Fig. 4.1 Photograph of the west facade of the Humanities Tower with original hand drawn elevation drawings by Brain Sandrock Architects. [Author, 2008]
analysis
4.1 Existing Building - Structural Analysis

Fig. 4.2 3D model diagram illustrating all primary structural load bearing elements of the Human Science Building. [Author, 2008]

Fig. 4.3 3D model of tower primary load bearing elements superimposed on existing plan drawing from University of Pretoria Technical Services. [Author, 2008]

Fig. 4.4 Figure ground primary load bearing elements of the Humanities tower. [Author, 2008]
On the western side of Roper Street (on the side of the old campus), the Humanities Building has two basement levels accommodating lecture halls and language laboratories. The ground floor houses lecture halls. On the eastern side of the ground floor, electrical and mechanical services are provided by a recently added power substation on the north-eastern corner of the podium. The first level above the ground floor spans across Roper Street and houses several lecture halls. According to the consulting engineer’s report (Planning 26, 1977:17), the section crossing the road is carried by a total of six concrete walls spanning 27 metres. The four external walls were designed as conventional reinforced concrete beams. The two internal walls are also major load bearing elements for the tower block. There are several complicated concrete grid systems suspended from concrete walls at higher levels. These are found in the lower part of the building. Concrete was extensively used throughout the building for both the structure and the unique geometry of the tower.

The tower block has 17 typical office floors and spans symmetrically across Roper Street. The tower is supported internally by two 7500mm x 750mm walls spanning between the lift shaft on the western side and two columns on the eastern side of the road. These walls are perforated by several irregularly placed door openings. Externally the loads are carried by a beam at the bottom of the facade itself. The beams are continuous over four prestressed columns. The facade consists of a complicated in situ concrete structure that was prestressed on each level. The whole façade, including the beams, forms a complex structural unit. Extensive use was made of computer-aided design during the design phase.

According to Mr. Piet Labuschagne (architect employed at the office of Brain Sandrock & Partners during construction) the entire western side of the podium is supported by a structural system separated from that of the tower (Labuschagne, 2008).
Fig. 4.7 3D model diagram of Human Science building indicating the load bearing elements at the four corners of the tower. [Author, 2008]

Fig. 4.8 3D model diagram of Human Science building indicating the core load bearing elements. [Author, 2008]

Fig. 4.9 3D model illustrating the Humanities tower enclosure and its core structural supports. [Author, 2008]

Fig. 4.10 Humanities Building Tower - Thirteenth floor approaching completion. [Skakelblad 22, 1975]
### 4.2 Existing Building - Performance Criteria (Podium)

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**Fig. 4.11** An article taken from the local campus newspaper expressing the 'life threatening' state of occupancy comfort in the Humanities Building. The writer compares occupying the Humanities building to that of a being on a battlefield, where the chance of ever returning alive is relatively poor. [Die Perdeby, 2001]

**Fig. 4.12** This article expresses the chaotic circulation and escape plan for the Humanities building. [Die Perdeby, 1999]

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**The Battlefield in Humanities**

Hein de Vries  
Die Perdeby, 12 March 2001

"Gladiators, a-a-a-a-r-r-r-e-e you readyyyyy?" Dangerous, game officials and eager onlookers wait for the moment of truth: "Congratulations, can all of you who are not suffering from finger pains in your left arm please make way for the media. You have survived the wriggling four to eight storey drop, so frequently experienced by Tokyo students and personnel." As the junior clean away the dead pile of broken bones whose descendents will probably meet the contortionists face the final challenge.

"You are free to roam the building in a hopeless ploy to find the phone number of risk management, like so many later working students. The first to get out of the building will be pronounced the winner and the prize money will be deposited in the bank account of your nett of life."

Students a-a-a-a-r-r-r-e-e you readyyyyy?

---

**Help, there's chaos!**

Die Perdeby 18 October 1999
4.3 Accommodation Schedule - Faculty of Humanities

Departments, centres, institutes & units, interfaculty institutes, academic faculty committees, schools

22 - Faculty Human Science - Ancient Languages - Academia Latina - Modern European Languages - Unit for Creative Writing - Research Committee - School of Social Sciences - Vacant

21 - International Political Studies - Institute for Strategic Studies - Employment Health & Safety Committee

20 - Philosophy - Institute for Women and Gender Studies

19 - Sociology

18 - Historical & Heritage Studies - School of Social Sciences

17 - Unit for Academic Literacy (UAL) - Creative Languages Service

16 - English - Vacant

15 - Afrikaans - Centre for Research in the Politics of Language (CentRePol)

14 - Modern European Languages

13 - Centre for Academic Development

12 - Psychology - Computer Committee

11 - Psychology - Computer Committee

10 - Social Work & Criminology - Education Innovation Committee (El Committee)

09 - African Languages - Programme Committee - School of Languages

08 - Anthropology & Archaeology - Post Graduate Committee

07 - Research Committee (ResCom) - Research Proposal & Ethics Committee (ResEthics) - Marketing Advice Committee - Marketing Committee - Administrative Officer: Facilities & Services (Humanities) - Finances - Laptops & Data Projectors (booking) - Marketing Office (Humanities) - Staff Matters

06 - Office Space

04 - Academic Administration & Lecture Halls

03 - Academic Administration & Lecture Halls - Client Service Centre (CSC)

02 - Communication Pathology

01 - Academic Administration & Lecture Halls

Fig. 4.13 Exploded 3D diagram of the Humanities building. [Author, 2008]
Fig. 4.14 Floor plan layout of various Humanities tower levels.

Fig. 4.15 Plan perspectives of Humanities podium.

**Existing floor area ratios - podium**

1. Total Atrium Circulation  
   2958.16 m²  
   35.94%

2. Total Lecture Halls  
   (x30) 2897.99 m²  
   35.21%

3. Total Classrooms  
   (x9) 384.19 m²  
   4.67%

4. Total Plant & Services  
   897.79 m²  
   10.91%

5. Total Storage  
   123.07 m²  
   1.50%

6. Ablution  
   131.74 m²  
   1.60%

7. Office  
   271.25 m²  
   3.30%

8. Counters  
   112.21 m²  
   1.36%

9. Other  
   454.59 m²  
   5.52%

**TOTAL**  
   8230.99 m²  
   100.00%
4.4 Existing Building - Spatial Analysis

North-South section through Humanities Podium view to west

Fig. 4.16 Sectional drawing and photo collage through Humanities podium demonstrating some of the internal spatial qualities of the podium and its isolation to its surroundings. (Object in landscape) [Author, 2008]

Fig. 4.17

Fig. 4.18 3D negative space diagram of humanities podium illustrating main functions and definition of internal spaces. [Author, 2008]
Spatial Hierarchy

Fig. 4.19 Photograph of student activity on northern edge of Humanities podium, with the new Merensky Library in the background. [Planning 22, 1977]

Fig. 4.20 Sectional figure ground study of the Humanities podium. The diagram illustrates the spatial hierarchy from basement level to the top floor. [Author, 2008]