Fract[ure]al

Platform Building at Menlyn

by Jané Pretorius

Submitted in partial fulfilment of the requirements for the degree
Master of Architecture (Professional)
Department of Architecture
Faculty of Engineering, Built Environment and Information Technology
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PROJECT SUMMARY

Programme:	Platform building for Gautrain station at Menlyn
Site description:	Menlyn Intermodal Transport Exchange
Client:	Gautrain Rapid Rail Link
Users:	Users of the Gautrain and the Menlyn Intermodal Transport Exchange, staff of the Menlyn Intermodal Transport Exchange and the general public
Site Location:	Erf 69, Menlyn
Address:	Corner of Frikkie de Beer Street and Dallas Road, Menlyn, Tshwane, South Africa
GPS Coordinates:	25°78'49.57"S, 28°28'06.35"E
Architectural Theoretical Premise:	Chaos theory, fractals and small-world networks
Architectural Approach:	Emphasize Menlyn as a node in Tshwane and integrate the various transport systems present in the Menlyn precinct.
Research Field:	Urbanism and human settlements

ILLUS. 1.1: Queen Anne's Lace plant as an example of fractals within nature.

ILLUS. 1.2: X-Ray of a fractured arm.

FRACTAL

Noun

- A curve or geometrical figure, each part of which has the same statistical character as the whole. THEY ARE USEFUL IN MODELLING STRUCTURES IN WHICH SIMILAR PATTERNS RECUR AT PROGRESSIVELY SMALLER SCALES, and in describing partly random or chaotic phenomena such as crystal growth and galaxy formation.

Adjective

- Relating to or, of the nature of a fractal, or fractals: fractal geometry.

~ Oxford Dictionaries, 2011.

FRACTURE

Noun

- The cracking or breaking of a hard object or material.
- A crack or break in a hard object or material, typically a bone or a rock stratum.
- The physical appearance of a freshly broken rock or mineral, especially as regards the shape of the surface formed.

Verb

- Break or cause to break.
- Sustain a fracture.
- Split or fragment within an organisation and become unable to function or exist
- FALTERING AND FULL OF MISTAKES; BROKEN.

~ Oxford Dictionaries, 2011.

Met dank aan my Skepper.

Dankie aan
my ouers, Herman en familie,
CJ en sy familie,
my vriende,
Jacques en Michelle se ma wat my ondersteun en in my glo.

In accordance with Regulation 4(e) of the General Regulations (G.57) for dissertations and theses, I declare that this dissertation, which I hereby submit for the degree Master of Architecture (Professional) at the University of Pretoria, is my own work and has not previously been submitted by me for a degree at this or any other tertiary institution.

I further state that no part of my dissertation has already been, or is currently being, submitted for any such degree, diploma or other qualification.

I further declare that this dissertation is substantially my own work. Where reference is made to the works of others, the extent to which that work has been used is indicated and fully acknowledged in the text and list of references.

The dissertation is 15 800 words long (excluding the scanned items).

Jané Pretorius

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"The first qualification for judging any piece of workmanship from a corkscrew to a cathedral is to know *what* it is - what it was intended to do and how it was meant to be used. After that has been discovered the temperance reformer may decide that the corkscrew was made for a bad purpose, and the communist may think the same about the cathedral. But such questions come later. The first thing is to understand the object before you: as long as you think the corkscrew was meant for opening tins or the cathedral for entertaining tourists you can say nothing to purpose about them" (Lewis, 1942: 1).