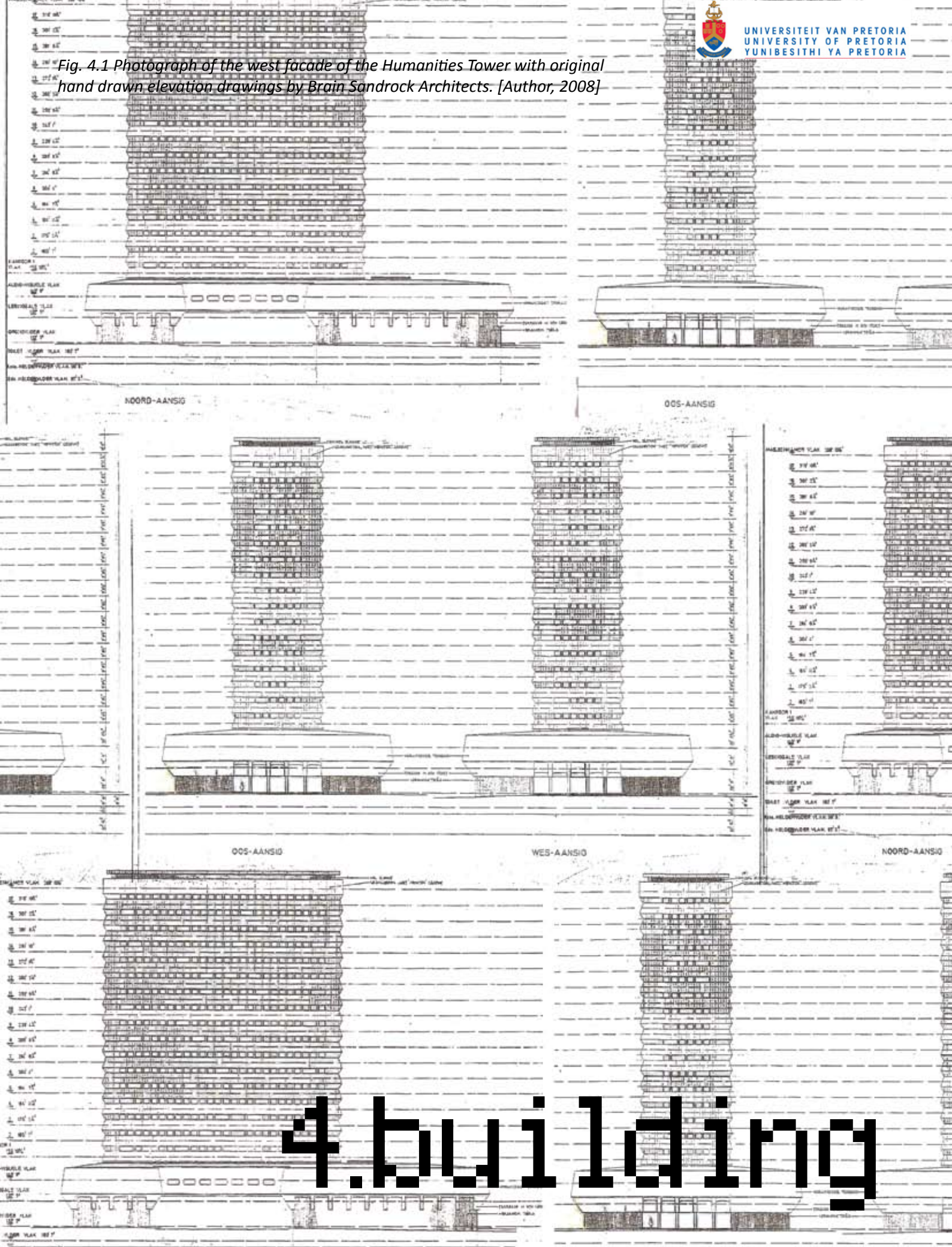
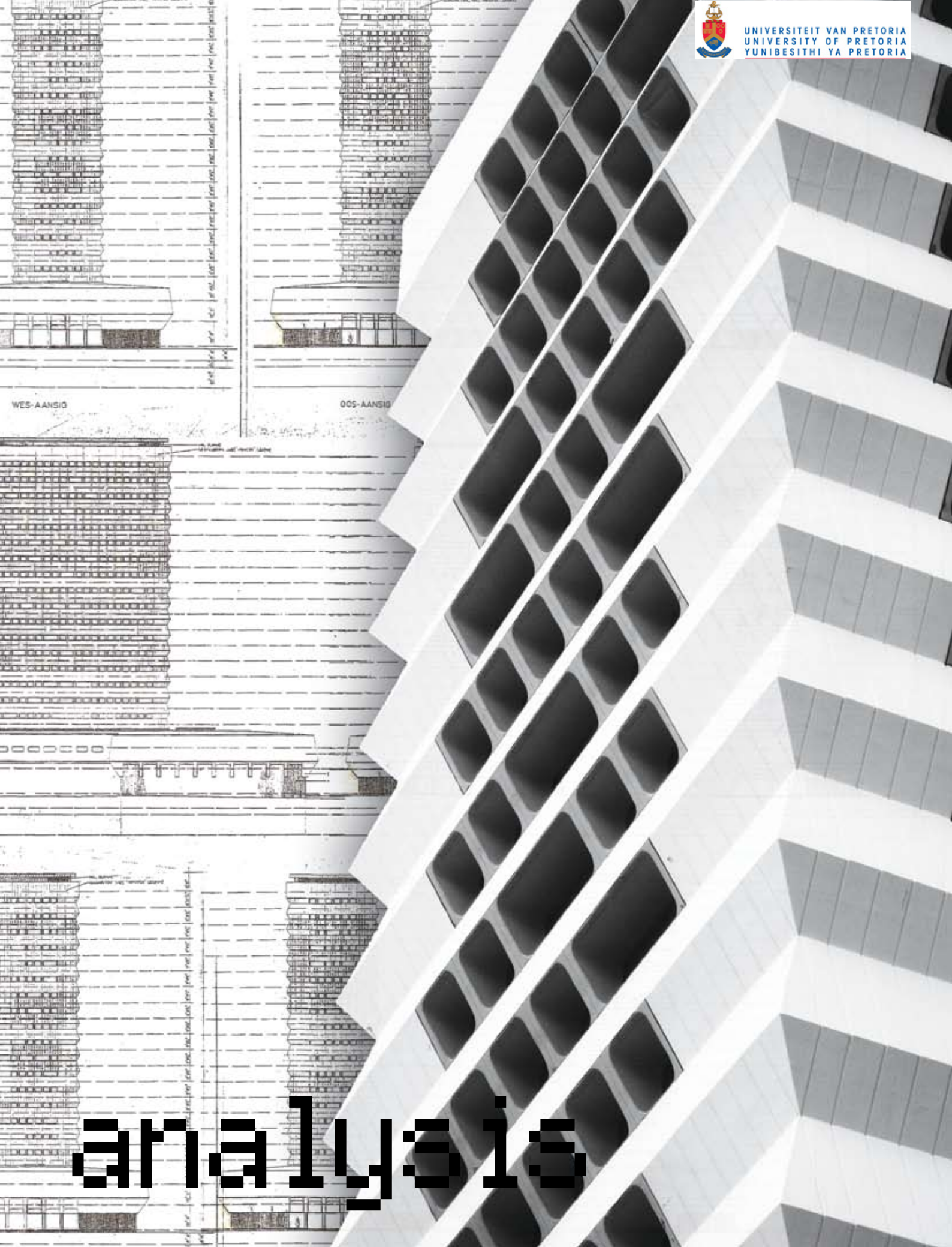




Fig. 4.1 Photograph of the west facade of the Humanities Tower with original hand drawn elevation drawings by Brain Sandrock Architects. [Author, 2008]



4. building



analysis

4.1 Existing Building - Structural Analysis

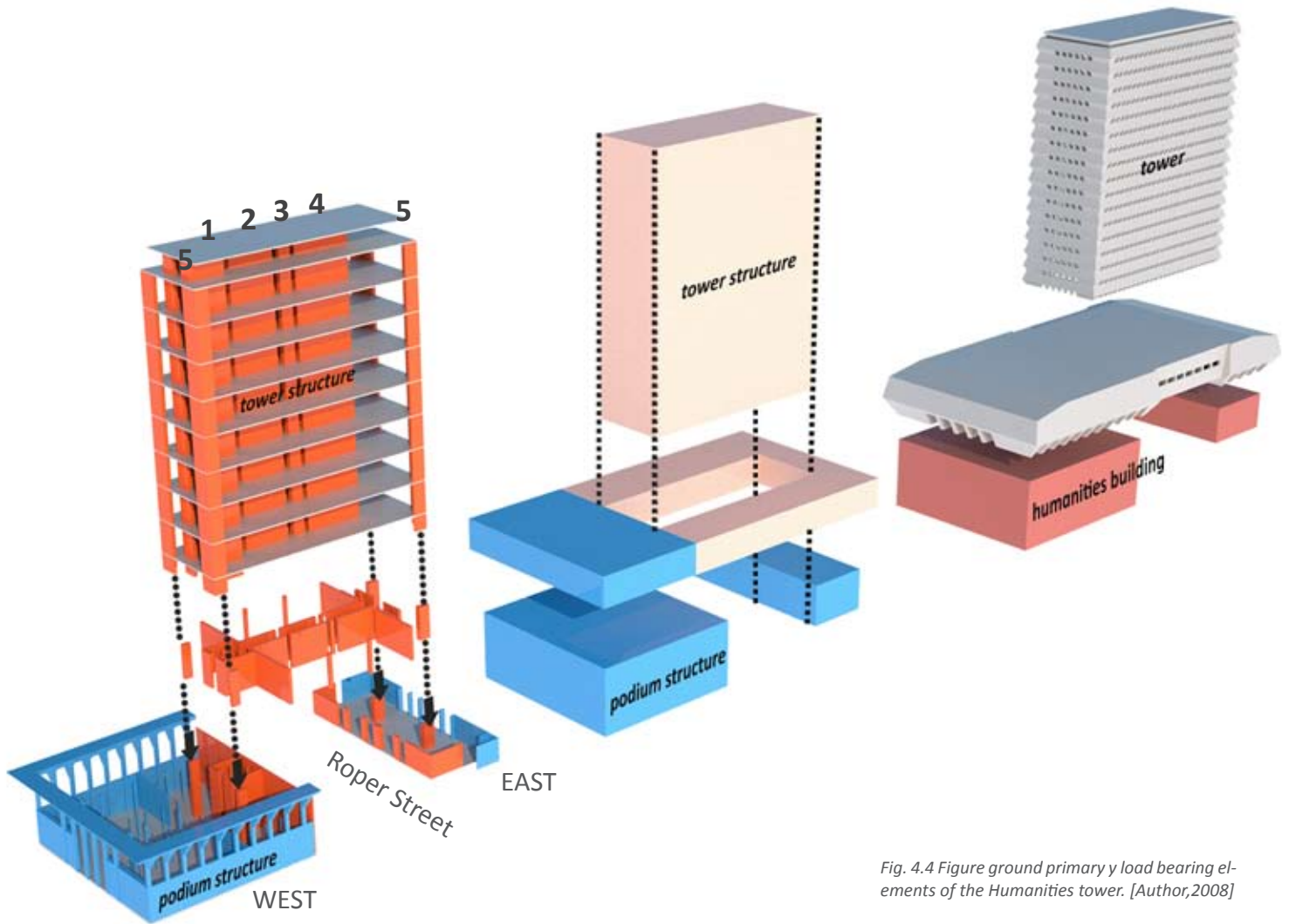


Fig. 4.4 Figure ground primary load bearing elements of the Humanities tower. [Author,2008]

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

1. Lift Shaft
2. Staircase Riser
3. Staircase Riser
4. Internal Columns
5. Corner Columns

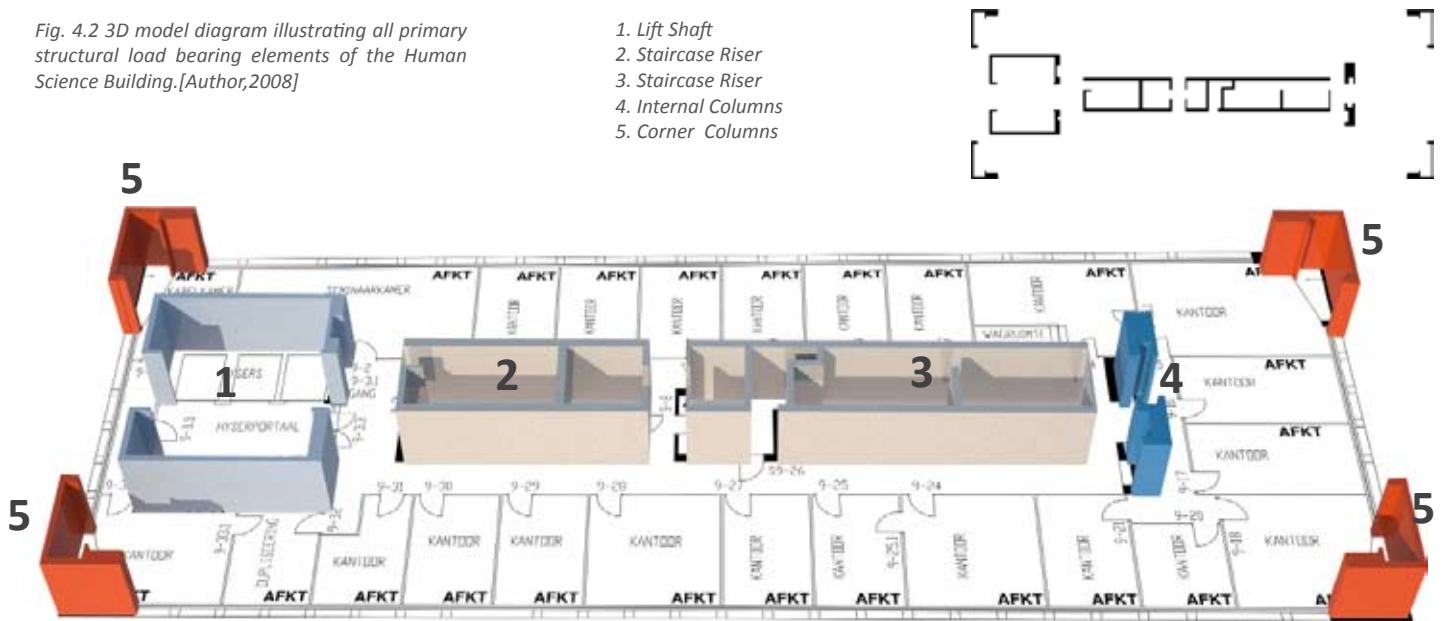


Fig. 4.3 3D model of tower primary load bearing elements superimposed on existing plan drawing from University of Pretoria Technical Services. [Author,2008]

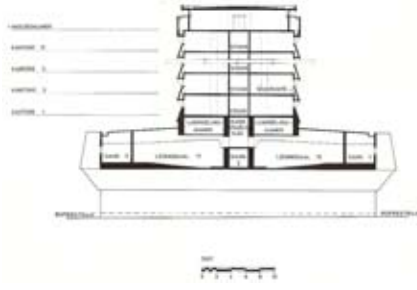


Fig. 4.5 Partial section through Humanities building indicating structural elements. [Planning 22,1977]

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 facade, 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).

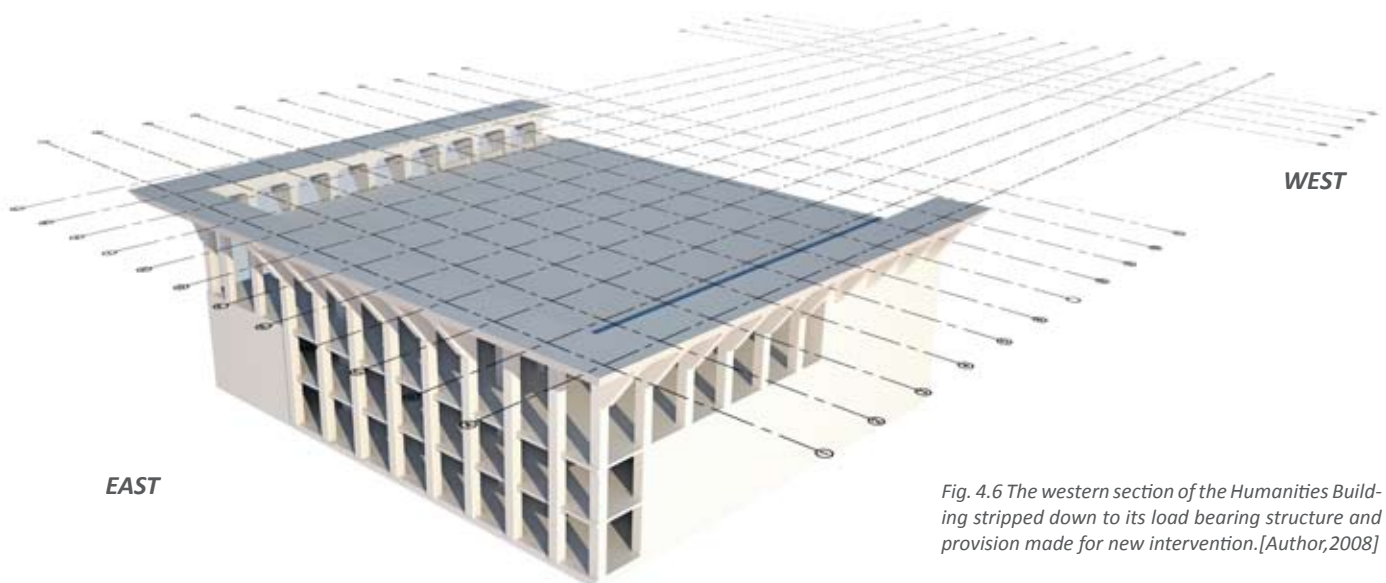


Fig. 4.6 The western section of the Humanities Building stripped down to its load bearing structure and provision made for new intervention. [Author,2008]

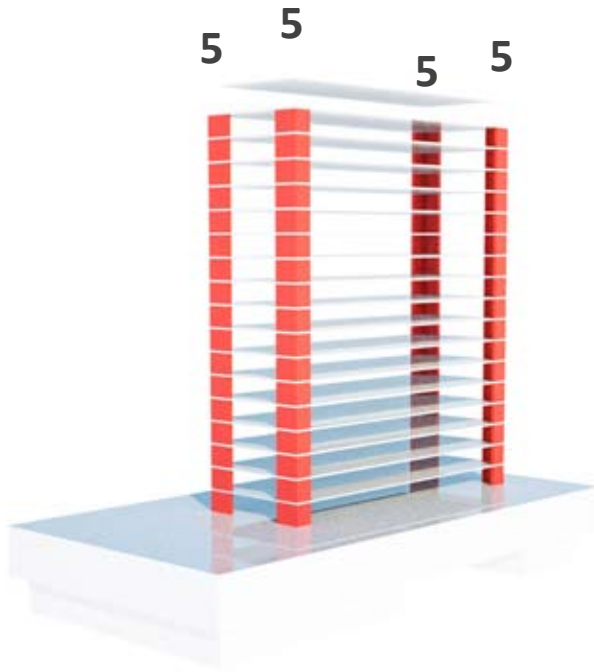
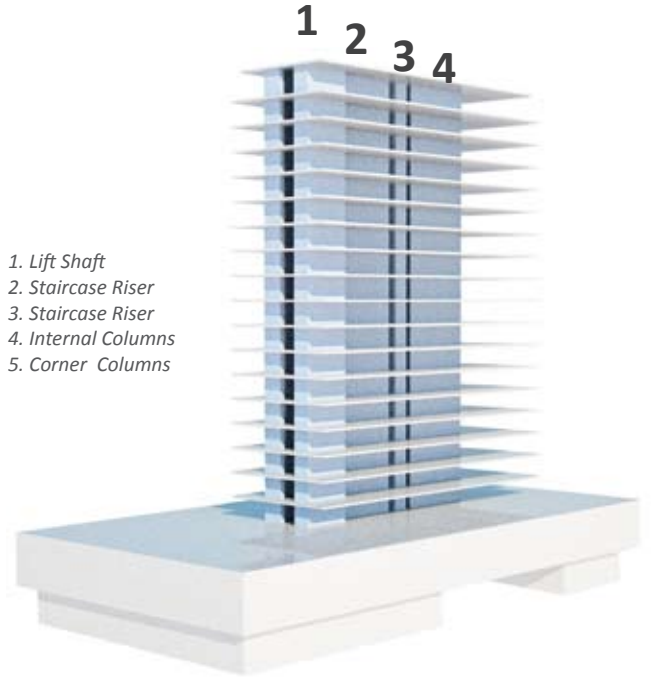


Fig. 4.7 3D model diagram of Human Science building indicating the load bearing elements at the four corners of the tower. [Author,2008]



1. Lift Shaft
2. Staircase Riser
3. Staircase Riser
4. Internal Columns
5. Corner Columns

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

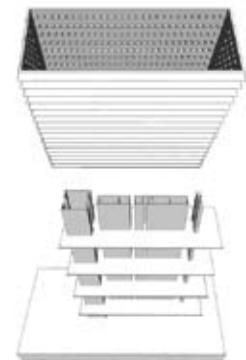


Fig. 4.9 3D model illustrating the Humanities tower enclosure and its core structural supports. [Author, 2008]

Fig. 4.10 Humanities Building Tower - Thirteenth floor approaching completion . [Skalblad 22,1975]



4.2 Existing Building - Performance Criteria (Podium)

Social	41 ½/80	Economic	42 ½/70	Environmental	16 ½/60
Occupant Comfort	6 /20	Efficiency	16/25	Water	7 ½/25
Daylighting		Capacity		Rainwater	
Ventilation		Occupancy		Water Use	
Thermal Comfort		Space per occupant		Runoff	
Views		Communication		Grey Water	
		Material & Components		Planting	
Inclusive Environment	19 ½/40	Adaptability	14 ½/25	Energy	4/20
Information		Vertical Heights		Ventilation	
Space		External Spaces		Heating & Cooling	
Toilets		Internal Partition		Appliances & Fitting	
Participation and Control		Modular Planning		Renewable Resources	
Environmental Control		Furniture			
Lighting Control					
Social Spaces					
Sharing Facilities					
Health and Safety	16/20	On going cost	12/20	Waste	5/15
Safety		Induction		Organic Waste	
Awareness		Consumption & Waste		Inorganic Waste	
Material		Metering		Sewerage	
Accidents		Cleaning & Maintenance			

The Battlefield in Humanities

Hein de Vries Die Perdeby, 12 March 2001

"Gladiators, a-a-a-r-r-r-e-e you readyyyyy? Contestants, a-a-a-r-r-r-e-e you readyyyyy?" Often I wonder what the next level of adventure sport might bring. Alas, my fair question gained an unduly answer.

"... And tonight, the ultimate challenge, the final frontier, a quest for survival of the fittest... It is the Humanities building!" The first challenge, affectionately called the classroom killer, requires our contestants to endure an entire lecture in the freezing bowels of the building.

Congratulations, can all of you who did not contract pneumonia or a common cold please step to the left to go to the next round.* As the tournament officials remove the frozen bodies of those who fell asleep during the lecture our brave contestants move to the next round.

Randomly the fearless survivors are shoved into the lifts. Up and down they go; where they stop, no one knows. As the lifts

descend, game officials and eager onlookers wait for the moment of truth. "Congratulations, can all of you who are not suffering from stinging pains in your left arms please make way for the medics. You have survived the traitorous four to eight storey drop, so frequently experienced by Tuks students and personnel." As the janitor cleans away the dead pile of broken bones whose descendants was halted by the basement the contestants 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 late working students. The first to get out of the building wins. If no one gets out the last of you to starve will be pronounced the winner and the prize money will be deposited in the bank account of your next of kin."

Students a-a-a-r-r-r-o-o-o you readyyyyy?

Help, there's chaos!



Foto: Louisa Bezuidenhout

A new evacuation plan was recently implemented at the Human Sciences Building (HSB), following a bomb threat of about two weeks ago. The plan was widely criticized by students...
 "ineffective" and "clumsy" and that chaos will break out, in the event of another bomb threat or fire.
 The plan operates through an intricate system, with which all students and personnel in the building can be notified of an emergency and ordered to evacuate the building. There are also telephones on every level, directly connected to the information counter, so that students or personnel can inform the desk if there are any problems at any of the stairways. Students on different levels are also advised to alternate the use of stairways to prevent crowding, and to hasten the process of evacuation.
 Despite all the criticism regarding the evacuation plan, it is in fact the most logical and simple plan for a building of the HSB's size and structure, and if carried out correctly, it can also be an efficient way to prevent a major catastrophe.
 Na aanleiding van die valgske bomdreiging in die GW, is daar 'n nuwe ontspanningsplan ingestel, waardeur studente en personeel deur middel van 'n interkomstelsel in verskeie getreke kan word vasgemaak. Verskeie vlakke van die kweekhuis is ook verbind om te voorkom dat daar 'n oerweldigende plan is, is dit dalk die beste manier om 'n ramp te voorkom.

Die Perdeby 18 Oktober 1999



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]

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 (EI 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

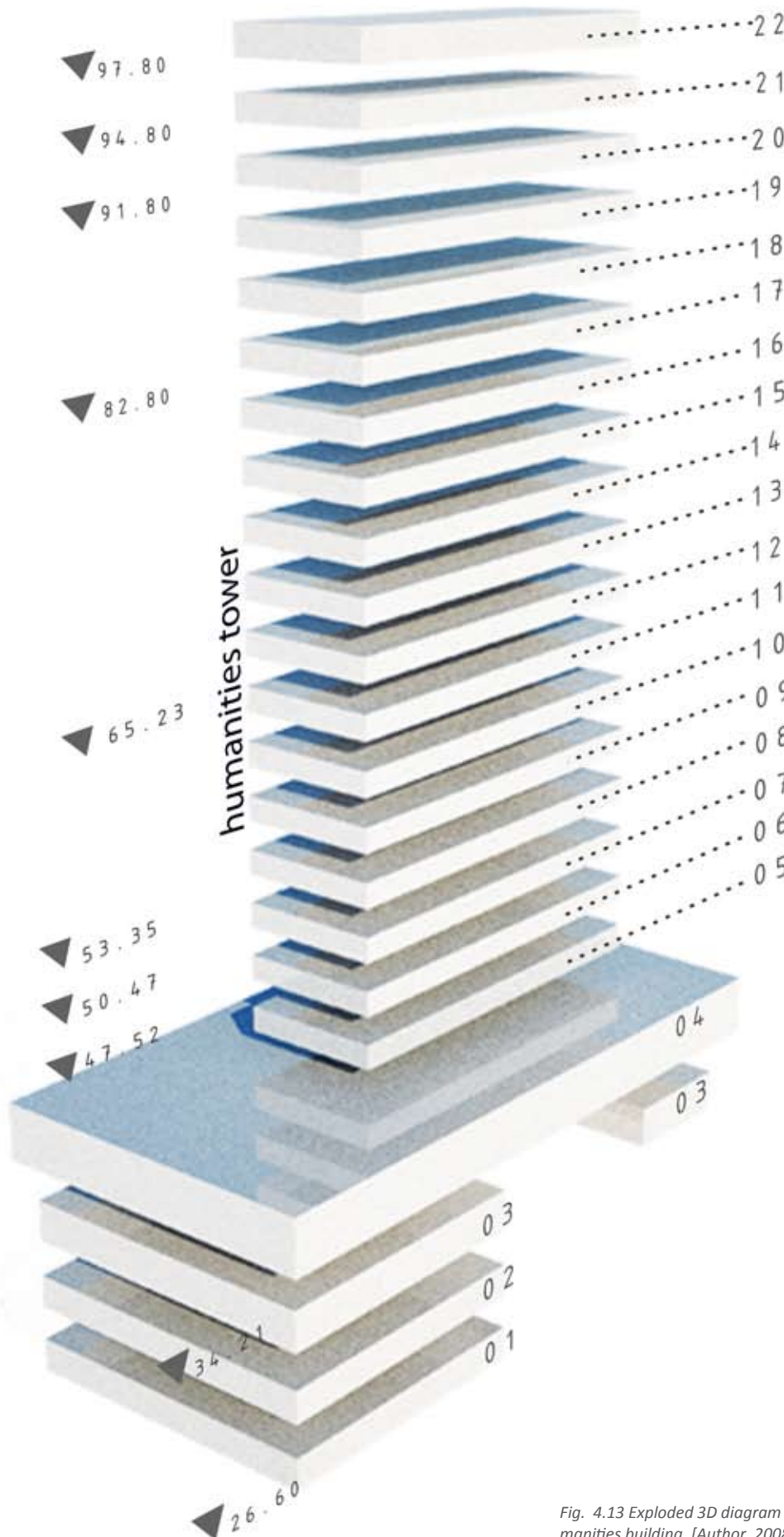
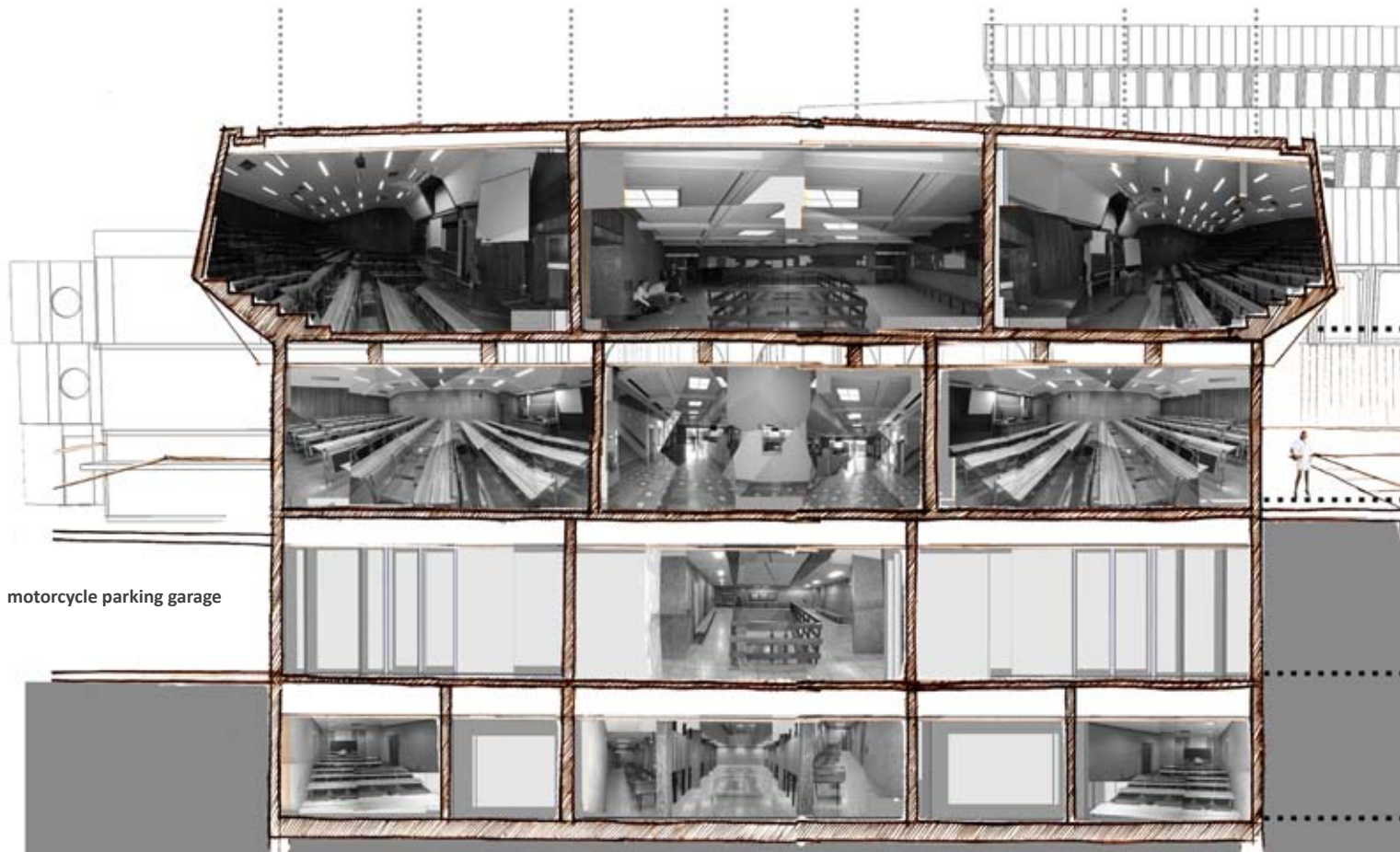


Fig. 4.13 Exploded 3D diagram of the Humanities building. [Author, 2008]

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

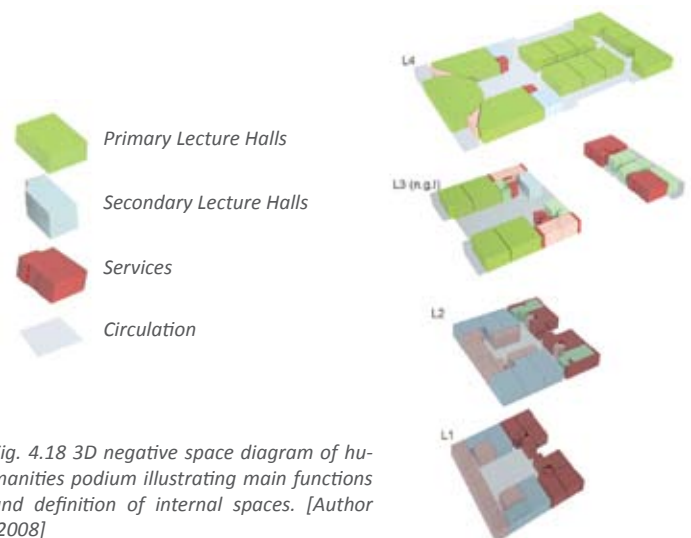
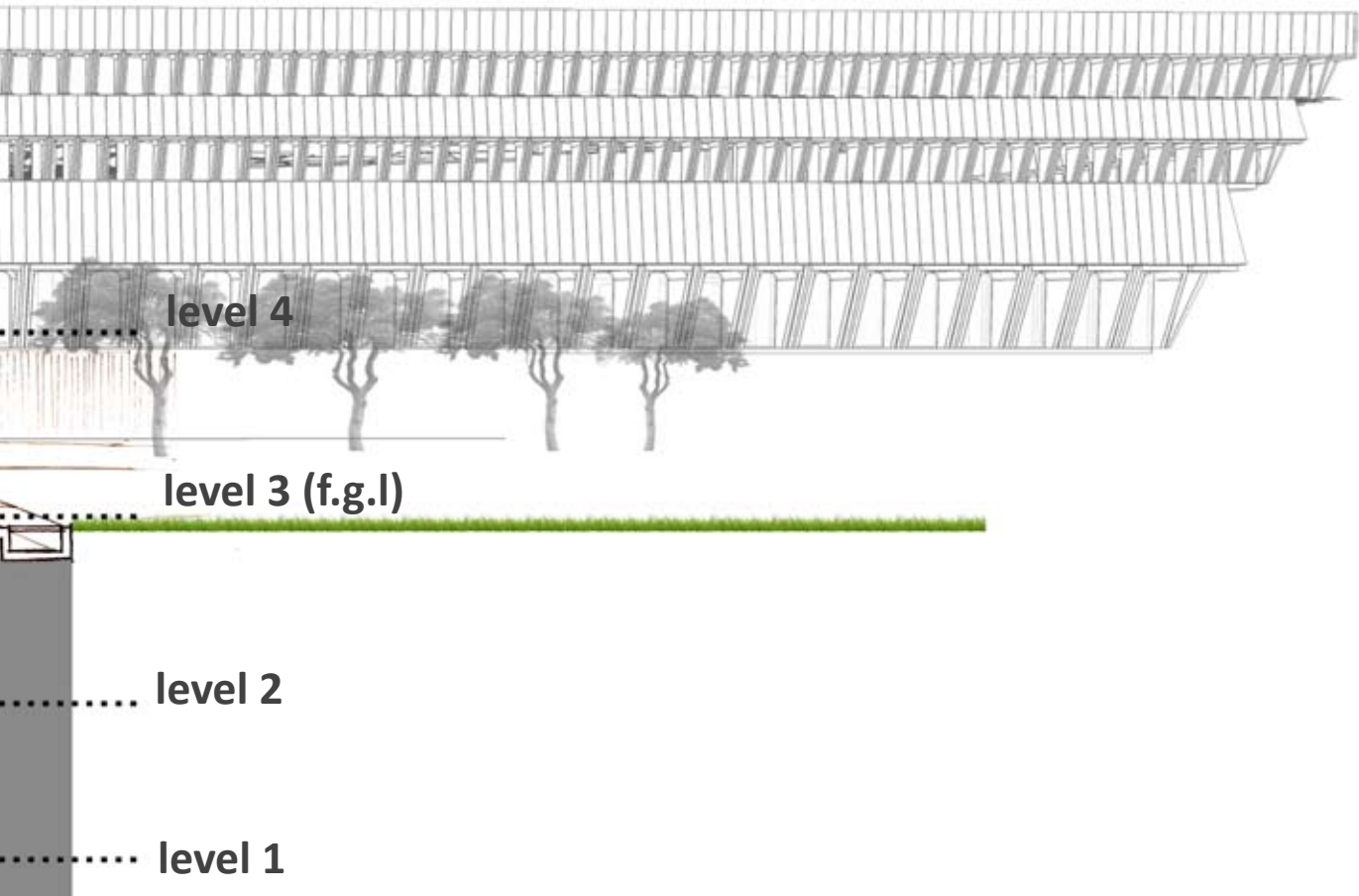


Fig. 4.18 3D negative space diagram of humanities podium illustrating main functions and definition of internal spaces. [Author, 2008]

MERENSKY LIBRARY



Spatial Hierarchy

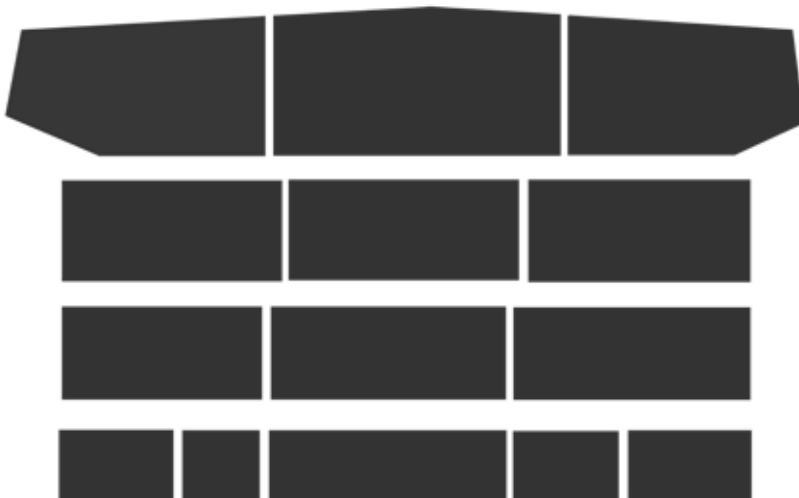


Fig. 4.19 Photograph of student activity on northern edge of Humanities podium, with the new Merensky Library in the background. [Planning 22,1977]

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]