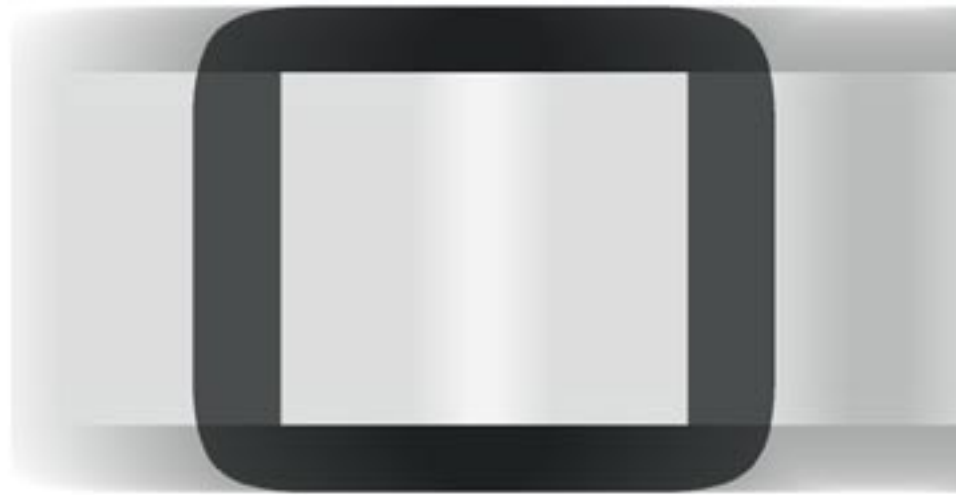


A STUDY IN **TIME**

GERHARD BOER

SCHOOL FOR THE BUILT ENVIRONMENT_UP



gerhardus petrus boer

Mentor:
Rudolph Van Rensburg

Submitted in partial fulfillment of the
requirements for the degree of
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in the Faculty of Engineering, Built
Environment and Information Technology

University of Pretoria
Department of Architecture



SCHOOL FOR THE BUILT ENVIRONMENT_UP



The building for the school of the Built Environment focuses on the concept of time as form giver in architecture.

Time, a governing factor of existence, regulating simultaneously through a linear and cyclical pattern in its operation.

The aim of the discourse is to establish a parity between humankind and nature within an urban environment. The goal is to create an environment that acts as time-mediator between the metaphysical and physical city and its myriad users. The emphasis being on the user-interface on the project and its surroundings.

Thereby potentially establishing a platform where the city is continually challenged in terms of observing and being observed.

The architecture itself should provide an abridgement of moments in time.

The prominence of the proposed site opens up the possibility of investigating an iconic branding image for the campus.

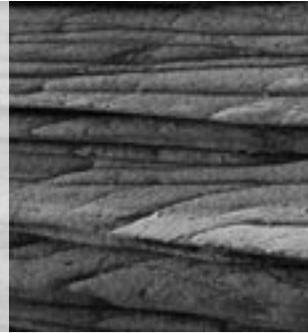
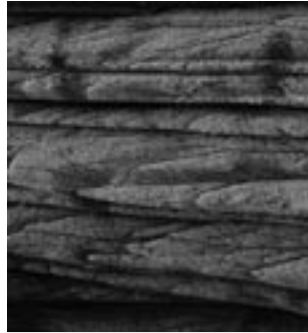
This could be achieved in terms of potential visual resource and movement pattern.



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- 0.2. Photomontage of the UP from Lynnwood road.
- 0.3. Scouring erosion lays bare the sinew and substance of earth. [BELT, A. *National Geographic*, April 1997 vol. 191 no. 4]

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- 1.1. Whirlpool Galaxy. 28 million light-years away. In effect looking back in time for 28 m light years (dependant on amount of magnification). [*National Geographic*. February 2003.]
- 1.2. Hurricane Gladys, spin in nature, [A. B. C. Whipple. *Planet Earth: Storm*. 1982.]
- 1.3. Scent in the microgravity of Space. [Madere, J.]
- 1.4. Goldfish symbolising new life in springtime, microcosm of nature. [Avakian, A. *National Geographic*. 1999. vol 196.]
- 1.5. Historical urbanism. [Kostof, S. 1991. *The city shaped. Italy: Thames & Hudson*]
- 1.6. Negative development-grain silo Standerton. Photograph: *Author*.
- 1.7. Corrugated sheet cladding. Refurbishment. Photo: *StudioMAS*.

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- 1.8. Satellite data depicting El nino temperature and wind anomalies in May 1997. [*Jet Propulsion Laboratories, National Geographic*, March, 1999 vol 195 no 3.]
- 1.9. A constant rain of microscopic interplanetary dust particles delivers a variety of compounds, which almost surely contributed to the primordial soup of the substance of Earth. [Heisey, A. [*National Geographic*, March, 1998 vol. 193 no. 3.]
- 1.10. VW Pheatoms gliding across a beauty queen promenade, a 25m long neon tunnel where the paint job is checked for blemishes. The finished cars are displayed in a glass parking lot. [*Champa, P. Surface*, issue 43]
- 1.11. Lalibela, pilgrimage site for Ethiopian Christians for 800 years. 12 Stone churches cut from volcanic tuff. [Steinmetz, G. *National Geogrpahic*, July 2001.]
- 1.12. Stark circle of rock measuring about 30 m in the Tenere desert below the masif Adrar Madet in Niger. Roughly 2 km away in each of the four cardinal directions arrows point away from the circle, whose origin, purpose, and age remain a mystery. [Steinmetz, G. *National Geographic*, March, 1999 vol. 195 no.3]
- 1.13. Towering ash plume from mount Ruapehu, New Zealand 17 June 1996. [*National Geographic*, January, 1997 vol. 191 no. 1]
- 1.14. Brisingsid sea stars through a 'deep-sea-hubble', ecosystems such as these may hold a clue to early life on earth. [Kristof, E. *National Geographic*, February 2003]
- 1.15. Background image: Each part of the whole is dependant and self-contained. [WOODS, L. 1992. *The New City. Touchstone book*. p. 11.]
- 1.16. All things restless, changing in time and space. [WOODS, L. 1992. *The New City. Touchstone book*.]
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 - 1.26. The farther out we look into space, the father back in time we see. Veil of fossil radiation dating 300 000 years after the big-bang that permeates space. This is the limit of our view when the universe emerged from a state of hot plasma and became transparent. [*National Geographic*, October 1999, Vol. 196, no. 4]

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Baseline study cover page. From left to right:

- 2.1. IBN-DLO building. [On Sustainable building: The green challenge. Archis 1999/2]
- 2.2. Wind turbines in Iowa, USA, tapping the resources of renewable energy. [*Time*. April-May 2000. Vol.155 No.16A. p.60]
- 2.3. Solar power generators. Ways to keep the earth from overheating. [Klein/Hubert in *Time*. April-May 2000. Vol.155 No.16A. p.2]
- 2.4. Tree-branch structure / lightning patterns? Photo: *Author*. 2003.
- 2.5. Concept model 01, addition & subtraction / solid & void on >200m structure.
- 2.6. The worlds' tallest tree_126,5m Coastal Redwood. [NG, January1997, Vol 191, no.2]
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- 3.3. Land use map of the Uiveristy of Pretoria. [*Author*]
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3.7. View axis / movement corridors on and surrounding the UP campus. [Author]

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3.10. 'Iron curtain' of pallisade security fence on the periphery of the main campus of UP. [Author]

3.11. Concept sketch of the status quo of Lynnwood street pavement. [Author]

3.12. Windrose for the Pretoria region. [Adapted from Holm, D. 1996. Manual for energy conscious design. University of Pretoria]

3.13. Photograph of Academic Information Centre on the left and the Humanities building on the right hand side. [Author]

3.14. Vertical sun angles at 12:00 for Pretoria region.

3.15. Aerial photograph of the main campus of UP. [Geology department and Municipality of Tshwane]

3.16. The farther out we look into space, the farther back in time we see. Veil of fossil radiation dating 300 000 years after the big-bang that permeates space. This is the limit of our view when the universe emerged from a state of hot plasma and became transparent. [*National Geographic, October 1999, Vol. 196, no. 4*]

3.17. Photosynthetic oxygen producing bacteria that is seen as an oxygen pioneer plant for primordial earth.

[Eward, K. *National Geographic, March, 1998 vol. 913 no. 3*]

3.18. The megaliths of Khufu- and Khafre pyramids. [Reza, *National Geographic, January, 1997 vol. 191 no.1*]

3.19. 24 hour earth rotation cycle on own axis. [*National Geographic, November 1999, vol.196, no.5*]

3.20. Time exposure of lightning crack. energy fields of nature resembling the structure of tree branches. [Sartore, J. *National Geographic, November 1998, vol. 194 no.5*]

3.21. Tree-rings as time capturing mechanism giving a history of the growth cycles of a particular tree. [VISI, 2004 p. 171]

3.22. Early years of the University of Pretoria. [UP archive]

3.23. University of Pretoria historical development plan. [Author]

3.24. Aerial photograph of UP in 1943. [UP Archive].

3.25. Aerial photograph of UP, October 1945. [UP Archive].

3.26. Aerial photograph of UP, 1960. [UP Archive].

3.27. Artist impression of 'Transvaal University College' TUC 1911. [Photo: UP

Archive].

3.28. Photo of the UP showing the Old Arts building. 1911. [Photo: UP Archive].

3.29. Eland sculpture on pillar at western vehicular entrance of UP, accessed from University street, aptly named Elandsport to retain some of the site's heritage.

3.30-33. Series of aerial photographs of UP over time. [Photo: UP Archive].

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3.40. Merensky library designed by G. Moerdyk, (1938).

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3.45. Aula and Student Centre (1958)

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3.53. Background image: Driving ambition, architect Gunter Henn designed the Volkswagen manufacturing facility on Strassburger platz, Dresden. Production site of the new vw Pheaton.

[*Champa, P. Surface, issue 43*]

3.54. The sacred city of the Inca, Machu Picchu. altering the landscape for centuries without destroying the balance of nature. [*Lanting, F. National Geographic, August 1999, vol.195 no.2*]

3.55. The megaliths of Khufu- and Khafre pyramids. [Reza, *National Geographic, January, 1997 vol. 191 no.1*]

MOMENT 04:

Assimilate cover page. From top to bottom:

4.1. The shaping of timber into wall-cladding. [Carter, B et. al. 2002. Office DA in All American: Innovation in American Architecture. London: Thames & Hudson]

4.2. Geographical barriers such as Robben Island's prison. 'The Island' as seen by the confluence of time and democracy into its current state as a World Heritage Site. Artist: P. Motloua. [Warren Siebrits Modern and Contemporary Art, Johannesburg. South Africa-Another Country: X27ap]

4.3. Faculty of Economics, Utrecht, the Netherlands. Mecanoo. [Cerver F. A. 1998. Selected Architecture: Public buildings / Private residence. New York: Whitney Library of Design. p.83]

4.4. Tulane University Centre, Louisiana. [Vincent James Associates in All

American p.136.]

4.5. The sculptural element of a wind barrier wall. [Bernado / Prat. 1997. Nuevos paisajes. New landscapes. Spain: Musea d'Art contemporani de Barcelona.]

4.6. Background image: Time exposure of lightning crack. energy fields of nature resembling the structure of tree branches. [Sartore, J. *National Geographic*. November 1998, vol. 194 no.5]

4.7. Highway geometry in a Jaguar X-type advertisement. Surface Spring issue #46. Surface Publishing ISSN: 1091-806x. p 59.

4.8-10. Aerial perspective photographs of Stonehenge at Salisbury, England.

[<http://witcombe.sbc.edu/earthmysteries/EMStonehenge.html>. 17/05/2004]. Earth Mysteries: Stonehenge.]

4.11. Aerial photograph of the great pyramids at Giza, Egypt. [<http://www.amtsgym.sdbg.dk/s/pyramid.htm>]ournal/photogalleries/sphinx/photo.html]

4.12. Aerial view of setting sun symbolising death at Giza, Egypt. Ancient Egyptians believed the sun god Ra's birth occurred at dawn and his death at the setting sun. [<http://www.nationalgeographic.com/egyptjournal/photogalleries/sphinx/photo.html>]

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4.13. Temporal design in the American Cultural Centre, Paris, France. Building was dismantled in 1993. [Migayrou 2001]

4.14. American Cultural Centre, Paris. [Migayrou 2001]

From top to bottom:

4.15. Photo of School of Architecture model. Project based on two axes. A horizontal east-west orientation, and a vertical programme differentiation. , Deux Lions District, Tours, France. [Migayrou 2001]

4.16. Model of School of Architecture eastern elevation. [Migayrou 2001]

4.17. Model of School of Architecture southern elevation. [Migayrou 2001]

4.18. Model of School of Architecture. Different levels each embrace different programme themes. [Migayrou 2001]

4.19. Courtyard view of School of Architecture, Deux Lions District, Tours, France. [Migayrou 2001]

4.20. The Carpenter Centre for the Visual Arts, Cambridge. 1959-63. Le Corbusier.

4.21. Prescott street elevation. Note the S-shaped ramp in the foreground. [Curtis 1986:218]

4.22. Level 3 presentation plan, Carpenter Centre. Le Corbusier. [Curtis 1986:218]

4.23. Project for Olivetti Research Centre, Milan. 1963. Le Corbusier. [Curtis 1986:216]

4.24. Sketch presentation of plan above freeway. [Migayrou 2001]

4.25. Model of West Coast Gateway, Los Angeles, depicting past and present layers inherent in any location. [Migayrou 2001]

4.26-28. Series of photographs featuring Barragan's 'The Towers of Satellite City' Mexico City 1957. The Towers reach a maximum height of 50.5m. [Ambasz 1976:52]

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- 7.2. Detail drawing of northern façade sunscreen skin connection detail.
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- 7.16. Photograph of Centre Pompidou. [http://www.weltbilder.cc/detail.php?image_id=267, accessed 12 August]
- 7.17. Interior photograph of displacement ventilation ducting in Centre Pompidou. [http://www.architectureweed.com/2003/1203/building_1-2.html, accessed 12 August].
- 7.18. Sectional drawing of Centre Pompidou illustrating the externally located main displacement ventilation ducting. [http://www.architectureweed.com/2003/1203/building_1-2.html, accessed 12 August].
- 7.19. Model of Centre Pompidou. [<http://www.jigsaw.w3.org/0004/000430-minifrance.html>, accessed 2 August].

- 7.20. Drawing of fire exits and effective areas.

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