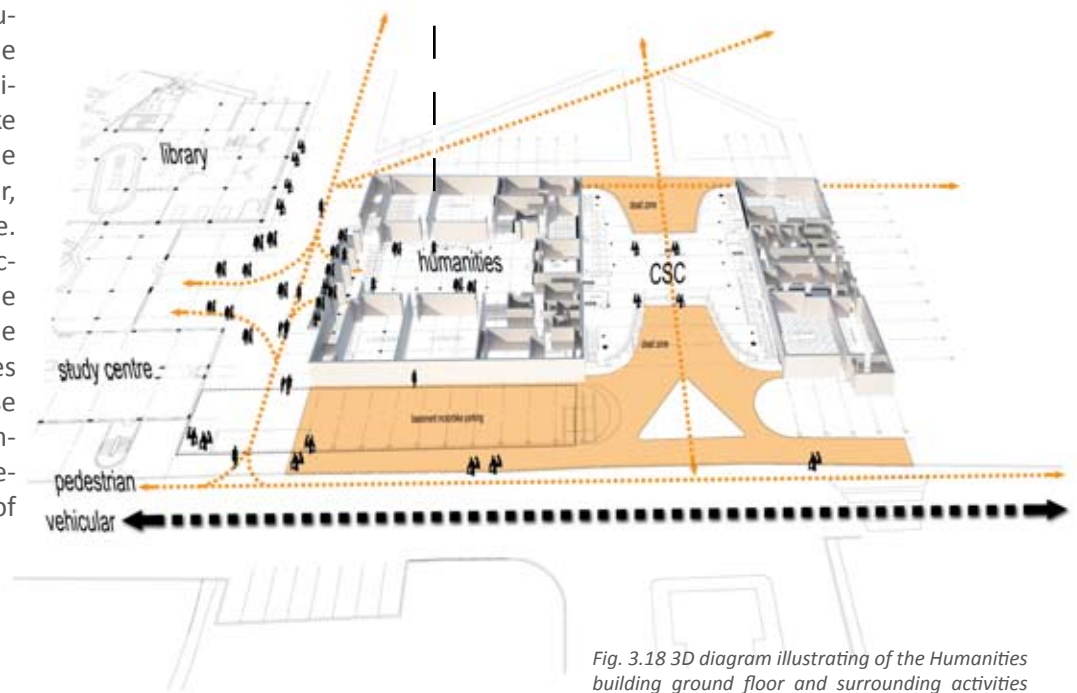


Fig. 3.18 3D diagram illustrating of the Humanities building ground floor and surrounding activities and circulation. (Author 2008)



Fig. 3.20 Student Activity - Piazza. View towards north [Author, 2008]



Fig. 3.21 Green Space. North of Humanities [Author 2008]



Fig. 3.22 Green Space. North of Humanities [Author, 2008]



Fig. 3.23 Entrance to Academic Information Centre [Author, 2008]



Fig. 3.24 Space in between Academic Information Centre & Humanities. View towards north [Author, 2008]



Fig. 3.25 Main entrance to Humanities building [Author, 2008]



Fig. 3.19 3D Figure ground map of central campus. [Author 2008]

3.5 Shadow Study

Summer Solstice

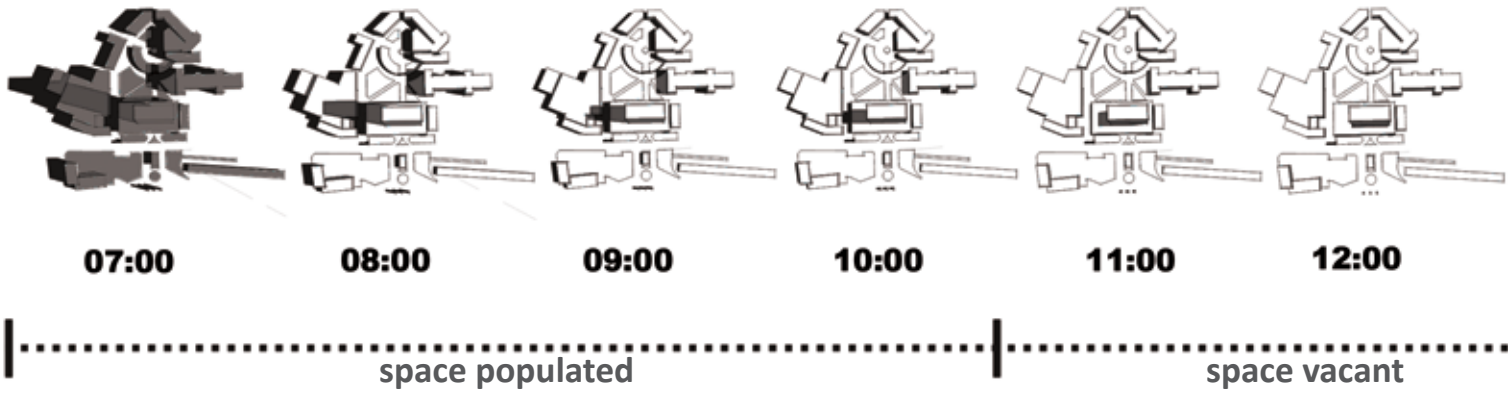
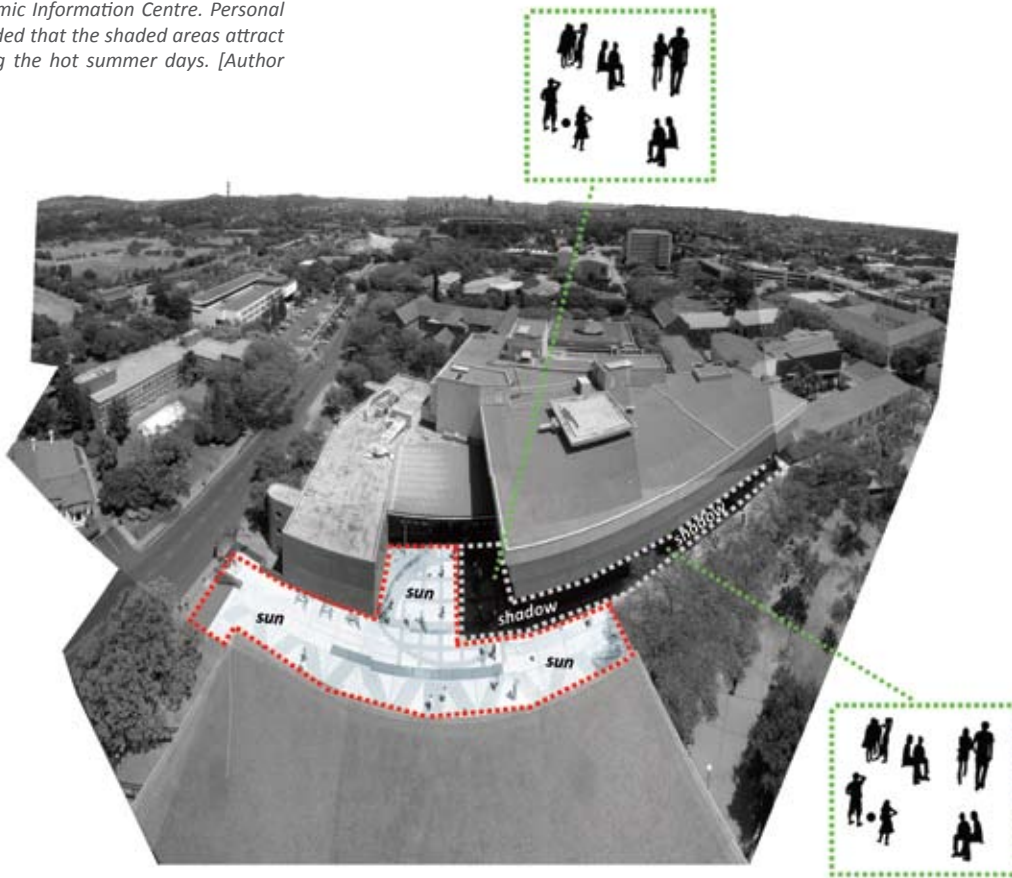


Fig. 3.27 Photograph of space between Humanities podium and Academic Information Centre. Personal observation concluded that the shaded areas attract more people during the hot summer days. [Author 2008]

11:00
October



Winter Solstice

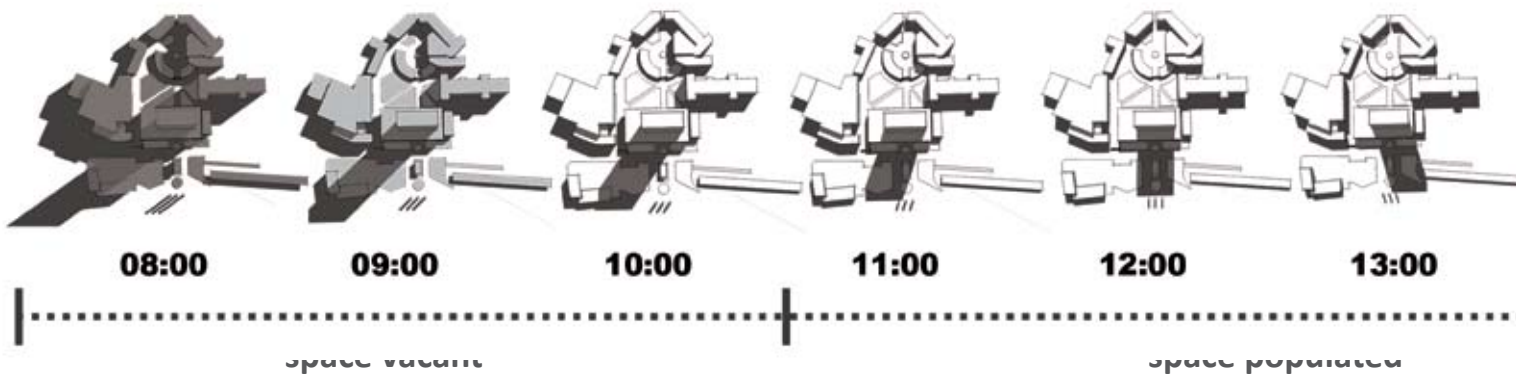


Fig. 3.26 A shadow study of selected study area during the height of summer. During the warmer months of the year student take hiding in the shaded areas surrounding the buildings. [Author, 2008]

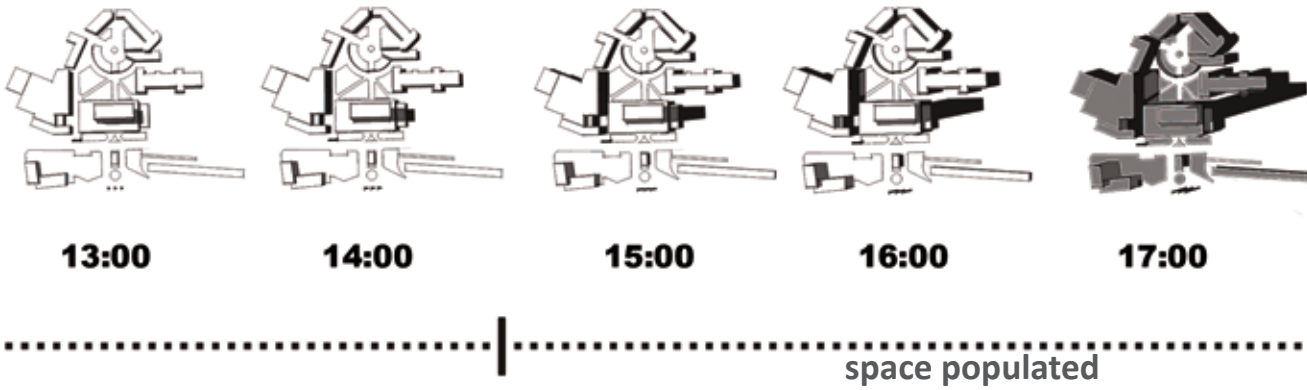


Fig. 3.28 Photograph of space between Humanities podium and Academic Information Centre. This demonstrates that the sunny areas are less occupied than the shaded areas during the warmer months. [Author 2008]

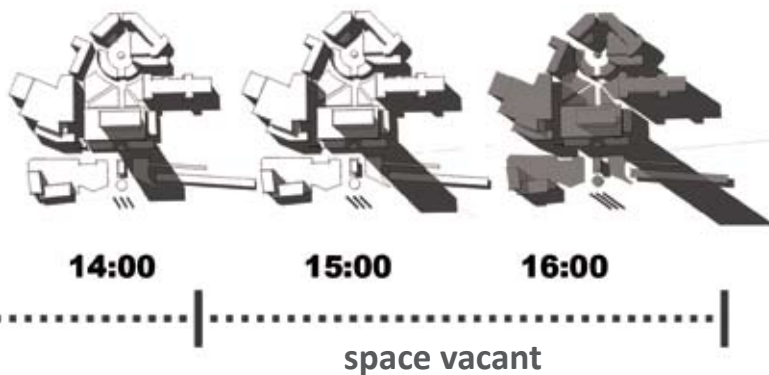
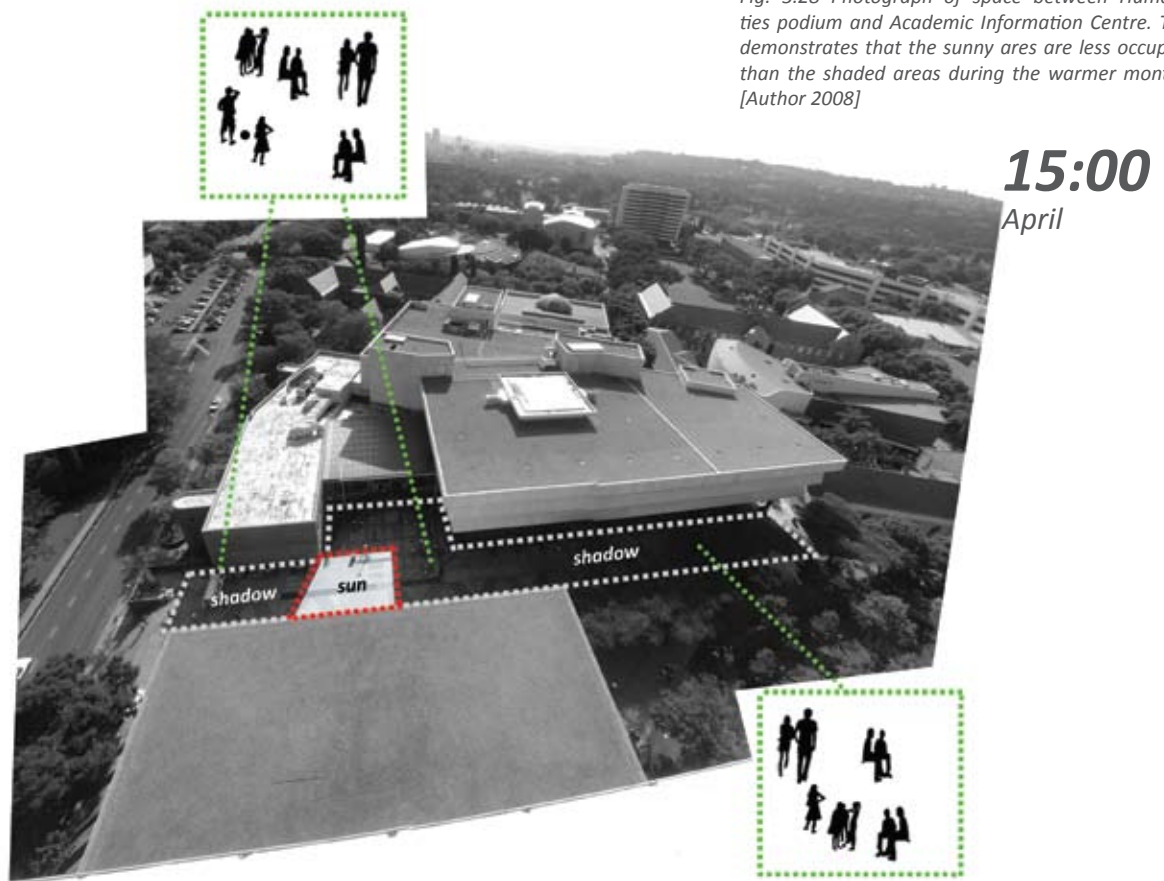


Fig. 3.29 A shadow study of selected study area during middle winter. In contrast to summer the colder months of the year is a time when the users tend to rather follow the sun around when looking for a place to rest. [Author, 2008]

3.6 Alterations to existing fabric



Client Service Centre

Fig. 3.30 Photograph illustrating new alteration (Client Service Centre) to an existing building (Humanities Building). North Elevation. [Author, 2008]



Fig. 3.31(above) & Fig. 3.32(left) Photograph of area between Library & Humanities. View towards north. [Author, 2008]



Fig. 3.33(above) & Fig 3.34(left) Photograph illustrating new alteration (Client Service Centre) to an existing building (Humanities Building). South Elevation (Author, 2008)



Fig. 3.35(above) & Fig. 3.36(left) Photograph of main entrance security control building, south elevation. [Author, 2008]

3.7 Historical Context

Brian Sandrock introduced his long term development plan for the university in 1965. It was evident that the only logical direction for development would be to the east, largely due to certain edge restrictions such as railway lines to the west and north, and Lynnwood Road to the south. Thus the development plan required the closure of Roper Street, the busy north-south artery between Lynnwood Road and Burnett Street. Sandrock's intention was to accommodate the basic sciences at the centre of the campus and to locate the applied sciences on the periphery, aiming to keep the largest number of students at the centre of campus (Tukkiewerf, 1991).

In 1970 the university started negotiations with the town council for the closure of Roper Street between Lynnwood Road in the south and Burnett Street in the north. The public was outraged by the idea of the Roper Street closure and vigorously objected the university's proposal. Years of negotiations, heated debates and 155 formal objections followed. In 1999 the Pretoria City Council (now City of Tshwane Metropolitan Municipality) finally agreed to close Roper Street between Lynnwood and Prospect Streets, and an important shift occurred in the campus layout. The University of Pretoria acquired a portion of Roper Street, pedestrianised it and developed a student centre at the Duxbury/Roper Street intersection in 1994. The student centre with its circular piazza is framed by the Old Chemistry building, the Humanities Building, the library and the Economic and Management Sciences building. The piazza immediately became the new core of the campus and the Roper Street pedestrian route the new main north-south axis (Die Perdeby, 1989).



Fig. 3.37 Historical map of main campus indicating a possible merger between the original west to the newer east campus as proposed by architect Brian Sandrock. (Tukkiewerf, 1991) The Humanities building bestrides Roper Street. [Tukkiewerf, 1991]