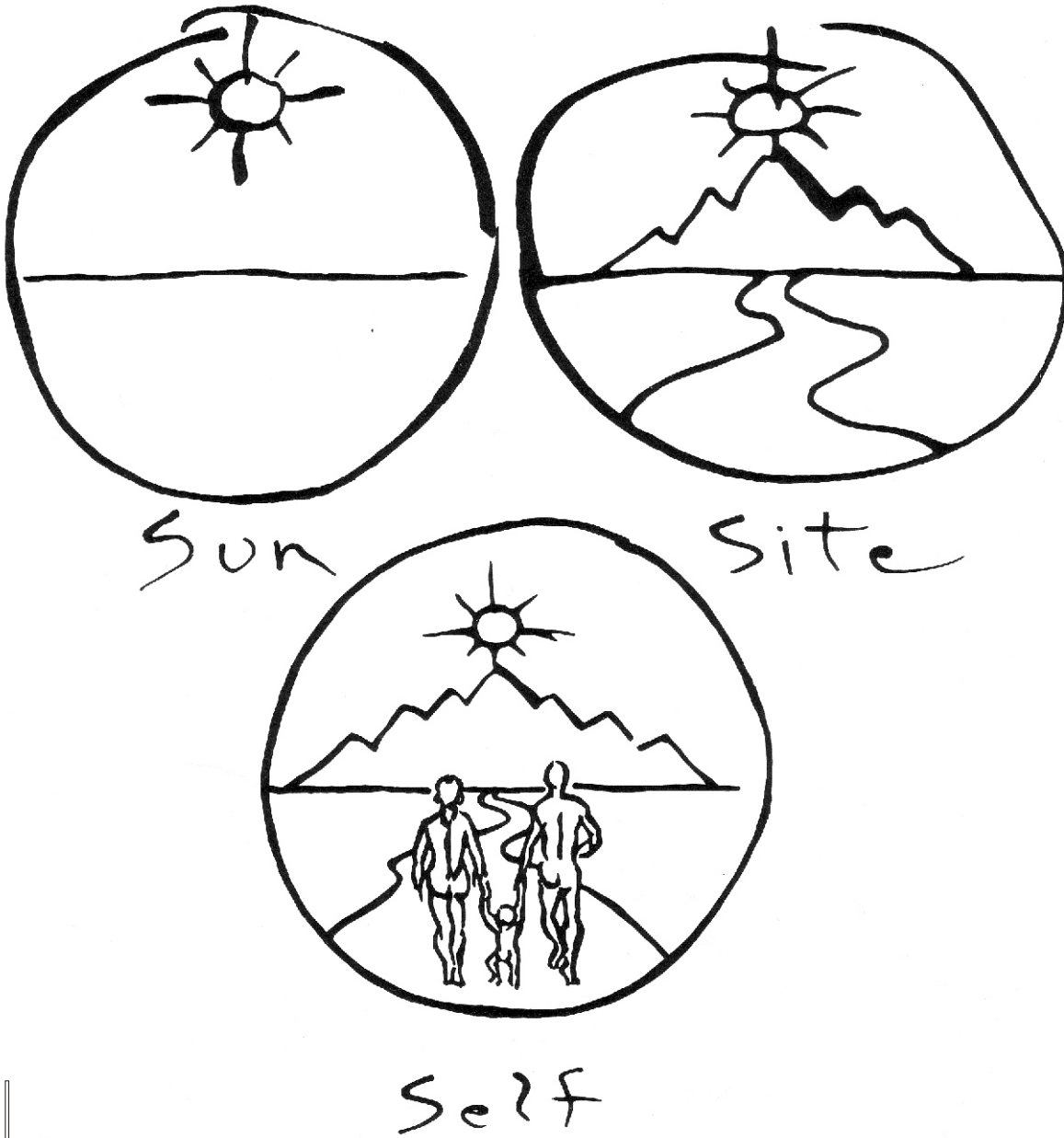


Hartbeespoortdam Butterfly Conservancy

Technical Investigation & Design Discourse

PART 5



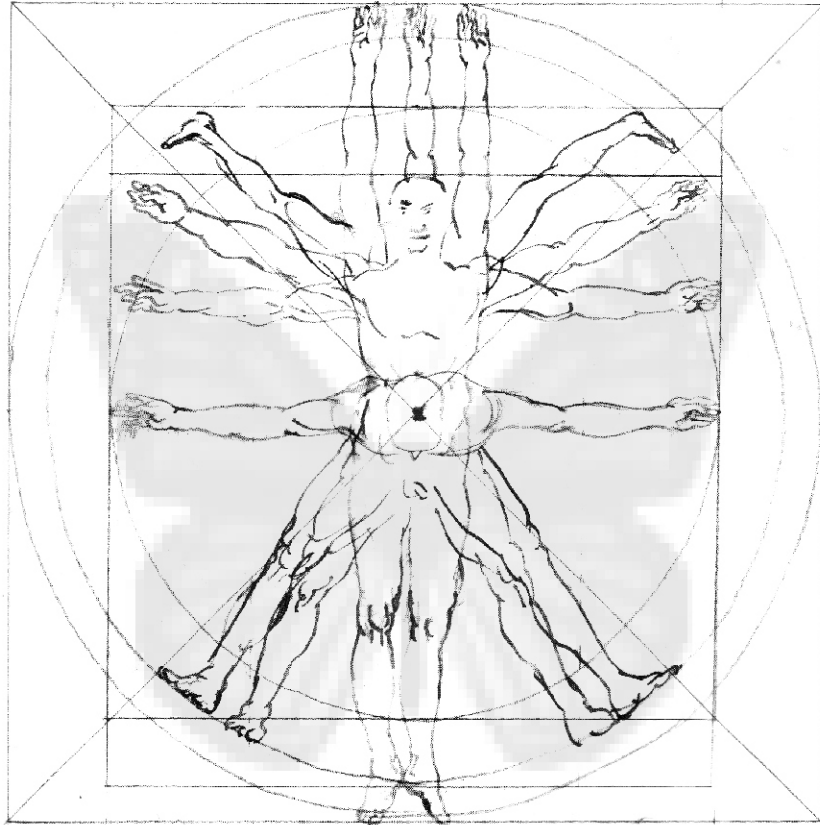


SUN is the measure of CLIMATE
University of Pretoria etd - Pethey, RP (2005)

SITE is the measure of SITUATION

SELF is the measure of SOCIETY

architecture is the attempt to resolve their requirements



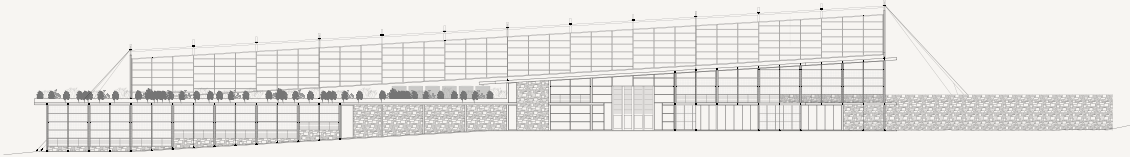
This drawing is a combined top, front & side view of man's basic proportions in relation to the circle and the square.

By themselves, these proportions do not make architecture. With relation to the concerns on the opposite page, they suggest reasonable minimum and maximum limits within which humans can predict and make architecture work for livability.

Certainly there are more concerns than I have listed. I have selected those subjects which most concern me as universal and perpetual form-suggesters.

Rad Dike





BUTTERFLY CONSERVANCY, HARTBESPOORT

Architects: Ryan Pettey and Associate Architects | Chief Consultant: Prof R C Fisher | Structural Engineer: Mr J Smit | Mechanical Engineer: Mr P Nel | Landscape Engineer: Mr P Vosloo

Stress and anxiety evaporate the moment you enter the building that the South African firm Ryan Pettey and Associate Architects designed. The project focuses on sustainable and user-friendly architecture. Form and function, inside and outside flow together in this delightful building, where butterflies flutter, students conduct their research and tourists relax and enjoy a meal prepared by the local chef.

A sense of anticipation awaits the visitors as they drive through the two and a half meter high-constructed berm. Once safely inside the conservancy grounds, all areas are accessible by foot. Special attention is given to people with physical disabilities as all areas are serviced by ramps. The walkways from the parking to the conservancy are carved into the landscape and weave between existing and planted indigenous vegetation.

It is built on the site of what was formerly a wholesale nursery. The butterfly conservancy is shaped like an elongated "I", which promotes cross ventilation. The north-facing section of the "I" houses the gallery, lecture theatre, shop, offices, laboratory and kitchen-the only mechanically ventilated space. The biomes are situated to the south and are designed to allow maximum light

The design is a low tech building with a high tech result, says Ryan Pettey, partner-in-charge of the project. Employees have much more control over their environment because there is no mechanical ventilation. The employees ventilate the building themselves by opening doors and windows and closing and opening blinds and louvres. The climates within the biomes are managed and adjusted by a climatic control unit which opens and closes louvres, increases or decreases water flow-through the evaporative cooling system-and switches heaters on and off in winter.

Nature is never far away here. The walkways in the biomes touch the tops of the indigenous trees. Deciduous creepers grow over growth screens and form the outer skin of the building, providing shade in summer. A sod roof provides thermal insulation and brings users in contact with nature.

Fundamentally, the most sustainable thing about the butterfly conservancy is the example it sets. The systems are well established and very new at the same time. The concepts-local materials, natural ventilation, sun angles and heat storage-have been around for centuries; it was merely an issue of integrating them into the modern design.



EMERGING ARCHITECTURE _ Separation of the Idea into Parts

The following list of words was my initial starting point in the project. Of interest is the dictionary term, which I randomly selected from a page in the Oxford Dictionary. Importance is given to making the link with cycles and environmental issues.

DAYCYCLESsUNRISEmIDDAYmIDNIGHTsUNSET

BANKINGCYCLESdDEPOSITiINITIALgROWTHiINTERESTrEINVESTEDpROFITSaACCUMULATE

PHYSICALCONTEXTcONTAINMENTiOSTiNsOLIDARITYeNCAPSULATEbEAUTY

BUILDINGCYCLESpREPARATIONeMERGENCEvOIDtERMINATING

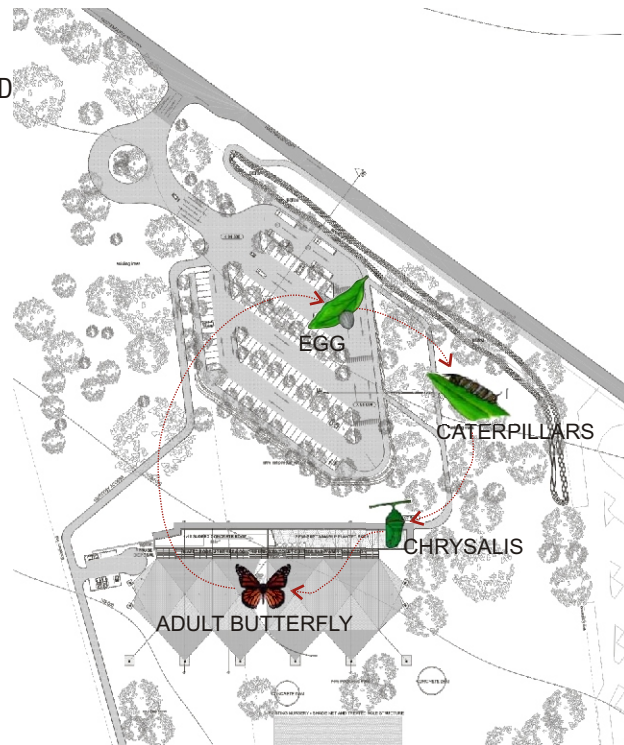
BIOMEScOSTALbUSHVELD-gRASSLANDmOUNTAIN fYNBOSmIXEDbUSHVELD

SEASONSsUMMERaUTUMNwINTERSPRING

CLIMATICZONEStROPICALmEDITERRANEANhIGHVELD

DICTIONARYfLEXONfLIGHTfLIMSYfLITfLOATYfLEW

BUTTERFLYCYCLESeGG LARVA PUPA BUTTERFLY



5.04

design REVOLVES aROUND CYCLES

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