



**“Education is the key to growing the skills required in a cutthroat competitive world - the skills to design, plan and implement the changes we need to go forward as a nation”.**

Graeme Bloch  
Bloch (2009: 17)

**“Her day started at 05:15. She made a 45-kilometer two-bus journey to school, arriving slightly before 08:00. She became familiar with the passing urban landscape through the bus window, becoming acquainted with the moving space. She commented on feeling invigorated to see people on the move, making their way to their places of work or education. She recollected how her bus journey experiences, walking through the inner city to her school, and daily interactions with people from different backgrounds gave her a larger perspective on life beyond the limitations imposed by the streets around her house in Rustvale. Layla grew to love the exposure that her daily translocal mobility gave her, feeling privileged to encounter the buzz of the city and the ability to imagine a broader perspective of life”.**

Fataar (2009: 17)

01



## Introduction

As architectural professionals in South Africa, we have the ability to seek innovative solutions that explore the potential of adaptively re-using structures and the unique opportunities that they provide the educational building environment with. I believe that the potential of the existing building stock within the inner city of Pretoria should be taken advantage of before the option of new development for educational purposes is considered.

Cowan (1963: 56-59) suggests that most buildings are physically suitable for adaptation to most uses. This influenced the proposition that “long life-loose fit”, which was popular in the 1960’s, should be a guiding principle behind most design briefs. This longer view of use potential has recently seen a revival under the sustainability agenda as reported at the 2001 AIA convention (Plugman, 2001).

Within the current context of Pretoria and the availability of building stock, an adaptive re-use approach have the potential of creating dynamic solutions to the educational problems that not only our city, but also our country is currently facing. An architectural approach is required that re-defines the status and perceptions of our learning environments. This might in-turn re-define the role of educational environments within urban settings.

I believe that we as a nation should strive towards an ideal in which not only our youth, but the whole nation has access to quality education and supportive environments. A general perception of perceiving education as exclusive resource should be replaced by one of inclusiveness. These educational environments should be of the highest quality that offers its users the maximum exposure to educational programmes and provide the necessary resources to support these.



fig.1.1. Students from Berea Park School



fig.1.2. Students from Berea Park School



fig.1.3. Students from Berea Park School

## Chapter 1

# Introduction

## Background

In recent years a significant number of Independent Schools have been established within the inner city of Pretoria.

Hofmeyer (2001: 15) and the Independent Schools Association of Southern Africa (ISASA) (2001: 17) states that there had been significant growth in independent schooling after 1990. James (1991) identifies two types of demand which, according to ISASA (2001: 4-5), have supported the growth of independent schooling since 1990:

- "Excess" demand for more schooling (usually associated with developing countries)
- "Differentiated" demand for different, and perhaps better schooling (usually associated with developed countries)

James (1991) suggest that "excess" demand probably accounted for most of the growth and largely took the form of Black middle and lower socio-economic households as a result of the Apartheid legacy of poor standards and pass rates in many predominantly Black schools. Fataar (2007: 9) suggests that Coloured and Black children all the more choose to access inner city schools because they regard them as crucial for cultivating the necessary aspirant dispositions that will allow entry into formal middle class employment and lifestyles.

However, James (1991) further suggests that differentiated demand, characterizing the traditional and religious schools of the past, also accounts for some of the growth in independent schooling. He refers to two groups in particular that were responsible for heightened differentiated demand:

- White households, which were concerned that the democratic government would not protect their cultural and religious ethos in respect of schooling
- Black households that could afford better quality schooling as a result of increasing social and economic mobility.

Hofmeyer (2008) argues that Private Education for the Poor (PEP) predominantly serves disadvantaged

Black learners in inner cities, informal settlements and rural communities. She states that PEP takes form in two distinct categories:

- Informal: Grouping of students within houses
- Formal: Established in rented or donated premises (mostly disused warehouses, offices, old houses, farm buildings and churches).

All of these newly established Independent Schools within the inner city of Pretoria have made use of an adaptive re-use strategy to convert mostly redundant apartment-and office, but also warehouse and workshop building types into schooling facilities (figs.1.4 - 1.11).



fig.1.4. Berea Park School



fig.1.5. Confidence College



fig.1.6. Greenwood College



fig.1.7. DANSA International College



fig.1.8. Founders Community School



fig.1.9. Princefield Trust School



fig.1.10. Haywood College



fig.1.11. Christian Progressive College

## Educational Demographics

Pretoria contains numerous educational institutions (fig.1.13). These range from crèches and nursery schools to various public and independent primary and secondary schools, colleges and universities. Pretoria is also home to prominent tertiary educations such as the University of South Africa (UNISA) (fig.1.12), the University of Pretoria (UP) and Tshwane University of Technology (TUT) which all have campuses distributed throughout the larger Tshwane. Pretoria can thus be seen as a true city of learning that attracts people from all over Tshwane, Gauteng, South Africa as well as internationally for educational purposes.

Following an investigation into the current state of education within the inner city of Pretoria during 2009, and by means of questionnaires handed out by the author to the individual principals of schools within the city, it was concluded that the majority of scholars reside in the townships surrounding Pretoria. These include Hammanskraal, Soshanguve, Atteridgeville and Mamelodi, all of which are located an average 25km from the inner city (fig.1.14). There are however a small amount of scholars residing in the nearby precincts of Sunnyside and Arcadia.

Most students that travel from the townships thus have to make use of long distance transport modes like taxis, busses and trains (fig.1.16). They often have to make use of multiple transport modes in one journey. Students living in close proximity of their school either walk, cycle or make use of private transport to reach their destination (fig.1.15).



fig.1.12. University of South Africa (UNISA)

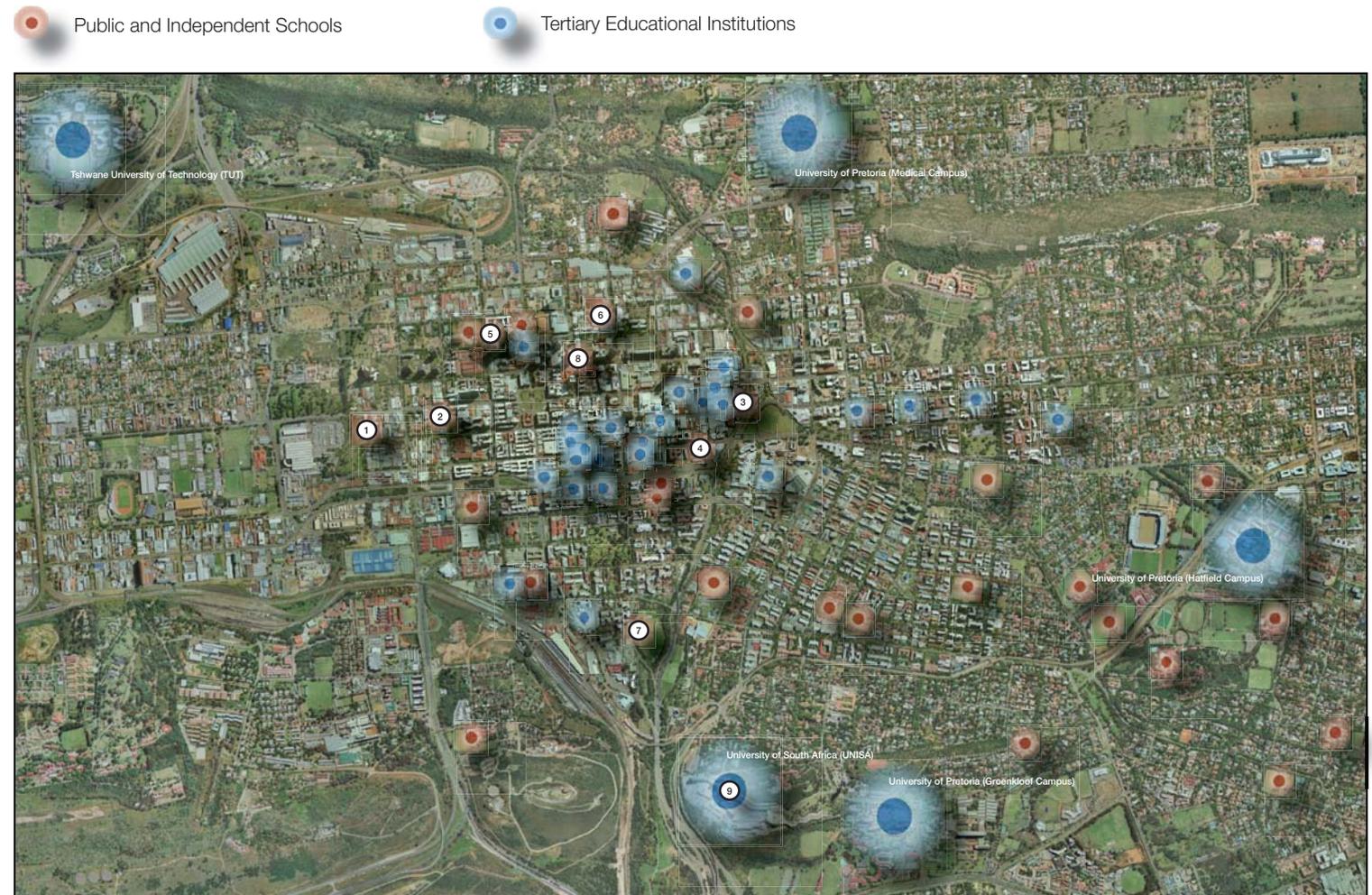


fig.1.13. Distribution of Educational Institutions within and around the inner City of Pretoria

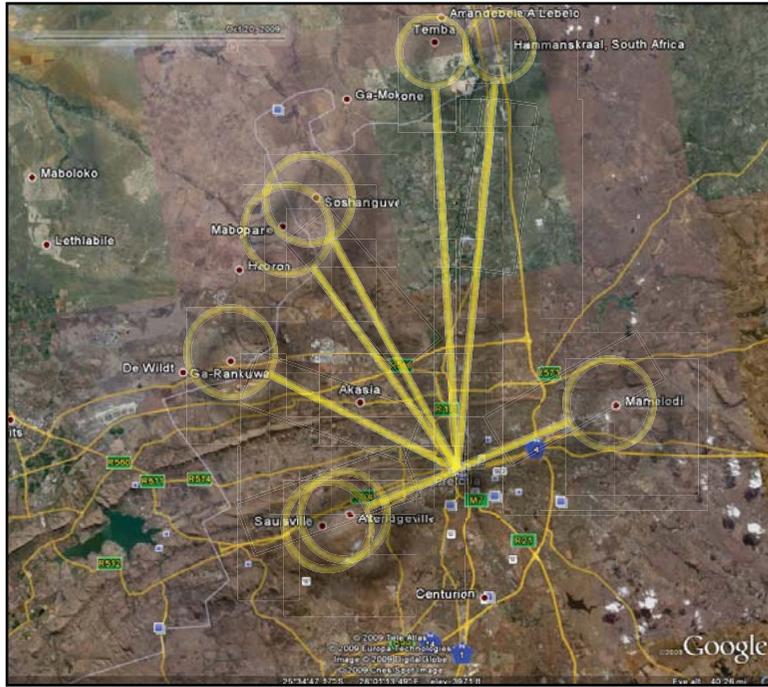


fig.1.14. Traveling routes towards the city of Pretoria from its surrounding townships and informal settlements (not to scale)

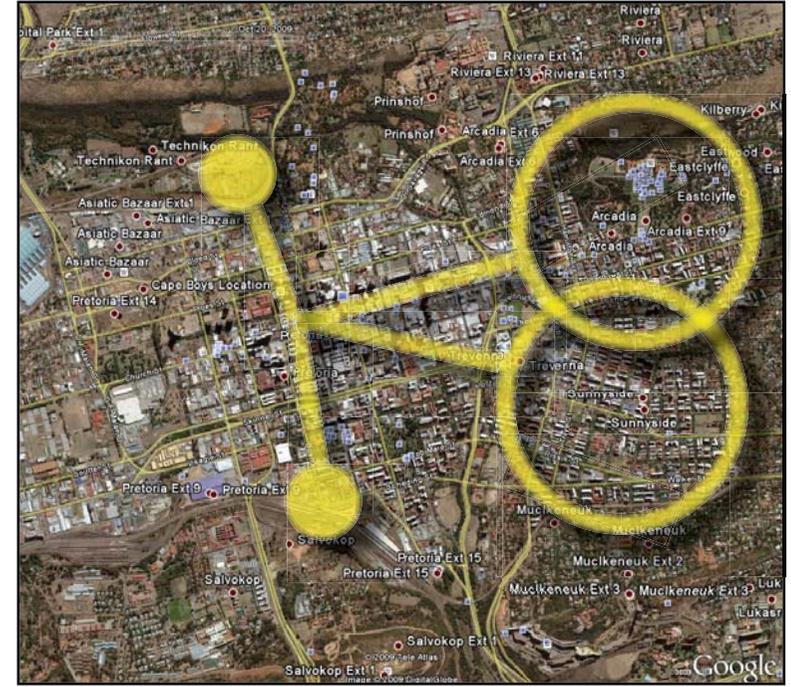


fig.1.15. Influx of students from the Arcadia and Sunnyside residential precincts, as well as Pretoria Station in the south and Belle Ombre Station in the north

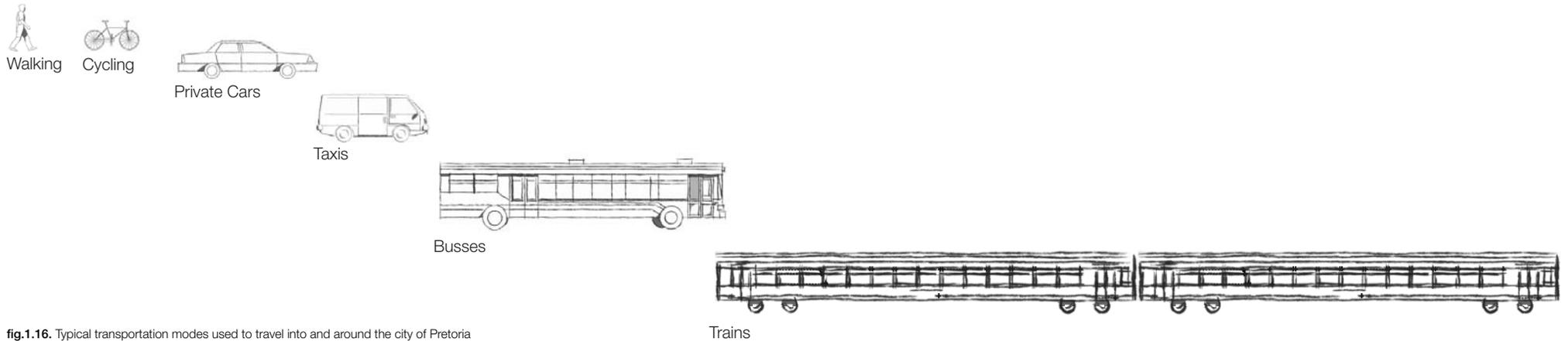


fig.1.16. Typical transportation modes used to travel into and around the city of Pretoria

## Problem Statement

The question that arises is whether these adaptively re-used schooling facilities are built to fulfill the minimum requirements for schooling facilities as set out by the Department of Education in their document entitled; National Minimum Uniform Norms and Standards for School Infrastructure. Within the document referred to it is clearly stated that: “as a national instrument, these norms and standards will apply to ALL public ordinary schools (excluding hostels) that operate in South Africa. Also, in the process of registering an independent school, the MEC will ensure that such schools oblige the minimum norms as indicated in the document referred to.” DOE (2008)

Most of these inner city schooling facilities are not located on typical sites that are prescribed by the Department of Education. This means that various norms and standards have to in fact be interpreted and rationalized in order to suite their individual contexts.

The Department of Education have defined three level of provision meeting norms and standards:  
1. Safe / 2. Functional / 3. Effective. DOE (2008)

1. Safe: “Norms and standards for a safety level that are the bare minimum allowable for a school to remain open.”
2. Functional: “Norms and standards for a functional level of provision is a minimum tolerable level of provision. Conceptually, the functional level of provision is that which allows the core functions of a school to run without undue interruption or inconvenience.”
3. Effective: “The effective level of provision is the optimum norms and standards. It comprises all facilities that most educators would agree is necessary for them to effectively support student training.”

An investigation into the current state of Pretoria’s inner city schooling facilities revealed that although these institutions are either on a safe or functional level, the vast majority are still inadequate educational environments that are not on an effective level, and thus do not meet all of the prescribed optimum norms and standards as set out by the Department

of Education (figs. 17-19).

Bloch (2009: 82) refers to the national disaster in which our country’s education is finding itself presently by stating that according to departmental figures, 17% of schools have no access to electricity; 19 940 (or 79%) schools have no library facilities; 60% of secondary schools have no laboratory facilities; 68% of schools have no computers; 31% of schools depend for their water supply on boreholes or rainwater; of the 9 461 schools with municipal services, 6% depend on mobile tankers and 30% on communal standpipes; and lastly that 61% of schools with bucket or pit latrine systems have no sewerage disposal system in place. He adds that most schools thus are not very inviting places, nor places where pupils or teachers would want to spend their time.

Without a doubt the above-mentioned factors are influencing the education provided in our country and our city, Pretoria, and impacting our economic potential as well as affecting the quality of labor force available.



fig.1.17. Playgrounds (inadequate recreational space)

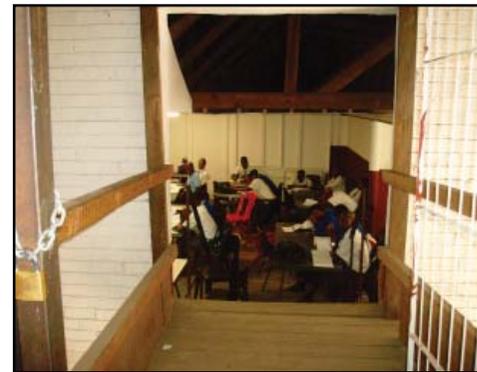


fig.1.18. Classrooms (inadequate natural lighting and ventilation)



fig.1.19. Library (no provision made for the storing of books)

## Research Methodology

Research into the theme of inner city schooling began in 2009. As part of the BArch(Hons) the author set out to investigate all of the inner city schooling facilities within Pretoria. The investigation was photographically documented. Questionnaires that asked general questions relating to the schools history, its infrastructure and general needs was conducted and completed by each individual principle.

This investigation revealed that the majority of independent schools have relocated recently and that all of the independent schooling facilities visited, are the result of an adaptive re-use strategy. The investigation also contributed to the profiling of a typical inner city school that is as follow:

- An independent subsidized school
- Accommodates primary and secondary phase
- Located within an office/warehouse building type
- No recreational facilities, but events are organized
- No access to certain subjects because of inadequate facilities
- Have to travel approximately 20km to school and back each day
- Have to take a train, bus or taxi to school, walk if they live nearby
- General unsafe conditions as the interface between the school and the public realm are treated inadequately.

This initial research was only an introduction to the current state of education in the inner city of Pretoria. This lead to the identification of specific areas that needs to be researched in order to work towards an eventual solution.

The areas identified for further research include:

- Educational context of Pretoria
- Adaptive re-use strategies
- Educational facility planning
- Pedagogical philosophy
- Educational partnerships

In support of the above, architectural theories was investigated which guided the Architectural ap-

proach towards the proposed design. These theories include:

- Humanistic Architecture
- Community and Privacy
- Defensible Space (Oscar Newman)
- Theory by Herman Hertzberger
- Contemporary Educational Trends

The research process was done in an iterative way. New issues affecting the project were constantly influencing the outcome of the project.

## Unlocking the Project

The research process followed could be compared to an "Architectural Key" which "unlocked" the Architectural project.

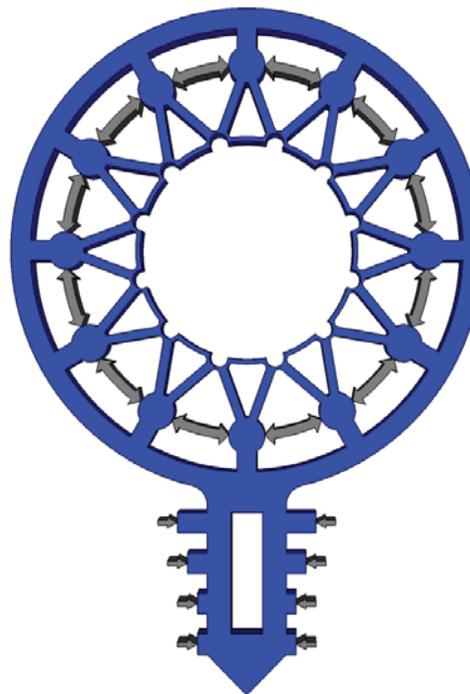


fig.1.20. Phase 1 - BLUE

BLUE represents the first phase, the identification of the problem. This problem is the result of a number of factors that contribute to a communal issue in a negative way. These factors are not all contributing equally to the problem and thus could be said to contain a hierarchy. This hierarchy needs to be identified in order to give importance to the factor that contributes to the greatest portion of the problem. The problem could be divided into sub-problems that is a direct result of the identified problem. These sub-problems are inter-related to one another and are directly linked to the problem.

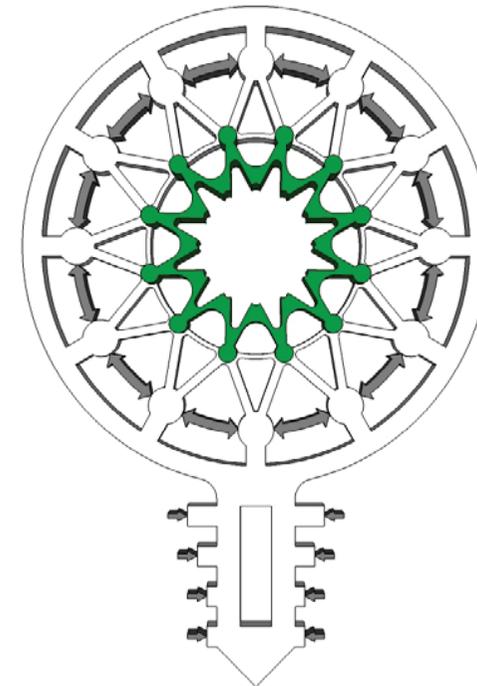


fig.1.21. Phase 2 - GREEN

GREEN represents the second phase. This phase is reached when the sub-problems are understood, and communal architectural issues are identified that links the sub-problems. These points can be seen as neutral as they are located in-between the negative, the problem, and the positive, moving towards an architectural solution.

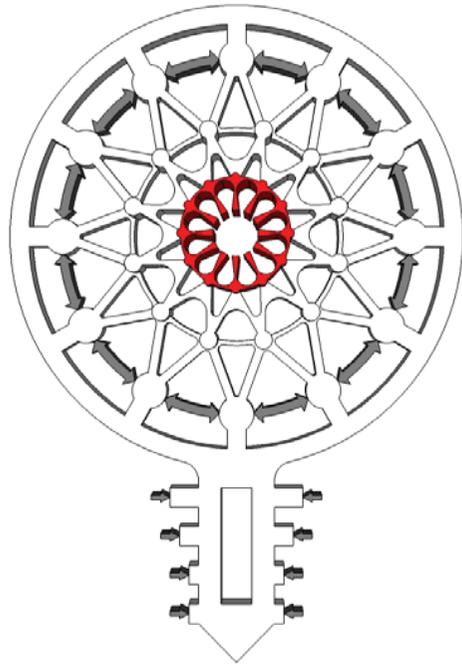


fig.1.22. Phase 3 - RED

RED represents the heart of the “key”. This is where the communal architectural issues identified are architecturally interpreted. An exploration starts to happen which uses architectural theories, precedent studies and experiences to form concepts that addresses the problem. This phase is constantly pulsating and producing solutions. It is alive and difficult to control.

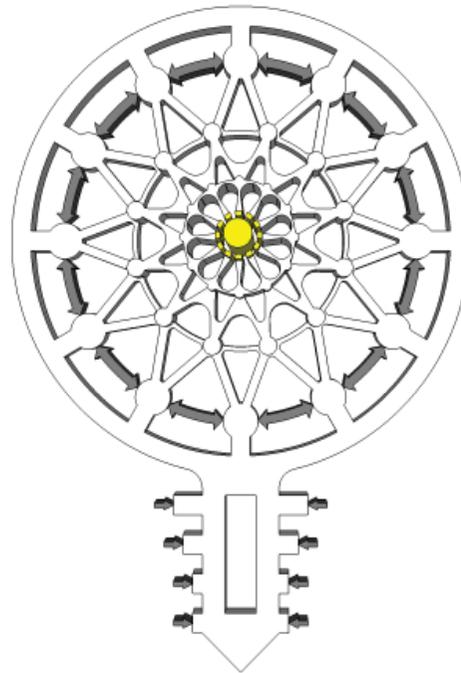


fig.1.23. Phase 4 - YELLOW

YELLOW represents the result of the architectural concept. It is starting to shape as a project but needs to be tested first. Practical issues regarding the concepts produced are resolved here and the result laid forth as a final solution. The final result is the nucleus of the key. Its quality is judged in relation to the whole.

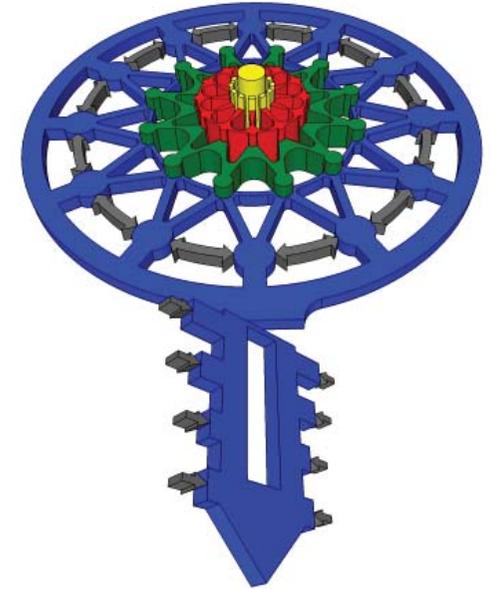


fig.1.24. Phase 5 - TURN 1

The key can now be turned for the first time. It needs to be stated that the unlocking of the project has now only reached its first stage. It has now only opened the first “door” that leads toward the final solution. During a project this “key” is constantly turning, unlocking new “doors” and continuously moving towards a more refined final solution.

Lastly, it has to be accepted that this “key” will never stop turning. The only thing that will make it stop, is time itself...