Emergence in the self-organizing city
From guidelines to intervention

The theoretical argument identified three principles to guide design within a self-organizing system. These guidelines were used not only to set up an initial site development proposal, but extended throughout the design up to detail design level. However, the evolution of a self-organizing system is based on feedback, which is an iterative process. On a city scale, this process can span hundreds of years. Thus, the proposed intervention must be seen as a single step within this evolutionary process and the identified guidelines as the product of the history of city evolution.

Higher-level activity is the emergent product of lower-level activity, context specific and iterative in nature. Thus, these guidelines will most probably be different depending on place and time. For this specific place and time, the successful implementation of the three identified guidelines are as follows:

1. The creation of boundaries in order to define space:
   Using boundary as the main informant for space definition produced a site model based on pedestrian and vehicular movement. These movement studies are context specific and directly derived from the existing urban fabric and activities. Grading this model in terms of privacy levels programmed the initial layout according to optimum usage and thus a program and client profile was identified.
   Furthermore, these boundaries informed not only surface treatment, but also building skin design considerations. Both these elements are subject to the grading of space according to privacy and relates directly to quality of space.

2. The adaptation of boundary to transform space into place:
   The proposed intervention does not suggest an open building system where individualized physical adaptation can take place on a daily or weekly basis. It acknowledges the city evolutionary time scale and accepts the fact that any building has a limited lifespan. What it aims at is the adaptation of space as a reaction to the existing. Within the complex urban environment, adaptation of space is an inevitable product of emergence and thus to try and quantify any intervention according to adaptation as successful or not is irrelevant.
   Thus, the proposed intervention steers away from direct adaptation as a design consideration. The transformation of space into place, whether on urban or residential scale, will inevitably take place.

3. The continuity of experience:
   The intersection points of the juxtaposed barriers create opportunities for orientation while moving through the proposed intervention. These points of intersection were used to define spaces of transition between the different scales of privacy. Viewing these points as part of the movement over the site, they identify places where different types of movement intersect. Thus, these points become nodes of orientation not only for the immediate area, but on a city scale.
   Like Klee’s diagram explains (Figure 046 page 48), these points of simultaneous movement forms the prime catalyst for the opportunity of growth. As the starting point of evolution, they constitute the main orientation points within the dynamic urban fabric. The proposed intervention sees these points as foyer areas and places where the direction and mode of movement changes.
The residential block
- 4 disabled accessible units
- 4 units for the elderly
- 6 two/three bedroom units
- 2 two bedroom units
- 16 units, each with lockup
- Garage and garden on balcony or roof

The community hall
- Hall 01: indoor sport and training
- Hall 02: auditorium

Community newspaper

Day Care Centre and playground

Public foyer
- Access to day care centre
- Access directly from Bloed Street

Office block
- 4 small rentable offices
- 2 large open plan rentable offices

Existing corner building
- Restaurants, Ratanama butchery and smaller retail space
- Elevated sidewalk on top of existing canopy
- Access to smaller rentable offices and Restaurants

Brown Street

Entrance to Public square
- from Brown Street
- Transitional space where two boundaries intersect

Prinsloo Street

Bloed Street
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Figure 161: Corner of Bloed and Prinsloo Street showing eastern façade screen and north facing offices.
Figure 162: View of the public square showing the community hall’s southern façade.
Figure 163: The day care centre playground showing north-facing classrooms and housing on top.
Figure 164: View of Brown Street showing entrance to the public square and the housing block’s south western corner.
Conclusion

City form and growth is an evolutionary process deeply imbedded in the interactions between city elements and guided by feedback of these elements into the city as a whole. This defines the city as a self-organizing system, the quality of which cannot be deduced from the sum of the lower-level activities.

Understanding the city as a self-regulating super-organism allowed for the identification of three guidelines, among possible other. These principles were used to guide an emergent design process, which had the multi-functional intervention as product. As illustrated by the proposed intervention, these guidelines are independent of scale and can be implemented in all levels of design.

However, the iterative feedback system of the city will determine the outcome of any urban intervention which, in turn forms part of the lower-level activities of the city. Thus, on the city scale, form and growth is determined by only one entity: the city as a whole.