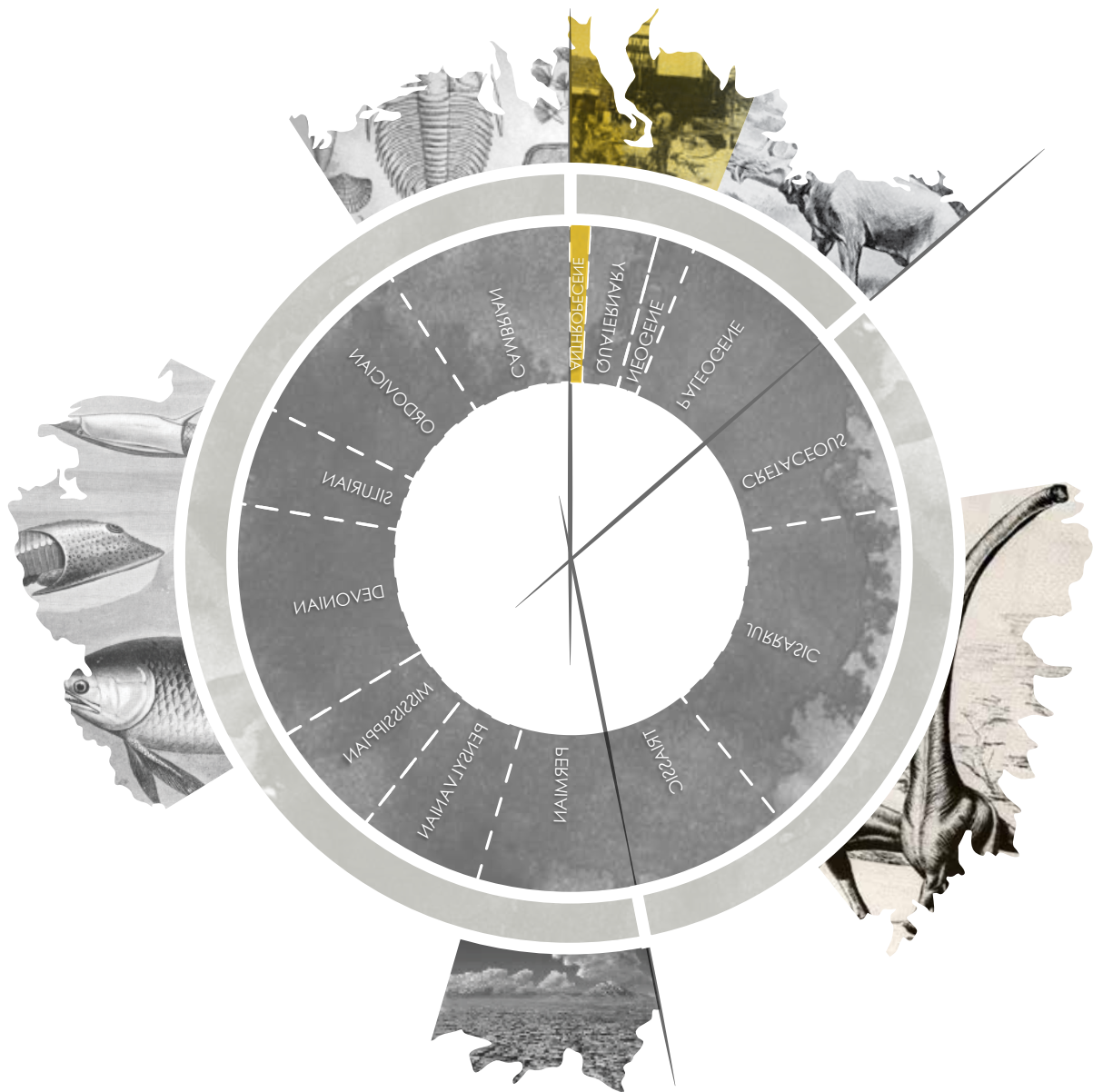




THEORY

REGENERATIVE THINKING



▲
FIGURE 3.1
GEOLOGICAL
EPOCHS
(Author , 2016)

REGENERATIVE

THINKING

The landscape of Bolt's Farm, as part of the Cradle of Humankind, has seen the impact of the modern human, altering the landscape from a pristine historical landscape to a scarred landscape in the form of a quarry, and a karst system in disrepair.

In an attempt to understand the current state of the site, which can be described as a scarred fragment in what is now a social landscape; the site was approached through a regenerative lens. This theoretical departure serves as a basis for understanding the networks of the site, some of which are hidden, to serve as informants in the regeneration of the site.

3.1 PLACE DEFINING THE STORY OF PLACE

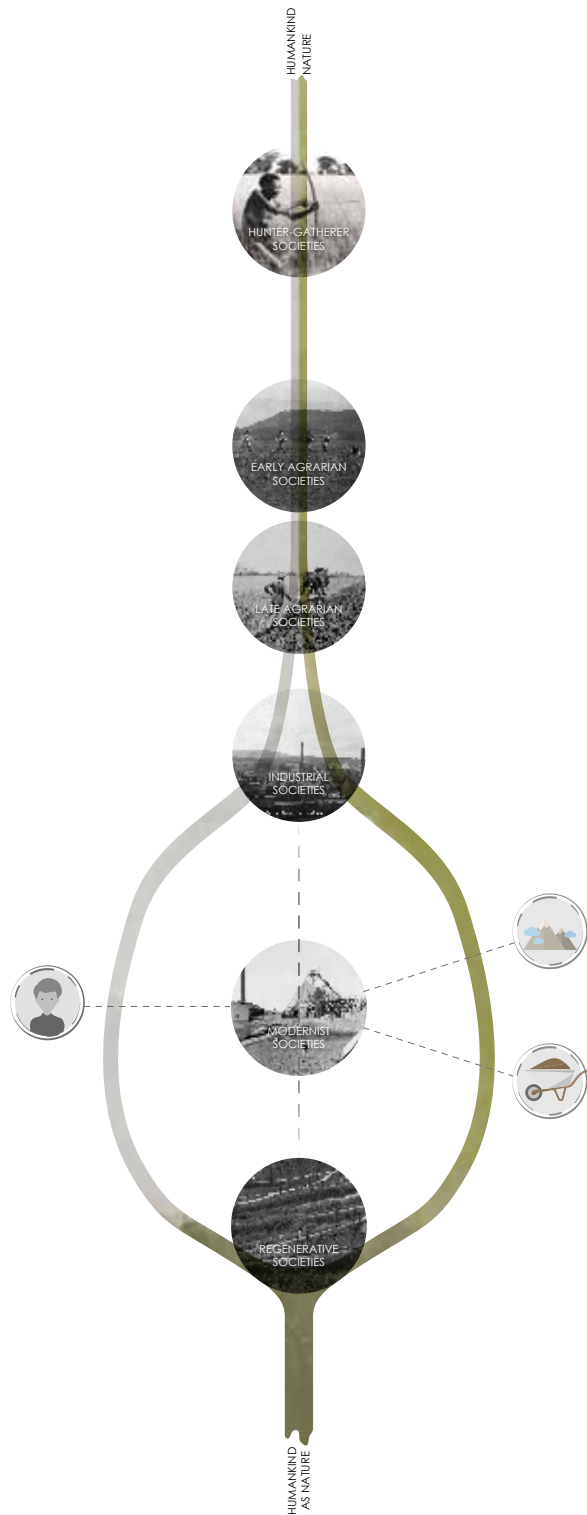
The unique and complex nature of the networks formed in a specific geographic region is what differentiates one place from another. The multi-faceted nature of these networks is a result of the interactions between ecological systems, and socio-cultural systems through time. Place is thus created as a relationship between humankind and nature, and it is within this relationship that the intimacy and responsibility towards the living world is fostered, and humankind's role in nature comes about (Mang and Reed 2012:28).

History has seen the influence of ecological systems on socio-cultural relationships in the rise and fall of civilizations due to climatic change, and the wars between nations to gain power over natural resources, transforming both the physical context of a place and the society associated to that

place (Cole et al. 2013:244). The relationship between humankind and nature (figure 3.2) has likewise seen a paradigm shift from pre-agrarian societies, where humankind relied on nature, and had little permanent impact on their surroundings, to the rise of modernity, where humankind and nature were clearly defined as separate entities. Within the modern era nature was seen through two contrasting lenses; the one seeing nature as a resource, the other seeing nature in a romantic sense, as a place outside of the city, where man could feed his soul. Although the latter seemed to conserve nature, both these attitudes towards nature separate "human place" from "natural place".

With the modernisation and globalisation of the world, both the cultural and biological diversity of places have begun to become increasingly homogenised (Mang 2007:2). Large green spaces are often cleared for either housing developments or monoculture farming practices, such as LVG Plants, a cut-flower farm located on the eastern boundary of Bolt's Farm. The farm, like many other farms, truck service stations, and housing developments in the area, has not only cleared large parts of the veld which supported indigenous fauna and flora, but also further diminishes ecosystems through the contamination of water sources (Witthüser 2016).

Mang (2007) has asked the question of how we, like our indigenous ancestors, could come to see the places in which we live as sacred and vital to our lives, where places are not disregarded and pillaged of their resources, but are rather cherished, cared for and celebrated.



▲
FIGURE 3.2
THE RELATIONSHIP BETWEEN
HUMANKIND AND NATURE
(Author, 2016)

The 'story of place' starts to guide humankind in the understanding of the information, relationships, and connections to create a holistic picture of what place is and how to act in accordance with it. Human memory is based on narratives, not merely data, rendering stories as a crucial part of how humankind learns and organises information. Narratives are not only part of the past in the form of memory, but facilitate the understanding and sharing of a collective image of the future, serving as a vision or framework which guides humankind in the co-evolution with their environment (Mang and Reed 2012:29).

3.2 BOUNDARIES, PATTERNS & SYSTEMS THINKING

Places are defined by boundaries, shaping the identity of what a place holds and what not (Mang 2007:9). Through the unique biogeographical setting of the silver-leaved plant communities of the Cradle, the potential of boundaries to create and support life spaces can be seen. The silver-leaved plant species are located within an ecotone, the narrow transitional zone between the bushveld and grassland biomes of the Cradle. The evolutionary pressures on the fauna and flora in such regions is very high, as they have to adapt to both regions, resulting in more resilient species (Krige and Van Wyk 2005:135). Thus, the boundaries of place do not limit the expansion of place, but create the opportunity for connections, which result in more resilient systems and places.

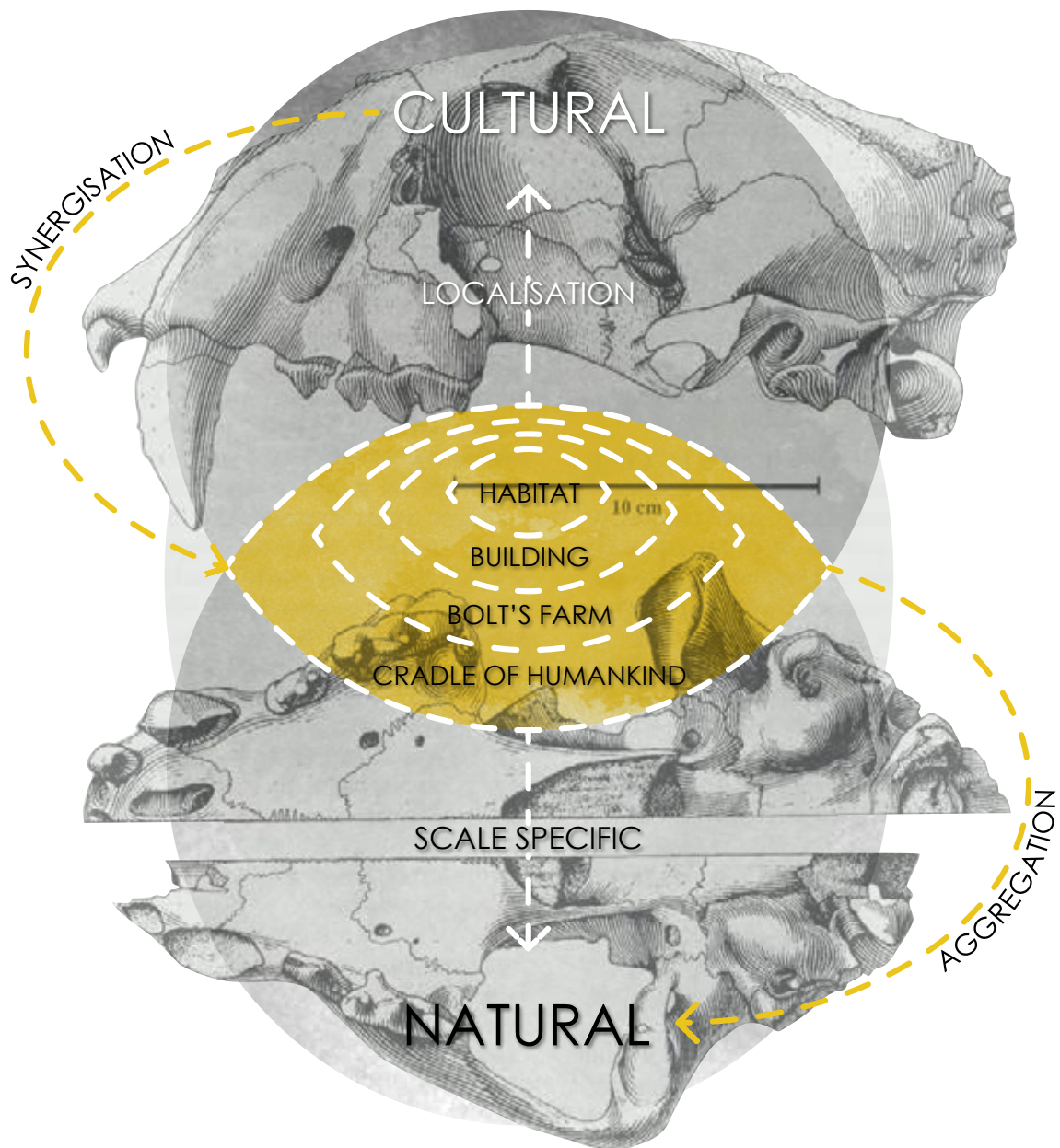
Places, such as neighbourhoods, exist within a series of nested systems, consisting of connections on both macro and micro scales, from cities to individual households. Systems thinking requires one to look at the various elements of a place, such as the roads, water systems, and vegetation,

not as a series of things, but as a system of energies or life processes (Mang and Reed 2012:31). All living systems, independent of scale, are either moving towards or away from their inherent potential. According to Mang and Reed (2012), the web or larger contexts of reciprocal relationships in which a system is nested, reveals the potential that the specific system is attempting to manifest.

Socio-ecological systems attempt to understand the relationship between humankind and nature through the lens of both the ecological and social sciences. Fischer-Kowalski and Haberle, as cited in Cole et al. (2013), defines this cross-disciplinary interaction as the "particular form in which societies establish and maintain their material input and output to nature and how it changes over time". Socio-ecological systems encompass the connections between the biophysical, social and human elements at various scales and within nested systems (Cole et al. 2013:242).

The built environment is a complex socio-ecological system, with the socio-cultural and ecological connections between the larger context of the neighbourhood, and the building in which it exists, having the possibility of benefitting from the energy and social synergies of the neighbourhood. This would not be possible if the building was designed in isolation. Gestalt theory, a principle in design, suggests that the whole is greater than the sum of its parts. This theory can be applied to the built environment (Figure 2.3) where the balance between the localisation and synergisation of socio-cultural systems impact and react to natural systems, resulting in an efficient, diverse built environment (Cole et al. 2013:242).

In contrast to conventional sustainable building practices, regenerative design does not aim to create closed loop





systems with a net-zero environmental footprint. Regenerative design also does not aim to merely reverse the damages caused by source-to-sink one-way flows, narrowing the scope of the potential of a place to specific disciplines. Regenerative design includes the various aims and disciplines as part of an integrated system, including community engagements, which leads to stewardship (Mang and Reed 2012:28). It implies an adaptive approach to architecture, allowing for the technical and human systems of a building to adapt to both time and the environment in which it sits, leading to the co-evolution of humankind together with nature (Cole et al. 2013:238).

3.3 CO-EVOLUTION

Co-evolution is one of the key principles of regenerative design, as it promotes a partnered relationship between socio-cultural and ecological systems, rather than a managerial one (Cole et al. 2013:238). This co-evolutionary relationship attempts to amplify social and natural resources, generation a system, which includes the building, its inhabitants, and the larger social and environmental context, to provide a catalyst for an upward cycle of change, strengthening the uniqueness of a sense of place (Cole et al. 2013:238).

Mang and Reed (2012) define regenerative development and design as “the reconnection of human aspirations and activities with the evolution of natural systems, shifting human communities and economic activities back into alignment with life processes”. Regenerative development is thus not to be understood as the protection or restoration of an ecosystem, but the continuous evolution of the socio-cultural together with ecological systems, placing humankind and nature side-by-side, to create and sustain greater health for both (Mang and Reed 2012:26).

◀
FIGURE 3.3
SYNERGISATION AND
LOCALISATION
(Author, 2016, adapted from
Cole et al. 2013)

