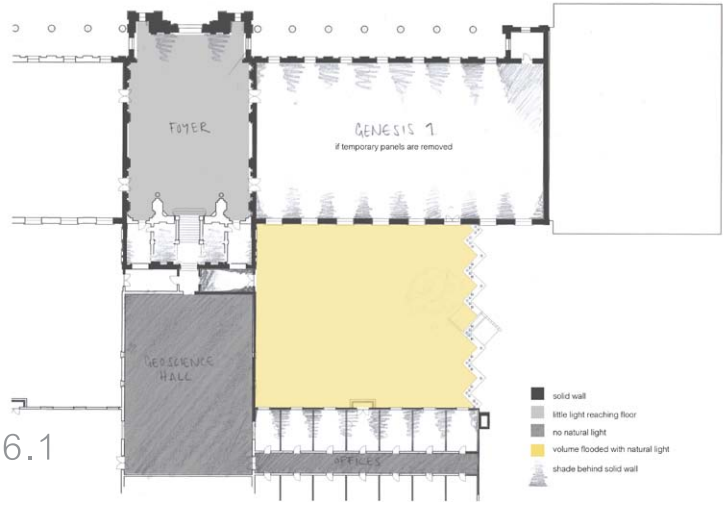
# site analysis 6

detailed analysis of site in terms of elements of experience

The site, building and steel vaults will be analysed in terms of the elements of experience discussed in chapter 5, namely light, context, material, object and scale, as well as circulation through the existing building and limitations of the intervention. The existing building and steel structure, which is the context of the new intervention, become major informants for the design and therefore thorough analysis is required.

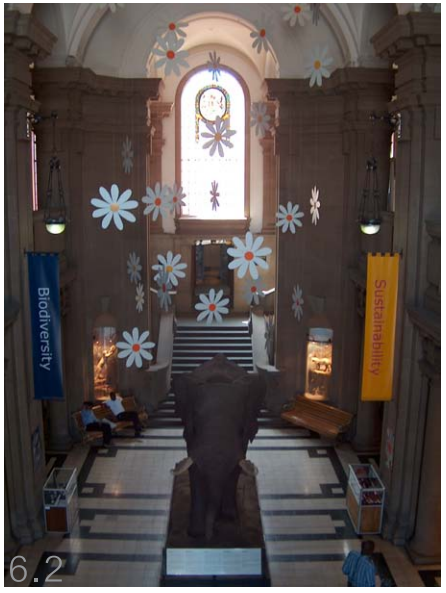
## 6.1 Light

The influence of natural light on the spatial experience should not be underestimated. Natural light does not always provide the desired effect for specific experiences, but it plays an important role in energy saving as well as the psychology of the user (Edwards and Torcellini 2002:2).




6.1

The foyer of the museum, especially the staircase, is lit by windows on the eastern as well as western facade, as well as through the glass entrance. These windows are placed high in the double volume, so not much light reaches the ground. The windows, and the light that penetrates through




6.2

Figure 6.1: Diagram showing natural light entering the foyer, Genesis Hall 1, Geosciences Hall and offices to the east of the vault.
Figure 6.2: Photo showing window above staircase and across from entrance into foyer.

them, across from the entrance into the foyer and above the staircase, lead the user to the stairs.

Natural light enters the exhibition halls through windows on the facades in the volume formed by the steel vault as well as on the western facade. At the moment the windows in Genesis Hall 1 are closed off by exhibition panels, which deprive the interior of natural light (figure 6.3). By removing these panels, the hall could be much lighter and a link can be established with the volume within the structure and the new intervention.

The effect of light in an interior space can be clearly seen in the experience of Genesis Halls 1 and 2. Genesis 1 is experienced first, where the natural light is completely blocked out by panelling for the exhibition. The space is lit by artificial light, but the absence of natural light is immediately felt. Mickenberg (2008) states that studies have shown that a view out a window can help the user to refocus attention. This might become important for the museum environment where the user focuses on one fact after the other. In Genesis 2, natural light floods the space.  This has a tremendous impact on how the space is experienced and results in the user lingering longer.

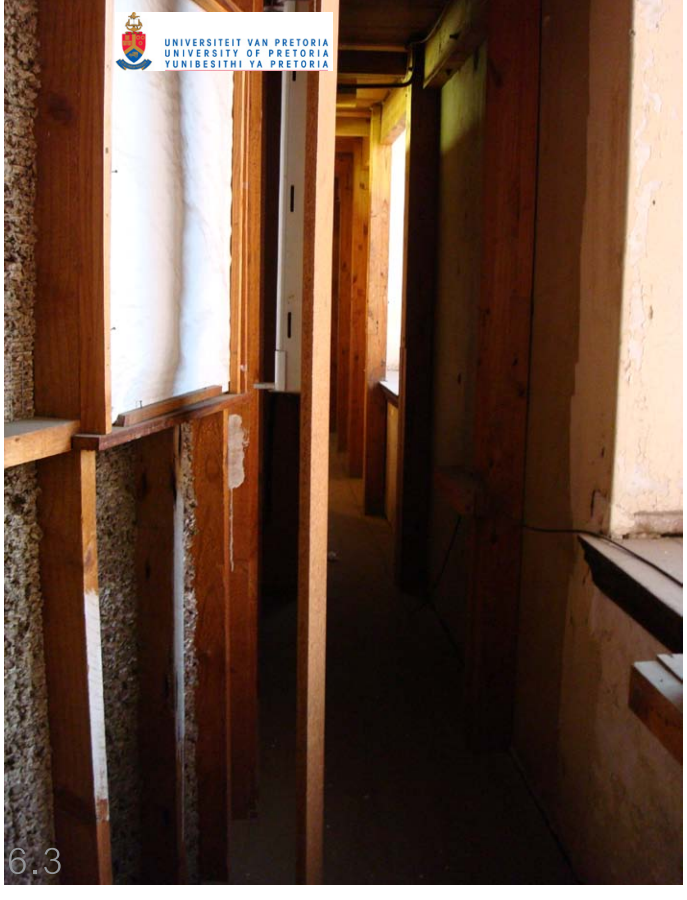



Figure 6.3: Exhibition panels blocking natural light from entering the hall



Figure 6.4: Genesis Hall 1

Figure 6.5: Genesis Hall 2

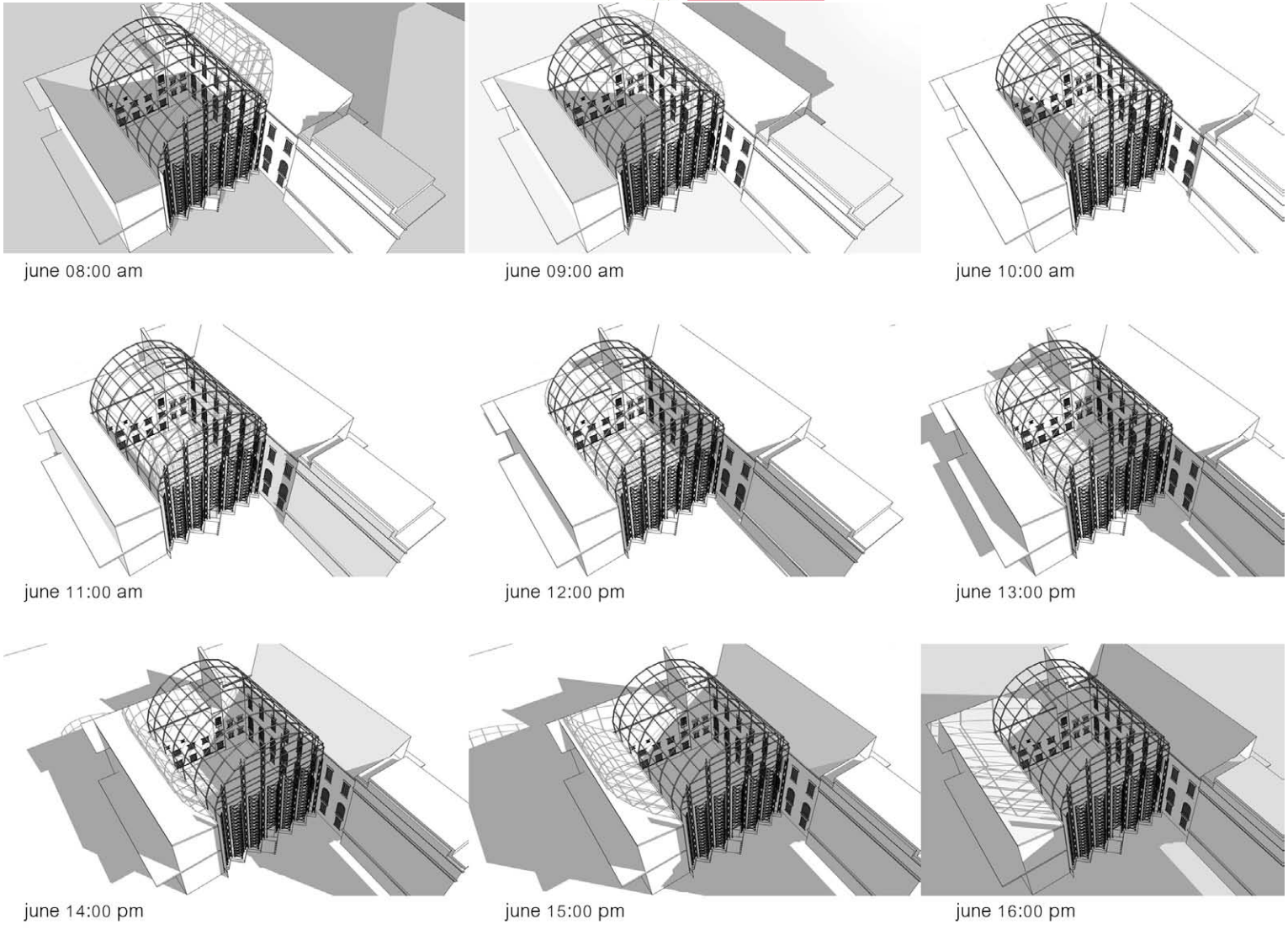



Figure 6.6: Diagrams showing the shade in the vault in June

The vault volume is surrounded by the main building on three sides. This results in deep shadows in the morning and late afternoon. The following diagrams show shadows in the vault in June (winter) and December (summer).

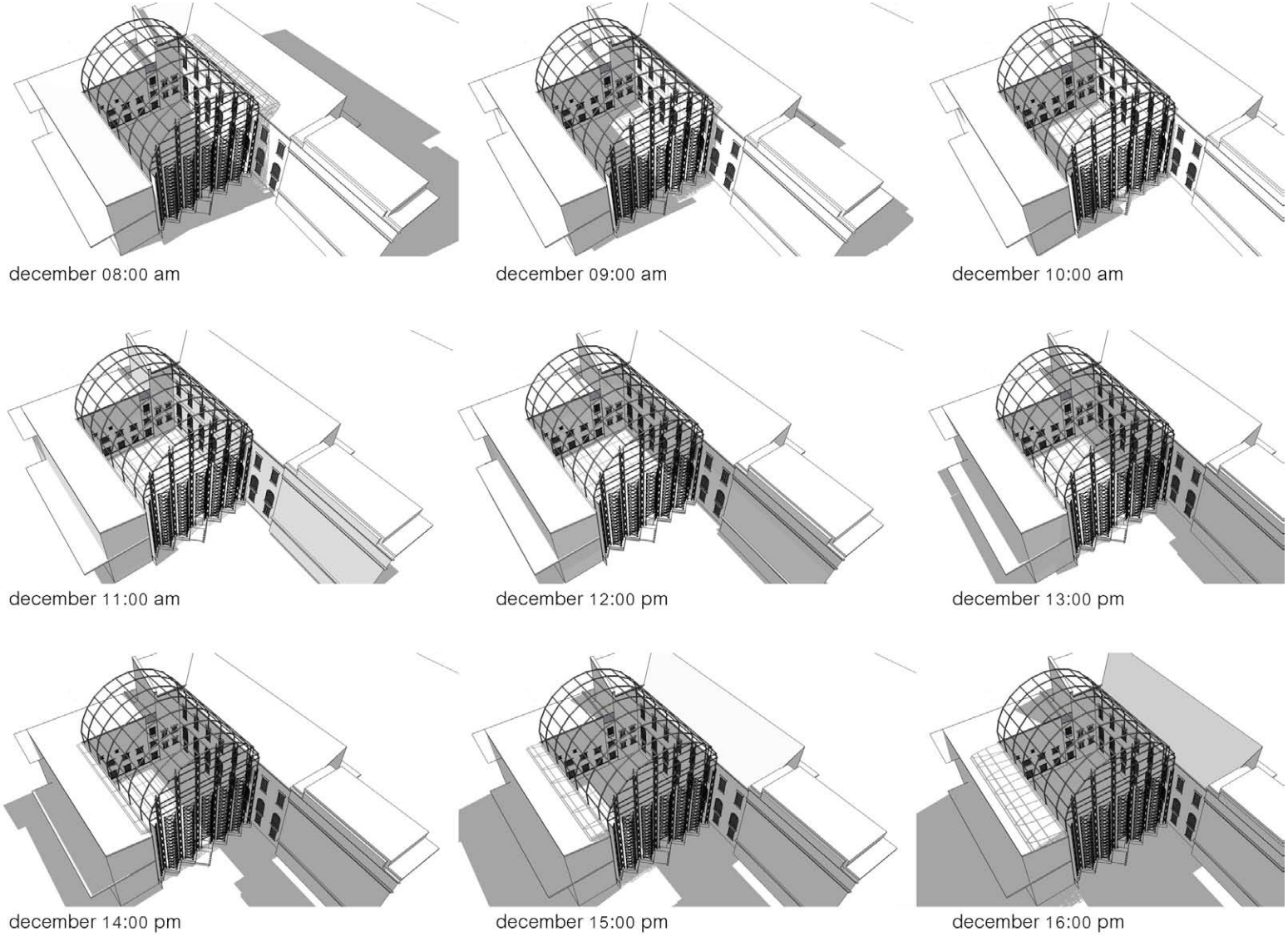
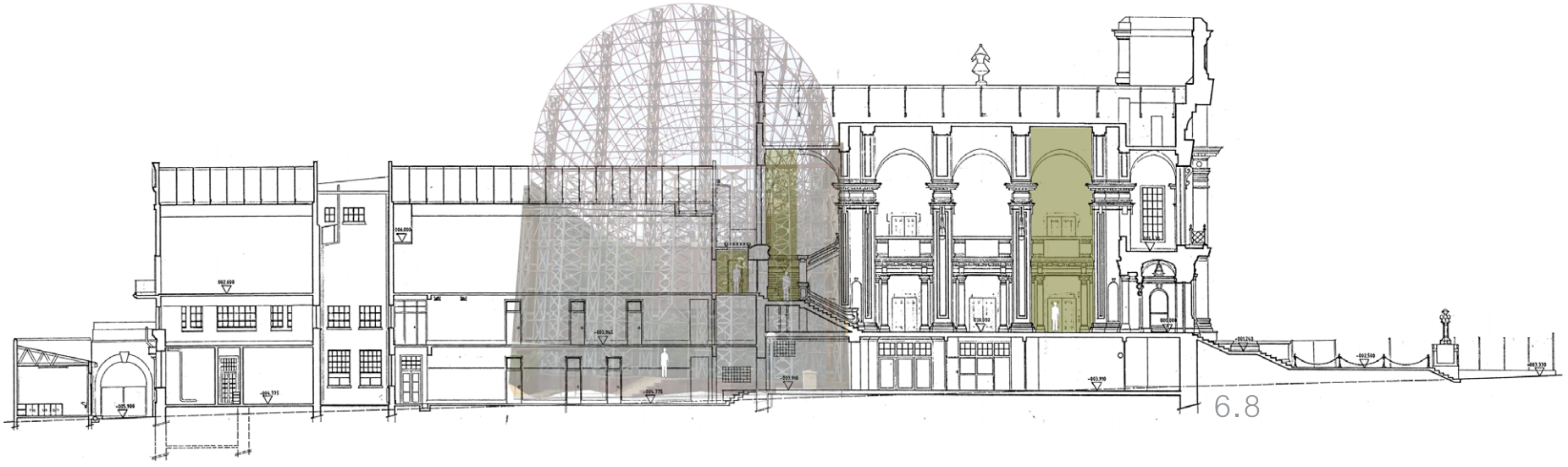



Figure 6.7: Diagrams showing the shade in the vault in December

In the winter, the ground level has full sun only from around 11:30 am to 12:30 pm. In summer this is extended from 11:00 am to 13:00 pm, after which the shadows slowly starts to come over. The northern facade of the building is always in shade in December, but receives much more sunlight in June.

Morning and late afternoon might be cold in the space, because of the shade of the buildings. In summer it should be warm, but certain parts of the building are always in shade, which helps cool the space. The shade facilitates, along with the grass and plants, in the creation of an environment that does not feel harsh, despite the sunlight flooding the space.




## 6.2 Scale

Light contributes to the effect of scale. In the foyer of the museum, the scale of the volume above the stairs feels bigger than that of the foyer itself, because of the intensity of the light directly above the user. The space in Genesis 1 feels much smaller than in Genesis 2, although the halls are exactly the same size. This is caused by the absence of sufficient natural light and because of objects in the space. The intention might have been that the volume would be experienced as higher if the user walks through a very low space before entering the double volume (figure 6.12). Experience is created by context, but because the volume and ceiling are dark, the volume is perceived as lower than  it really is.


Figure 6.8: Figure showing scale and placement of interior spaces
Figure 6.9: Low volume followed by higher volume in Genesis 1

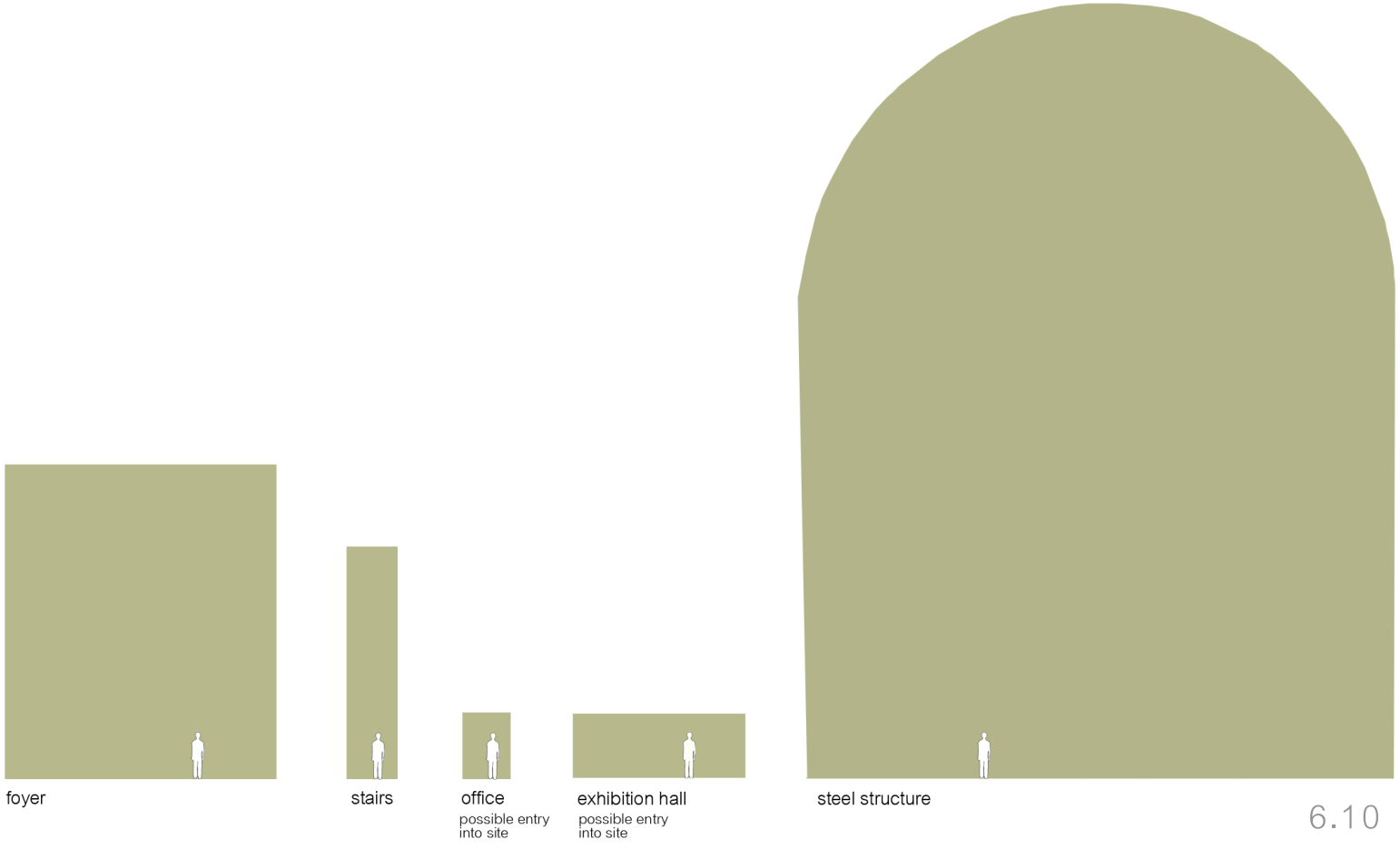
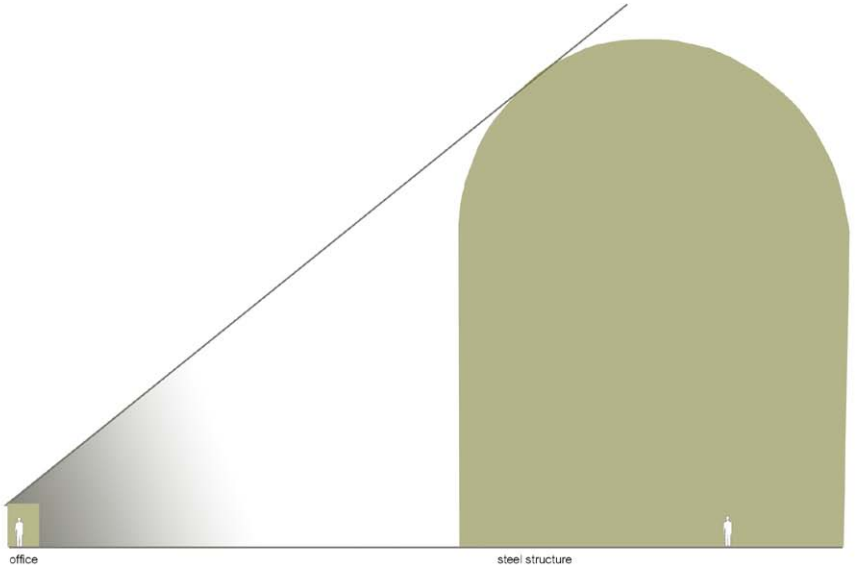


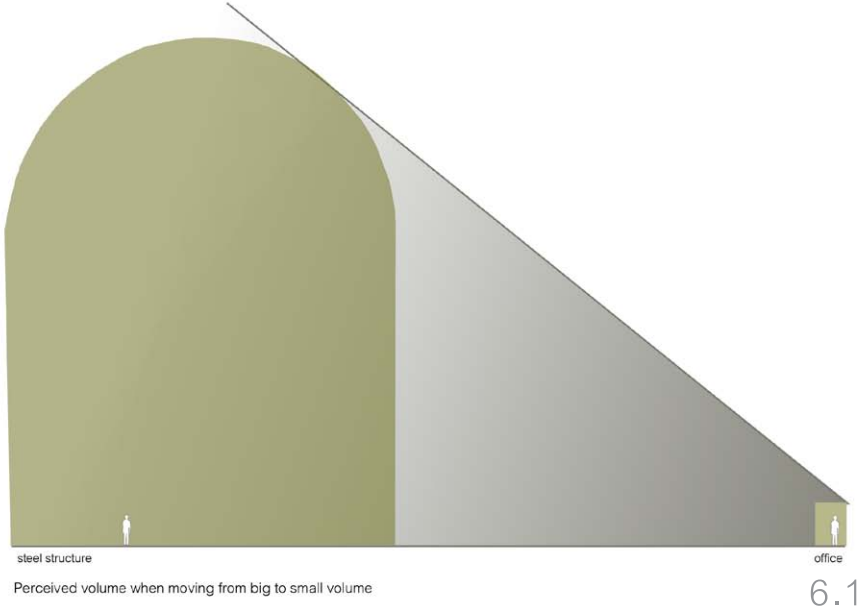

Figure 6.10: Diagram showing actual scale of interior spaces against the volume in the steel structure

## 6.3 Context

A space or volume must be seen in context to understand the possible experience within it. Space cannot be seen in isolation. The space, through which the user has moved to reach another volume, influences the experience of the following space. If a user walks through a space with a big volume or large perceived volume into a space with a low ceiling, the second space would be perceived as smaller than it would have been if the first space was dark and small. The office space might be experienced as being smaller than it really is, after coming through the foyer and volume above the stairs. The volume within the steel vault might be experienced as even bigger if it is entered through the museum spaces rather than when entering from the outside on ground level. The height of entry may also play a role in the perception of the volume being larger than it is, as the user is approximately ten meters lower on the ground than they would be at the entrance from Genesis 1.

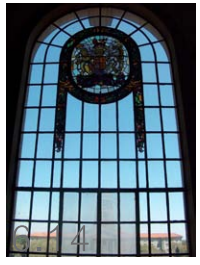
The entrance to the site determines (to an extent) the experience within the space.The inherent scale of the volume is influenced by the placement of the entrance, as this determines the perception of the user. The perceived volume needs to be taken into consideration when looking into the spatial experience of a space.

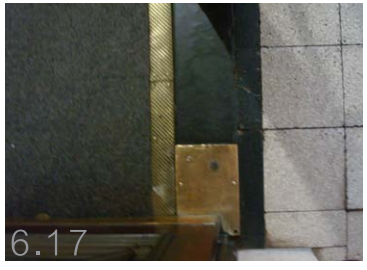


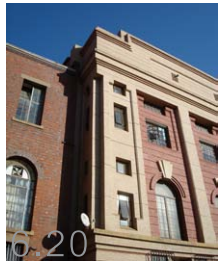



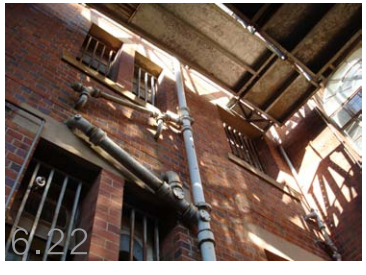

6.11

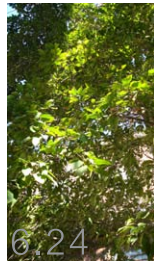
Figure 6.11: Diagram showing the perceived scale of a volume in terms of context











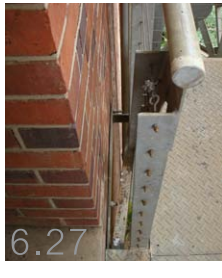



Figure 6.12: Stairs and handrail at entrance of museum
Figure 6.13: Floor finish in foyer
Figure 6.14: Window above foyer
Figure 6.15: Sandstone staircase
Figure 6.16: Floor finish from stairs to hall
Figure 6.17: Floor finish change between hall and Genesis 1
Figure 6.18: Interior of Genesis 1
Figure 6.19: Interior of Genesis 1
Figure 6.20: Building facade
Figure 6.21: Steel structure of Vault
Figure 6.22: Service pipes on facade of building
Figure 6.23: Wild fig tree roots
Figure 6.24: Wild fig tree leafs
Figure 6.25: Entrance into vault
Figure 6.26: Ramp on facade of building
Figure 6.27: Ramp attached to building

## 6.4 Materiality

Materials can provide sub-conscious information to users that influence the experience of a place. The sandstone of the building immediately gives a historical status to the museum. The steel ramp and steel structure against the brick of the building creates a contrast and confirms the difference in the volumes enclosed. The green of the wild fig tree implies a natural environment and the texture of its roots contrast with the solidity and geometric character of the concrete and steel structure, demonstrating the contrast between man-made and natural.

## 6.5 Objects in space

The Ditsong Museum is known for the whale skeleton in front of the building (figure 6:28). This object in space immediately stimulates a feeling of awe and curiosity. An interesting space underneath the structure and skeleton is created, where the user can move underneath it and experience the skeleton from different angles. This encourages closer investigation and stimulates knowledge transfer without forcing the user to engage in the activity. The object shows the monumentality of not only the whale, but of the museum as well.

When entering the foyer of the museum, the first thing the user sees is the elephant in the centre of the space (fig. 6.20). The scale of the foyer means that the size of the elephant is not overpowering in the space, but again shows monumentality and immediately introduces the user to the content of the museum.

Exhibitions are objects in space. It is not only the artefacts on exhibition that create experience within space, but also that on or through which the artefacts are exhibited that contribute to the experience of space. Genesis Halls 1 and 2 are exactly the same size, but the experience within Genesis 1 was drastically altered when temporary structures were erected within the hall to create more exhibition space (fig. 6.30). The result is that the volume is very small in some places, and the natural light is eliminated from the space.

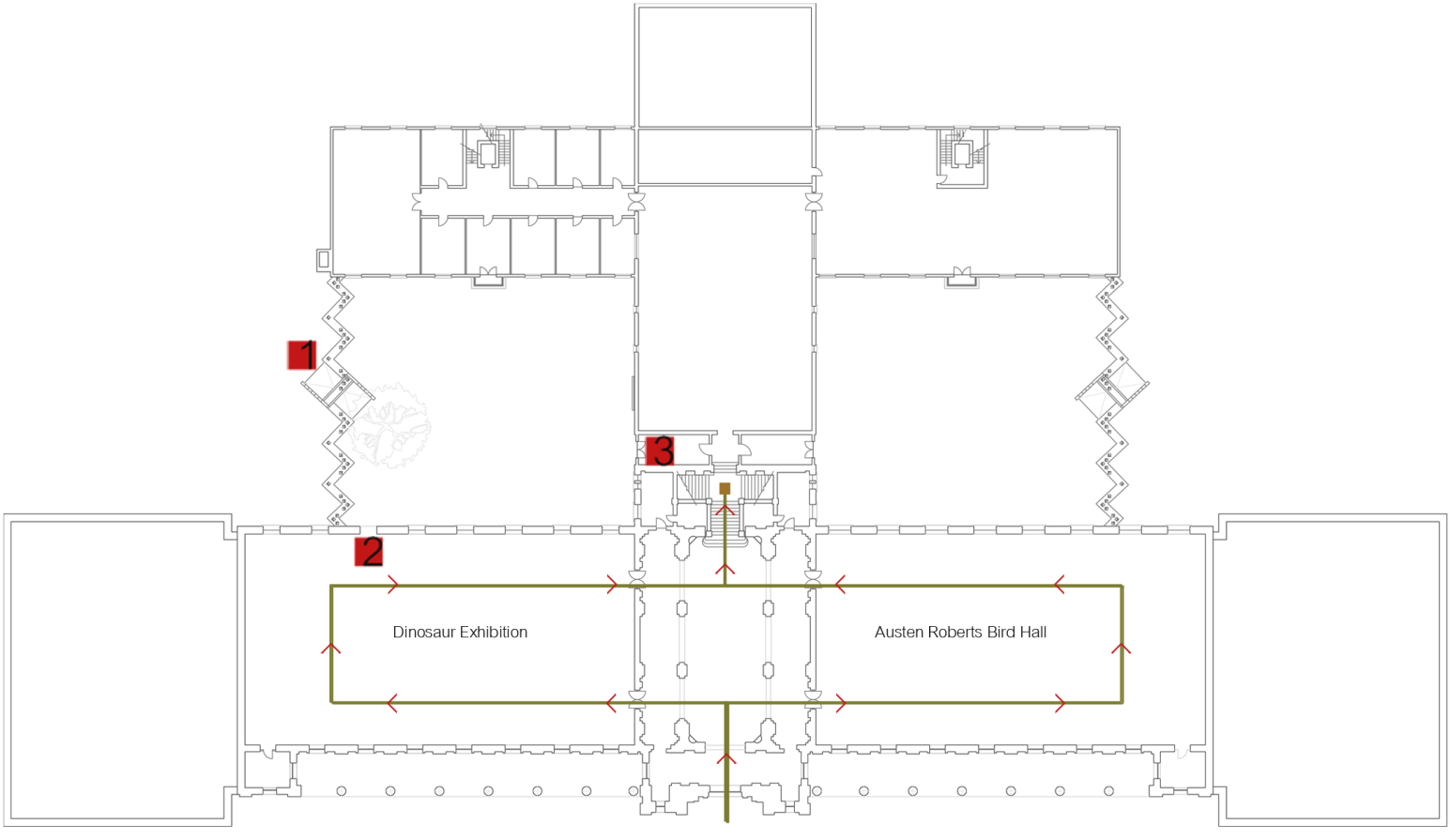



Figure 6.28: Whale skeleton in front of Ditsong Museum
Figure 6.29: Elephant in the foyer of the museum
Figure 6.30: Smaller volume created by temporary structure in Genesis 1

The low structure creates spaces that become dark and enclosed. The original wood flooring can be seen between the panelling and the windows (Fig 6.31). It is uncertain what the state of the wooden floor will be if the temporary structures and carpet are removed. Even though the wooden floor might have to be replaced, it will be beneficial to take out the temporary structures, so that the volumes can be reconsidered for the new exhibition; the link re-established between the interior and the volume within the vault; and the placement of the exhibition could be designed around the entrance to the new intervention.


The experience of relief and calm within the vault structure is due to the lack of objects in space. The volume can be experienced as a whole and light can flood the space without obstruction (fig. 6:32). The objects that are present in the volume are the ramp that follows the facade of the building, which is sensitive to the volume, and plants on the ground. The plants add to the experience of calm and create a contrast between the volume and the building.


Figure 6.31: Wooden floor behind temporary structure and carpet in exhibition space.
Figure 6.32: Unobstructed volume within vault

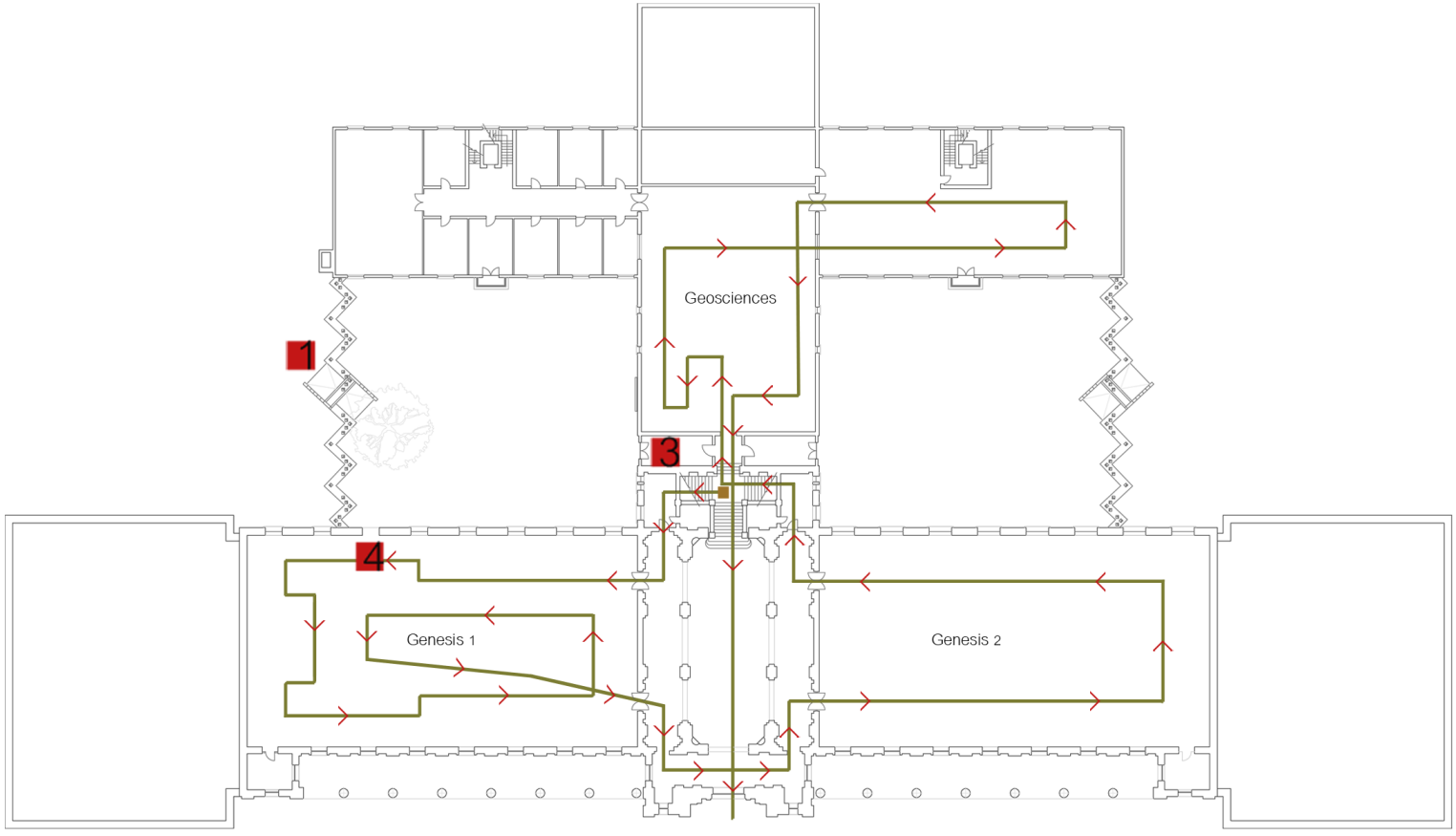



Circulation from entrance through Dinosaur and Bird Halls

Possible entrances into vault

6.33

Figure 6.33: Diagram showing esisting public circulation through the museum on ground level




6.34 Circulation up the stairs through Genesis 1 and 2 and Geosciences Hall

Possible entrances into vault

## 6.6 Circulation through main building

To determine which entrance from the museum into the steel vault is most appropriate, the existing circulation through the exhibition spaces is considered.

Figure 6.34: Diagram showing existing public circulation through the museum on first floor and mezzanine

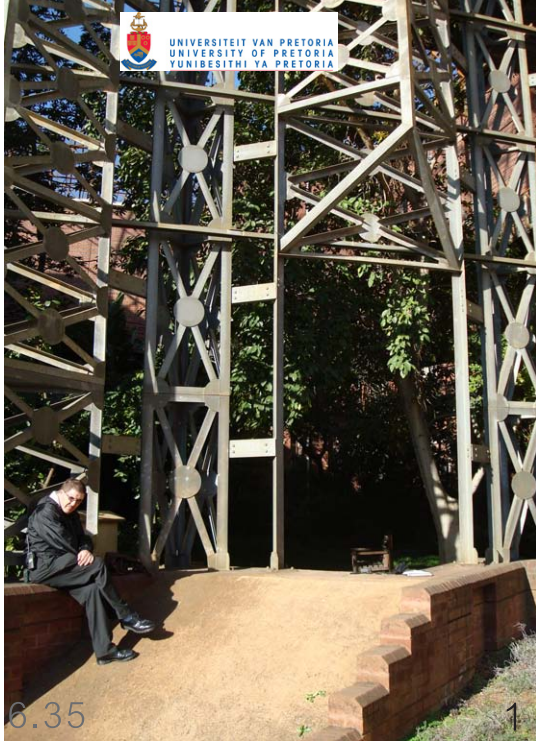
Four different entrances are considered:

1. Entrance over ramp on ground level. The existing concrete ramp over which the user enters the vault on ground level is too steep for public use so it will have to be adjusted. For the user to get to this entrance, he would have to walk out of the museum, and around the building or through the northern flank, down using a lift and out of the building. This completely separates the user from the museum experience.

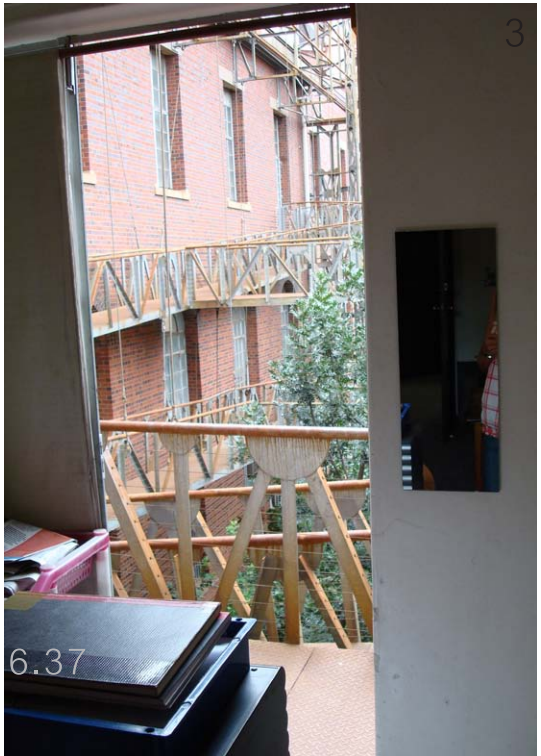
2. Entrance on first floor level in Dinosaur Hall, which is on the same level as the foyer. This is an advantage in terms of inclusive design, for no stairs will have to be adapted. The existing door leads onto the ramp structure within the vault. A disadvantage of this option is that the dinosaur exhibition will be interrupted by the new insect exhibition.

3. Entrance through the office on the mezzanine level onto the ramp in the vault. The user can walk straight through the foyer, up the stairs and into the office. The stairs will have to be adapted for inclusive use. The office space becomes a threshold between the museum and vault, if used as entrance into the vault and intervention.

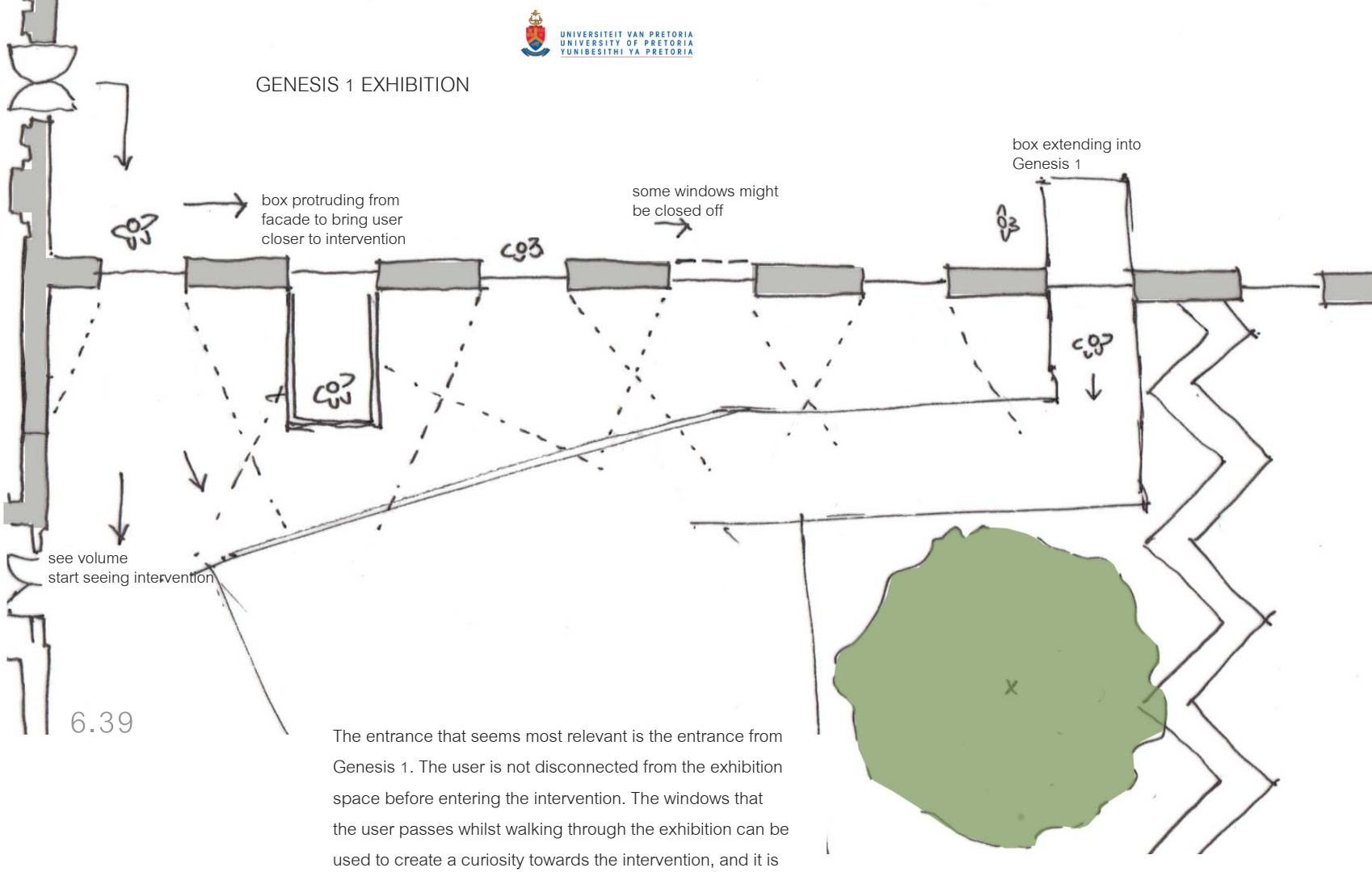
4. Entrance on second floor through an existing door that leads onto the ramp. The user will walk through the existing Genesis Hall 1 when going into the new intervention. The Genesis exhibition houses the insect collection, which becomes relevant for the present exhibition, but also covers a wide spectrum of other subjects regarding the development of life on earth.








GENESIS 1 EXHIBITION




The entrance that seems most relevant is the entrance from Genesis 1. The user is not disconnected from the exhibition space before entering the intervention. The windows that the user passes whilst walking through the exhibition can be used to create a curiosity towards the intervention, and it is so close to the entrance into the vault structure that a build up towards the intervention can be created.

At the moment the museum is not fully accessible for the disabled. Most areas can be reached via lifts, but takes the user completely out of the regular circulation of the museum. The proposal is to install a platform lift in the foyer so that users can go directly to Genesis 1. The museum in general will benefit from this.

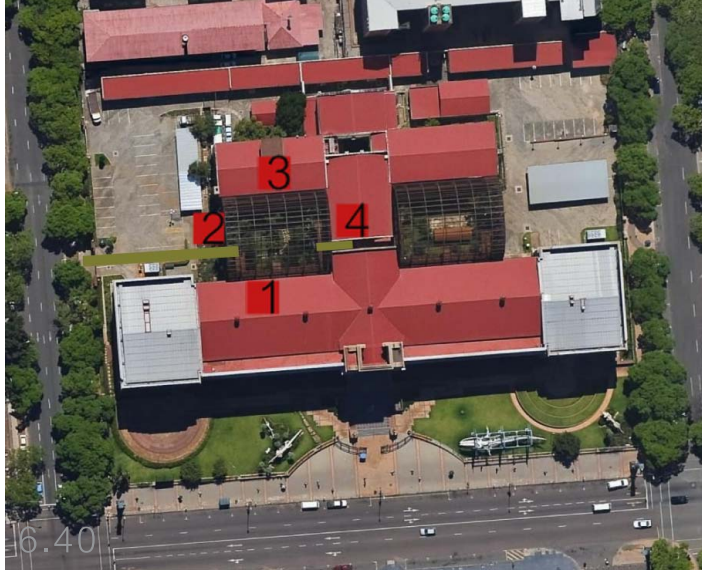
Figure 6.39: Drawing showing some possibilities in terms of what the user would see through the existing windows and how curiosity could be evoked

## 6.7 Extension of the intervention

Consideration needs to be given to the limitations of the new intervention. The intervention is bound to the museum process and procedures. The user will enter through the main entrance of the museum and pay a fee for the museum as a whole. It becomes difficult if the user wants to visit only the new intervention, because entry can only be gained through Genesis Hall 1.

Possible extensions of the intervention beyond the borders of the vault structure include:

1. Extension into Genesis 1.
2. To the sidewalk, out of the structure on the northern facade.
3. Into an office space over the balcony.
4. Over the northern facade of the building onto the roof.

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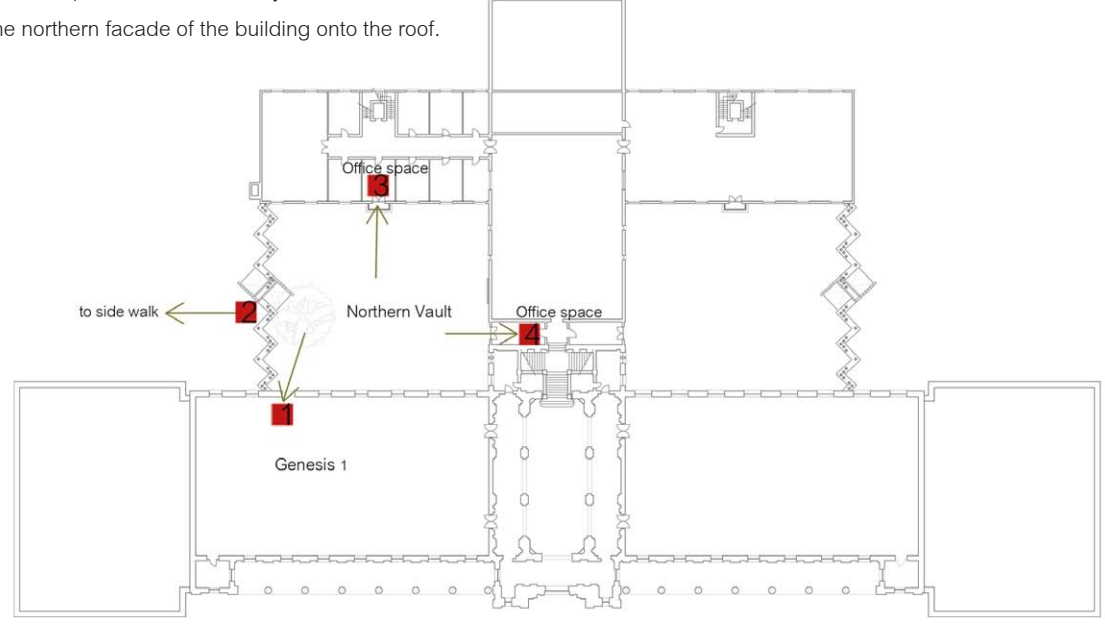


Figure 6.40: Extention options indicated on aerial photo
FIgure 6:41: Diagram showing possible extentions of the intervention

6.41

1. The extension of the intervention into Genesis 1 is established through using the door from the hall as an entrance and exit to the vault. This can be emphasized by pulling the intervention structure into the hall to make users more aware of the intervention, and encourage them into the vault.

2. Extending the intervention to the side walk on Visagie Street becomes difficult because of the distance from the structure to the side walk (fig. 6:41). If the structure is extended in a straight line, the distance is 34 meters and it crosses the parking area. The advantage of extending the intervention in this manner would be that the public using Visagie Street become aware of the intervention and it would break the isolation of the museum. This cannot become a second entrance into the museum or intervention for practical reasons. It can become an extension of the experience within the vault, or a quick introduction to what may be expected, although the experience might be completely misinterpreted if experienced outside of the context of the museum. Alternatively the intervention can extend beyond the vault structure, but stay within the museum site. This will take the user through the structure and create a different experience or view, but will not have to extend all the way to the side walk.

3. Another option is to extend the intervention to the balcony, stopping at the balcony or entering the office space behind it. The office is separated from the exhibition halls which again disconnects the user from the museum experience. This separation eliminates this extention as an option, but a connection between the intervention and the balcony will have to be established without entering the building.

4. Windows above the main stairs in the foyer look onto the wall of the building extending to the east (fig. 6.41). This cannot be seen clearly because of the glare from the window, the darker interior, and because the wall is painted cream (fig. 6.42). If the intervention was to extend onto the roof dividing the foyer and the wall, and painted a bright colour or made from a contrasting material, the user would become aware of the intervention when walking towards the stairs. This again establishes a curiosity towards what the intervention might be. This might also be negative because the user might not realize that this is an extention of the intervention. So, instead of the curiosity being clearly directed at the intervention, the user wonders what it is. This link will be clearly made in Genesis 1 through the windows, where the user can see the intervention in its context.

*

Through the site analysis, guidelines have been established that will support and direct the design process. These are guidelines regarding the entrance into the site and limitations of the intervention. The current contrasting materials become informant in terms of the use of contrasting materials in the intervention. Through the light study, and possible connections with the intervention, it was determined that it is important to open the windows in Genesis 1 to the vault structure to allow natural light into the hall, and re-establish the connection with the vault. The building surrounding the vault provides protection from extreme heat because of the ever present, moving shadows, with the advantage of never blocking out the natural light completely. This provides the opportunity to open up big parts of the structure of the intervention to make full advantage of the natural light.

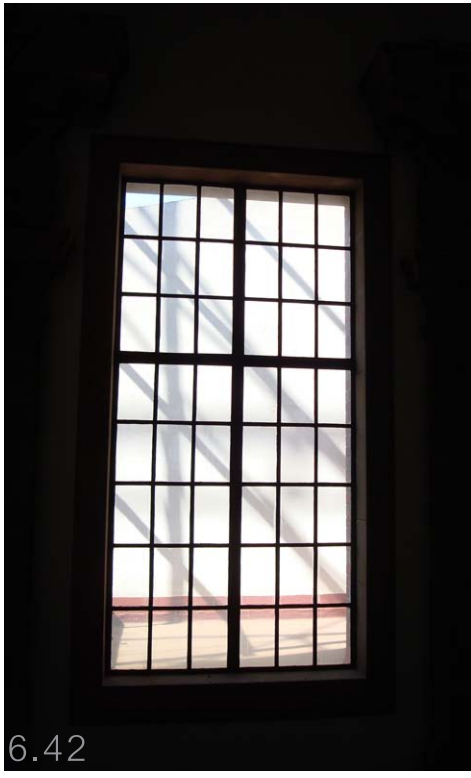


Figure 6.42: The wall of the building behind the foyer can be seen through the windows above the stairs