METAMORPHOSIS I.

A STUDY OF DEGROWTH

INVESTIGATING CONCEPTUAL SUSTAINABILITY IN THEORY

&

TRANSFORMATIVE POTENIAL IN PRACTICE

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Abstract

Global society is currently facing a wide range of socio-economic and environmental issues that can be traced back to the negative externalities of the contemporary, growth-based economic system and its structural integration in socio-cultural, political and environmental dynamics of society. This research investigates the concept of "Degrowth", which is a vision of an alternative society based on more sustainable socio-economic, political and ecological principles beyond the growth postulate, that emerged as a response to the global, multi-component crisis. Due to its relatively complex nature and the fact that it emerged only recently, Degrowth is still subject to a high degree of pluralism and internal division. The analysis that follows includes a integrative literature review of the academic discourse on Degrowth, as well as an empirical study of its practices to investigate whether this concept indeed offers a comprehensive account for a transformation to a more sustainable society. In this evaluation, central aims are to illuminate existing conflicts, internal inconsistencies and pressing knowledge gaps that currently hinder the facilitation of Degrowth development trajectories, as well as the opportunities for future development that currently persist, so generating a deeper insight in the development of more sustainable systemic configurations.

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1. INTRODUCTION

Our planet is currently facing a range of socio-economic and environmental challenges that are strongly related to the growth-based systemic configurations of global human societies, both in cause and effect (Fournier, 2008; Kallis, 2011). Many nations have historically been motivated by competition for land and resource in search of welfare and the operation control over other living beings in search for power. Such impetuses have shaped many present day institutions, economic structures, cultural formations and environmental attitudes, thereby producing a system that values the Earth and its human and non-human inhabitants mainly in terms of their instrumental value to human development (Curry, 2011). These developments have given rise to an age of competition, growth and infinite progress, where 'efficiency', 'profitability' and 'performance' determine the course of history and the functioning of society (Latouche, 2006). In contemporary academic discourse about progress, a much-discussed topic is the negative social and environmental externalities of this system. As early as 1972, the Meadows Report indicated the necessity to orientate the world development path towards ecological sustainability and social equity for the sake of maintaining the conditions for human existence (Meadows et. al, 1972). However, forty-four years later the economic system is far from having decoupled itself from the progressive increase in material throughput (Griethuyse, 2010). As a matter of fact, it has become more dependent than ever before upon the exploitative cultivation of natural and human resources, thereby reinforcing both ecological degradation and social inequality to the point that the viability of both the biosphere and global human society is declining (Griethuyse, 2010). The following paragraphs will explain the driving mechanisms behind these developments, by describing the core economic theories and political implications that have contributed to the gradual integration of the 'infinite growth postulate' in the central dynamics of global society.

1.1. NEO-CLASSICAL ECONOMICS: UNLIMITED GROWTH

The growth postulate has mainly been a product of neoclassical economics, which is a school of economic thought founded on 18th century classical economic theories of Adam Smith and David Ricardo and further defined by 19th and 20th century theories of Alfred Marshall, John Clark and Irving Fisher (Weintraub, 2007). At the heart of the neo-classical approach lie three assumptions on economic behavior that are generally deployed to predict rational action of individuals on the market (Arnsperger and Varoufakis, 2006). The axiomatic nature of these assumptions implies that the focus of economics is not on how the agents actually behave, but on what could be inferred about their behaviour

starting from a set of universally applicable rules (Nagel, 1963). These assumptions have long been postulated as infallible truths and largely shaped the foundation of contemporary socio-economic systems through business and policymaking. Methodological Individualism, the first assumption, states that motivations and actions of individual compose social patterns and so produce norms and value systems (Arnsperger and Varoufakis, 2006). This implies that collective behavior or social structures can be explained by analyzing the rational choice of the individual. The second assumption, Methodological Instrumentalism, adds to this by stating that utility maximization, or need satisfaction by competition for resources drives individual human behavior (Arnsperger and Varoufakis, 2005). Individual self-interest is thus taken as the central motive of human behavior, which, in relation to the first axiom, implies that this notion accounts for the whole of society. In this model, "preferring to own more rather than less of a good", is consider a leading principle of human behavior; seeking the most cost-effective means to achieve a specific goal without necessarily reflecting on the intrinsic value of that goal and the intrinsic value of the means to achieve it (Lohmann, 2008). Neoclassical economics here mainly evaluates the value of transactions, which are assumed to increase both the wealth of the seller and the buyer and should therefore be considered attractive to both parties (Weintraub, 2007). The central argument is that 'free markets' are in everyone's interest and should consequently be easily accessible, open to all and promoted by national and international institutions (Friedman, 2002 as cited by Alexander, 2012). In theory, a neo-classical economic system should ultimately work towards equilibrium by means of this 'free market' through the forces of supply and demand, which is explained by the third assumption called Methodological Equilibration (Arnsperger and Varoufakis, 2005). This is the neo-classical answer to agent maximization problems based on the assumption that individual behavior is sorted in a way to always foster a situation of equilibrium, presupposing that if individual consumers and producers act independently, while basing their actions on complete and relevant information, rational choice and utilitarianism would ultimately communicate a balance of supply and demand (Nagel, 1963). Yet, in the neo-classical tradition, the optimal scale where an organization is at the maximum of its profitability before becoming too large to efficiently create value only exists at the microeconomic level (Alexander, 2012). At the macroeconomic level technological and logistical improvements are interpreted as facilitating infinite economic expansion despite the fact that the raw materials needed for this growth become scarce (Alexander, 2012). The justification here is that the 'free market' will continuously function as a navigator that moves resources into the hands of those who can most efficiently

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exploit and use them (Posner, 1986 as cited by Alexander, 2012). Unfortunately, with no optimal scale of profitability in relation to the limits of human and non-human resources, exploitation, scarcity, extinction and system collapse are inevitable consequences (Curry, 2011). Hardins (1964) developed the theory of the tragedy of the commons to illustrate that individuals acting independently and rationally according to self-interest, behave contrary to the whole group's long-term best interests by depleting some common resource. "Commons" refer to any form of shared resource, prone to exploitation. This theory undermines the idea that rational, utility-maximizing individuals that collectively operate on a free market will eventually arrive at methodological equilibrium, as claimed under the third axiom of Neo-classical economics. As the tragedy of the commons illustrates, individual rational choice is not, in fact, based on complete and relevant information, as the collective impact of individual actions cannot be directly perceived. O'Connor (1991) in his "second contradiction of capitalism" further elaborated on this conflict, by contributing to a Marxist apprehension of the current economic system.

The combined efforts of Marx and Engels (1848, 1978), as quoted by O'Conner (1991) suggest the following: "The development of Modern Industry cuts from under its feet the very foundation on which the bourgeoisie produces and appropriates products. The authors here clearly illuminate how the modern economic system commodifies and excessively cultivates things that it fails to create. O'Connor borrows this argument to further unravel those features of Neo-classical economics that are contradictory to an extent that global modern society hurries towards its own end. He builds on Marx's "conditions of production", looking beyond mere labor and capital, by further analyzing the conditions that capital needs in order to accumulate: the personal conditions of production associated with the reproduction of human labor power, the external-natural conditions of production (forests, oil fields, water supplies, bird species, etc.), and the general-communal conditions of production (i.e., the built environment, for example, cities, including their urban infrastructure). O'Connor (1991) argues that the current economic interpretation necessarily undermines those "conditions of production" necessary to sustain the endless accumulation of capital by continuously aiming for higher goals. The only reason it has survived this long has been the ability to expand into distant geographic locations (O'Connor, 1991). Despite its internal conflicts and self-destructive nature, neo-classical economics are currently the guiding principle of socio-economic structures, institutional arrangements, public policy and international relationships. This has contributed to a global society founded on competition for resources and prosperity that evaluates all entities in terms of it's perceived ability to satisfy individual needs, as such, exhaustion of

the global 'commons' has become a worldwide issue. Neo-Liberal Politics have largely contributed to this integral position of neo-classical economics in contemporary societal dynamics, which will be explained in the following paragraph.

1.2. NEO-LIBERAL POLITICS: THE UTILITARIAN SOCIETY

The Neo-liberal political discourse emerged during the Great Depression of the 1930's and gained further support during the economic crises of the 1970's and 80's. In both cases, extensive liberalization policies were developed that enhanced the role of the private sector to revitalize the economy through corporate competition (Mirowski and Plehwe, 2009). This 'boost' for the private sector gave rise to for example globalized markets, free international access to resources and the logic of international competitiveness (Boras, et al. 2011, Blyth, 2002). Such neo-liberal policies were primarily designed to restore macroeconomic stability, accelerate growth and alleviate perceived poverty following global recession, which had various implications for the organization of society in the long term (Taylor and Jordan, 2009). 'First wave' Neo-liberal policies of the 1930's and 1940's involved a reinterpretation of wealth and progress, based on neo-classical economic principles, which influenced the configuration of modern societies worldwide (Harvey, 2009) Utility, in this construct is considered the standard of valuing production and wealth. This implies that the economic significance of something lies in its market price, not in the amount of labor, the distance travelled, or raw materials that were needed to produce it (Alexander, 2012). This theory values all market activity according to the lowest common denominator of market price; intangible 'services' are not treated differently from tangible 'goods' (Harvey, 2009) meaning that anything 'sellable' is subject to an exchange in which only its value as a marketable commodity is considered. When introducing such notions to policymaking, this implies that each living being, human and non-human, may be valued by its productivity or utility for overall (national) wellbeing, estimated by satisfaction of human need (Alexander, 2012). A central mechanism here, has been the use of GDP accounts for international comparisons of the relative progress of nations (Alexander, 2012). On a national level, growth in GDP became the overriding policy objective of governments around the world, which until today is the leading indicator for political and economic success (Alexander, 2012, Harvey, 2009). Using this indicator to organize the dynamics of society implies that the overall well being of a nation is proportional to the size of its economy, since more money leads to the satisfaction of more individual and social preferences through market transactions (Alexander, 2012). 'Second wave' Neo-liberal policies of the 1970's and 1980's mutated the laissez-faire economic Neo-liberalism

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of the 1930's; to a more polarized form that politically promotes a universal, almost dogmatic ideal of the global capitalist economy (Gibson-Graham, 2005). Peters (2001) explains that this reinterpretation of Neo-liberalism partially dismantled the welfare state, corporatized the political system and unified business and governance into a single dominant entity. Bourdieu (1999) contends that in this process, Neo-liberalism became an unquestioned, universal rationale that infuses neo-classical notions of competitiveness and utility into political, economic and social institutions worldwide. This perspective postulates that the solution to social, political, economic and ecological problems can only be translated back to more economic growth, as market transactions are the universal indicator (Beckerman, 2002). In other words, only progressive growth, can eliminate poverty, reduce inequality, lower unemployment, and properly fund schools, hospitals, the arts, scientific research, environmental protection programs, etc. (Beckerman, 2002). This is reinforced by the fact that neo-liberalism inherently distains redistribution and must therefore rely solely on economic growth to reduce poverty Harvey (2005).

The integration of neo-classical principles in the structural arrangement of society provokes social patterns that correspond with productivity objectives, strongly advocating productiveness, consumerism and competition between citizens for a better position in the hierarchy (Gibson-Graham, 2005). Worldwide, these strategies are so pervasive, abstract and powerful that significant environmental and social consequences frequently occur (Munasigue, 1997). This has fuelled the erosion of social constructs in many nations and led to a disintegration of non-capitalist practices and cultural values (Gibson-Graham, 2005). Many non-market activities, social responsibilities and other activities that initially existed outside the economic spectrum, are now outsourced to the service economy and therefore driven by commercial interest (Gibson-Graham, 2005). Altruism, interpersonal trust, reciprocity and care have lost their function, as the perceived need for togetherness and active citizenship has faded with the rise of the Neo-Liberal state (Durkheim, 2014). At the same time however, the mere existence of these non-economic spaces of value creation indicate that the neo-classical/neo-liberal reality is non an all-encompassing system that dominates all aspects of society. It has many holes, allowing alternative spaces for interaction and manifestation to exist alongside incumbent interests. The following paragraph explains how these spaces may form a basis for alternative economic interpretations.

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1.3. ALTERNATIVE ECONOMIC INTERPRETATIONS

The current socio-economic system is generally presented and approached as a singular mechanism, the functioning of which can be affected only adversely by any attempt to intervene in it (Hamnett, 2000). The critical point about such a representation of economic progress is that it avoids any notion of the pluralistic social relations and relations of power though which economic geographies function (Leyshon et. al 2003). Appropriately, the various oppositional movements and projects to 'think and perform the economy otherwise' reveal a keen attention to matters of diversity in space, place and power-relations (Leyshon et. al 2003). Marxism and political economy have a long and honorable tradition in this regard, although their authority as a critical project has been undermined in recent years, both because of the collapse of actually-existing socialist and communist states and, more significantly, because of the rise of alternative critical traditions within social theory that have abandoned many of Marxism's certainties, favoring a more relativistic, more discursive and generally contextual approach to enquiry (Hamnett, 2000). Taken together, these tendencies are usually described as the 'cultural turn', which has been responsible for opening up new and effective forms of critique that have produced constructive strategies for undermining the power and authority of the current system and its seemingly dominant power structures (Hamnett, 2000).

Gibson-Graham (1996, 2006) formulated a particularly thorough, detailed critique in their publications "The End of Capitalism" and "A Post-Capitalist Politics". These authors explain how alternative economic interpretations require an alternative perspective of the 'economic object'; stating that only if one is able to recognize a diverse economy, one may begin to imagine and create diverse organizations and practices as markers of an alternative economy (Gibson-Graham 1996). In their feminist critique of the current hegemonic system, an alternative imagination of the economy is based on pluralism, diversity and subjectivity (Gibson-Graham, 1996). Their argument is that economic and social development does not materialize in a linear or successive fashion but is 'proliferative', which implies that social and economic constructs can be diverse and increase in number rapidly, often in chaotic patterns. In this perspective, conceptual resources for different languages of economy are abundantly available alongside the hegemonic discourse of the current economy, arisen from alternative traditions of economic thought (classical political economy, feminist economics, economic anthropology, geography, and sociology) and from working- class, third-world, and social and community movements (feminist, socialist, cooperative, and local sustainability

movements) (Gibson-Graham, 1996). Thus one might represent economic practice as comprising a rich diversity of configurations, and argue that the alternative ones had been relatively 'invisible' because the concepts and discourses that could make them 'visible' have themselves been marginalized and suppressed (Gibson-Graham, 2006). Yet while there exists a substantial understanding of the extent and nature of economic difference, what does not exit in this debate is a way of convening this knowledge to destabilize the received wisdom of capitalist dominance and unleash the creative forces and subjects of economic experimentation (Gibson-Graham, 2006). In relation to this, Latouche (2010) calls for a "decolonization of the imaginary", an active process of liberating thought, desires and institutions from the logic of growth, productivity and accumulation; escaping culturally, materially and politically from the dominant mode of thinking of "economism". In his words "we need to find another way out of development, economism (a belief in the primacy of economic causes and factors) and growth: one that does not mean forsaking the social institutions that have been annexed by the economy (currency, markets, even wages) but reframes them according to different principles" (Latouche, 2006). Currently a movement termed "Degrowth" is developing that focuses on how to create such alternatives by countering the unsustainable, growth-based dynamics of the current regime, involving a celebration of economic diversity and local development (Latouche, 2010).

1.4. DEGROWTH

Degrowth is the literal translation of 'décroissance', a French word meaning reduction, which was launched by activists in 2001 as a challenge to growth, it became a *missile word* for a contentious debate on the diagnosis and prognosis of our society (Demaria, et al. 2010). 'Degrowth' became an interpretative frame for a social movement where numerous streams of critical ideas and political actions converge, as an attempt to re-politicize and de-economize debates about desired socio-environmental futures and an example of an activist-led discourse now consolidating into a concept in academic literature (Demaria, et al. 2010). Degrowth departs from the notion that current political, economic, environmental and social complications are the result of growth-based economic dynamics and the universal integration of these into the various economic and non-economic structures of society (Schneider, et. al. 2010). In response it calls for an absolute or relative dematerialization of the economy (Martínez- Alier 2012). In the words of Scheider et al. (2010), Degrowth may be defined as an equitable downscaling of production and consumption that increases human wellbeing and enhances ecological conditions at the

local and global level. As a conceptual political notion, it postulates various governance strategies on an ecological, technological, and economic level, but also addresses issues of social sustainability and equity, thereby linking academic discussions of Degrowth to ecological economic theory (Kallis et al. 2012, Dietz and O'Neill 2013) and to the concept of socio-economic and environmental metabolism (Martinez-Alier 2009). The objectives of Degrowth that follow from these perspectives are to meet basic human needs and ensure a high quality of life, while reducing the ecological impact of the global economy to a sustainable level, equally distributed between and within nations (Sekulova et al. 2013). It drives to establish a voluntary transition towards a just, participatory, and ecologically sustainable society on a small communal scale (Research & Degrowth, 2010). The debate on Degrowth has emerged only recently, in the face of the Western capital crisis. Because of its political position and controversial approach to the economy of the future, the idea as such has received much criticism and has been revised, altered and interpreted in various ways. Two main areas of development can currently be identified: academic macro-level, where policy proposals are formulated for large scale, structural transformation, and the social-activist micro-level, where practical experiments with Degrowth principles take place as a basis for non-conformism and social activism (D'Alisa et. al 2013).

On the academic macro-level, the Degrowth concept is promoted within a variety of faculties, all of which argue against one or multiple phenomena in the current regime that create or maintain local and global crises. On of these fields is Anthropology, where the neo-classical/neo-liberal reality is considered the central driver of socio-economic inequalities and destruction of local livelihoods in the global south (Latouche, 2012). Countries in the global south are facing negative impacts on all societal levels, but are at the same time dependent on the current economic system because of its dominant and all-encompassing nature; Degrowth here is coined since it offers a different perspective on reconstructing local livelihoods and promoting autonomous, socio-economic development (Latouche, 2012). Another field that is supportive of Degrowth is Environmental Economics, where 'economism' and utility-maximization as the ultimate driving force of human behavior are criticized heavily (Demaria, 2013). Resource depletion, climate change and environmental degradation are considered an effect of growth-based economics that may be countered by an alternative socio-economic reality based on Degrowth, which, through a range of policy measures and economic transformations is expected to produce an economy that promotes overall-wellbeing and operates within the carrying capacity of its ecosystems (Kallis, 2011). Degrowth in that sense might call for alternative economic relations based on sharing, gifts and reciprocity, where social relations and conviviality are

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central (Bayron et. al, 2010). Degrowth is thus considered a way to bring forward a new imaginary which implies a change of culture and a rediscovery of human identity which is disentangled from economic representations, upon which a more sustainable alternative society may rest (Bayon et al. 2010). A third line of argumentation that supplements this discussion is formed within the field of Political Science, where the quest for a legitimate democracy, engaged citizenship and new sources of identity in order to break the link between political, economic and social institutions and restore autonomy in society is a central theme (Gras, 2007). The notion that Degrowth might become a source of collective vision and belonging is considered a central element in the reconstruction of social institutions and democratic legitimacy (Gras, 2007). In particular, this is a response to the lack of democratic legitimacy in current debates on economic development, growth, technological innovation and advancement (Demaria et. al 2013). The field of ecology is another important source of Degrowth support. The concept is deployed in the defense of the intrinsic value of ecosystems and the need for an abolishment of the utilitarian value schemes that are currently upheld (Bernard et. al. 2003). Its main focus lies on the existing conflict between ecosystem structures and industrial production/consumption systems, calling for a reinterpretation of human-nature interactions that allows the demands of both systems to align (Bayon et al. 2010).

On the social-activist micro-level, a more radical is taken stance towards the current regime and is generally expressed by grass-root activism and bottom up action enforced by small collectives of civil society actors (D'Alisa et. al 2013). These groups experiment with new lifestyles and mainly operate outside of the current regime or within neutral spaces inside the regime that allow for such developments (Demaria et. al 2013). Micro-level actors may be involved in societal reform and can be identified as entrepreneurs creating alternatives, civil disobedience actors or people who are considered subversive by the hegemonic social and political imaginary (D'Alisa et. al 2013). On this level, Degrowth is often promoted as a social choice that certain dissatisfied groups or individuals can make to avoid the pressure of the current system; not to be imposed as an external imperative for environmental concerns (Schneider et. al. 2010). As such, Degrowth has evolved into an interpretative frame for a social movement, understood as the mechanism through which actors engage in a collective action (Della Porta and Diani 2006). As mentioned by Demaria et. al (2013): "anti-car and anti-advertising activists, cyclist and pedestrian rights campaigners, partisans of organic agriculture, critics of urban sprawl, and promoters of solar energy and local currencies have started seeing Degrowth as an appropriate common representative frame for their world view" . This implies that Degrowth forms a basis for

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the establishment of collective identity, consciousness and a sense of belonging in human community, potentially driving the formulation of an alternative system through cultural transformation; something that is not covered in the academic debate on Degrowth so far. Kallis, Kerschner & Martinez-Alier (2012) explain that Degrowth activists follow a path of cultural development and social change to further shape, develop and share their lifestyles, thereby focusing more on developing necessary socio-cultural and political foundations than pressing direct systemic transformation in the economy (Kallis, 2011). This has the potential to become the basis for a shared experience of class or political unity, a new political subject can be formed through practice and engagement with a new mode of living (Gorz, 1994).

Unsurprisingly a high degree of pluralism can be observed amongst the first supporters of Degrowth; some actors call for a complete overhaul of the existing institutions, while others call for their transformation or partial conservation at both local and higher levels (Demaria et. al, 2013). According to Bayon et. al (2010) Degrowth actors are often engaged in oppositional activism such as campaigners working to stop the expansion of industrial development, by setting up demonstrations, boycotts, civil disobedience and direct actions. Others propose to operate within existing ones by challenging part of the regime while deploying part of the existing infrastructure (Latouche, 2009). The latter argument is built on the idea that that some institutions need to be defended to maintain current livelihoods, such as some form of social security and public health, public kindergarten and schools, or some other elements of the welfare state. The feminist literature, for example, highlights how 'green notions of self-reliance, sustainable communities and "doing one's bit" at home and in the public domain threaten to intensify women's already unsustainable burden of responsibility for care' (MacGregor, 2004). Other practitioners promote local, decentralized, small-scale and participatory initiatives such as re-cycling networks, co-housing movements, agro-ecology, eco-villages, solidarity economy, consumer cooperatives, alternative financial systems etc. (Demaria, et. al 2013). These are illustrations of what Chris Carlsson (2008) calls the 'nowtopia's', manifesting how individuals and collectives engaged in alternative economic practices get politicized as they inevitably organize themselves to defend their mode of living; thereby reconfiguring the institutional arrangements of their immediate environment. For Martinez-Alier et al. (2011) these initiatives can therefore be considered examples of activist-led science, generating experience-based knowledge in their processes of becoming. A biodiversity of actions currently hinge on the change of individual values and behaviors manifested in Degrowth lifestyles, so generating valuable knowledge on the transformative potential of the

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Degrowth concept (Carlsson, 2008). Unfortunately, the necessary modes for interaction and cooperation are not yet established to efficiently collect knowledge from the field and integrate it into scientific discourse, as most initiatives still operate in isolation on a temporary basis away from the regime and mainstream actors (Carlsson, 2008).

IN SUM:

At first sight Degrowth seems to have a holistic answer to the negative externalities of the current neo-classical/neo-liberal system. Its attempt to mobilize and integrate a pluralism of leftist notions and critical theories of change is at least promising in terms of countering hedonistic economism as produced by the current regime. Yet when observing Degrowth more closely it becomes evident that the idea itself is highly conceptual and subject to a high degree of internal division, making its present potential as a pragmatic solution to amore sustainable alternative socio-economic system questionable. Furthermore, it should be noted that the translation of the concept into practice is subject radicalism and relative isolation, thereby limiting the transfer of lessons learned and new socio-cultural constructs for a more sustainable system to the mainstream and the academic debate. This research further investigates the Degrowth concept in terms of its potential to contribute to a sustainable alternative to the current, unsustainable, growth-based socio-economic reality as well as the capacity of its current practices to drive a large-scale socio-cultural transformation. The central research question that is addressed by this evaluation is:

RQ: Does the Degrowth concept propose a sustainable alternative to the current growth based regime and do its practices have the potential to facilitate a large-scale transformation? .

2. Theoretical Framework

This chapter presents the indicators that were deployed to frame this analysis. In order to be able to execute a thorough evaluation of Degrowth theories and practices, in terms of sustainable quality and transformative capacity, the concepts of sustainability and transformation are introduced and operationalized by transforming a range of theoretical principles into indicators.

2.1. Sustainability

The concept of sustainability has been the result of the growing awareness of the global links between environmental problems, socio-economic issues to do with poverty, inequality and general concerns about a healthy future for humanity. The first operation of the term was in 1980 in the World Conservation Strategy (IUCN et al., 1980). The unification of environmental and socio-economic questions was most famously expressed in the Brundtland Report's definition of "sustainable development" as meeting 'the needs of the present without compromising the ability of future generations to meet their needs' (WCED, 1987, p. 43). Brundtland's definition and the ideas expressed in the report Our Common Future recognize the global dependencies that exist between humanity and the environment. One of its central arguments states: 'ecology and economy are becoming ever more interwoven – locally, regionally, nationally and globally' (WCED, 1987, p. 5). The report stresses that humanity; whether present in an industrialized or a rural subsistence society, depends on the environment for its immediate survival (WCED, 1987). The Brundtland report is commonly used as a core reference in sustainable development research. However, what should be questioned is whether this definition sufficiently addresses the main causes of environmental degradation, societal complexity and the pressure of the current economic system on the earth's resources. As mentioned by Baker (1997), one could state that the rhetoric of politics that was used to formulate the concept of sustainable development as presently used, is inherently contradictory, as it implies environmental progress but presupposes no great changes in the neo-liberal political reality and the growth-based neo-classical economic system, the socio-cultural foundations of this system or the relationship between humankind and nature (Baker, 1997), nor does it imply an ideological shift from the instrumental approach to ecosystems towards a different paradigm that promotes overall wellbeing. To be able to make a thorough assessment of the sustainable quality of Degrowth, a better understanding is required of the sustainability spectrum and its various implications.

2.2. THE SUSTAINABILITY SPECTRUM

According to Milbrath (1984) two leading worldviews have yet emerged in the history of mankind that define the spectrum of human attitudes towards other manifestations of life. A common distinction made is that between the 'conservative-nurturing' or eco-centric and the 'radical-manipulative' or anthropocentric worldview. Under the former, humans consider themselves as to be part of nature, regarding the environment as the focus of attention and consciously forging emotional bonds between human communities and ecosystems (O'Riordan, 1989). This approach promotes an integrated approach to the ecosystem and does not necessarily favor human interests above that of the natural environment. Its key principle is the belief that all living entities should be respected and regarded as having certain inalienable rights to live and flourish, independent of its utilitarian instrumental benefits for human use (Kortenkamp & Moore, 2001). Eco-centrism regards itself as looking more deeply into the actual reality of humanity's relationship with the natural world arriving at more profound conclusions for the human-nature balance; it takes an all-encompassing view of the world human beings live in and seeks to apply to life the understanding that the separate parts of the ecosystem, including humans (Curry, 2011). The latter, in contrast suggests a moral pattern of action, based on the inherent belief that humankind not only has the right, but the duty to shape the world in order to create a better place for its own existence. This anthropocentrism postulates a goal-oriented, specialist approach is still based on human self-interest and does not critically restructure the elements of the system that make its practices unsustainable and exploitative for both human and non-human entities (Kortenkamp & Moore, 2001). Such assumptions, as mentioned by Curry (2011) have a problem of substance, as they are directly paternalistic; by stating that humanity has the right and ability to successfully manage the natural world, its superiority is confirmed. What should be noted is that in both the ecocentric, as well as the anthropocentric spheres, moderation can be observed towards a more neutral ground for cooperation and reform (Hopwood et. al 2005). This 'middle ground' is increasing internal linkages and cooperation within development networks and forms possible common grounds for innovation, which is explained by Curry (2011) and Pierce (1993) as an intermediate form of human-nature interaction that exists on both sides of the spectrum, which accords some intrinsic value to non-human nature and is not fully human centered.

Besides the dimension of human-nature interactions, another important theme is the understanding of presence and interconnectedness of sectors within the current system and the integration of those in a certain paradigm of economic strategy, policy and societal

structure. As mentioned by Gibson (2006) the realm of sustainability has often been depicted as the intersection of *social, political, economic* and *ecological* interests, hereby stressing the complexity of systems and their adaptations. In his words, sustainable approaches mimic the organic dynamics of ecology and focus more on an understanding of the presence and interconnectedness of all areas, while striving for a balanced integration of each into a strategy, policy or project in order to promote overall wellbeing. Many contemporary approaches geared to the development of sustainable qualities—at the structural and stakeholder level—have begun by addressing these areas separately, with limited consideration for a balanced interest for each element (Gibson, 2006). For the last few centuries the scientific discourse has increasingly attempted to subdivide reality into comprehensible fragments through specialist discipline in order to facilitate in-depth analysis of particular aspects of life, so providing forms of institutionalized truth Christiakis (2011). However, a constructive approach to sustainability recognizes that mounting crises in the environment and society are interconnected and that facilitating long-lasting change is a complex, multi-level process that involves all aspects of human life on earth (Gibson, 2006). This implies that no single actor or discipline can provide absolute answers to all-encompassing socio-economic issues and a multiplicity of perspectives is needed to arrive at a successful assessment of a particular situation as well as the formulation of sustainable solutions: "Where there have been attempts at implementation through sustainability oriented projects, policies and other undertakings, they have virtually always required new or further collaboration — not just among specialized experts and narrowly mandated agencies, but also in broadening circles of public and private interests" (Gibson, 2006, p. 262). Continuing Gibson's theory, the challenge of sustainability resides in bridging worldviews and generating integral, holistic practices through cooperative work methods. As a result, when assessing the sustainable quality of an idea, system or stakeholder both the dominant worldview, as well as the degree to which social, political, economic and ecological interests is considered, play a central role.

In the following scheme (table 1), a visual representation is given of the sustainability spectrum and the implications for each of the four sectors, which may be deployed as a guideline to determine the sustainability of a particular system or initiative based on both the ecocentrism, anthropocentrism dichotomy (Curry, 2011), the four sectors approach as mentioned by Gibson (2010 and the practical translation of each element, based on experimental work by Pearce (1993), (Hopwood et. al 2005) and (Bermejo, 2014). In addition, this research deploys a theoretical framework for the evaluation of Degrowth's transformative capacity, which illuminates by to what extent a sustainability initiative
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generates actual impact and have the potential alter incumbent system dynamics. These combined insights will be deployed to assess Degrowth theory in terms of sustainable quality and practice transformative capacity, hence evaluating if it may serve as a point of departure for the emergence of a more sustainable regime.

	Ecocentrism Very Strong Sustainability	Eco-middle Strong Sustainability	Anthro-middle Weak Sustainability	Anthropocentrism Very Weak Sustainability
Political	- Decentralization, direct democracy & Local autonomy - Alignment of societal & ecological dynamics - Legally enforced scale reduction imperatives and socio-cultural development.	- Whole systems thinking as governance principles. - Limit to urbanization & expansion of society - Legal persecution of un-sustainable practices	- Pluralism in politics, multi-actor decision-making and inclusion. - Modification of economic growth - Support sustainable sectors	- Universal neo-liberal politics, objectives economic development measured by GDP. - Free markets and technology to mitigate resource constraints
Economic	**Very Deep green economy:** - Micro & Macro-environmental regulations - Downsizing the economy	Deep Green economy: - Macro-environmental regulations - Zero economic growth	Green economy, - Economic incentives/green market - Modified economic growth	Neo-classical economy: - Unfettered Free markets - Growth maximization
Social	Bio-ethics - Intrinsic value of human and non-human nature - Community-based development, empowered civil society. - Voluntary simplicity and consumption reduction.	Further extended moral reasoning - Intrinsic value of non-human animals. - Collective wellbeing over individual interest - Alternative/local economies	Extended moral reasoning - Instrumental value of non-human nature -Social equity (regional/generational) - Conscientious consumption	Traditional moral reasoning - Human-centered utilitarianism - Individualism and competition. - Consumerism
Ecological	Extreme **preservationist** position/restorative	Resource preservationist position	Resource **conservation**; landscape management	Resource **exploitation**; utility maximization

Table 1. Theory. Sustainability Framework (Curry, 2011; Gibson, 2010, Pearce, 1993), (Hopwood et. al 2005) and (Bermejo, 2014).

2.3. TRANSFORMATION

A transformation generally is a long-term process that involves interaction with large societal systems, thus making its analysis complex and holistic. Buch-Hansen (2014) explains how major institutional changes, such as those involved in moving from a particular economic outlook to the next, generally occur in the wake of systemic crises, e.g. deep economic crises that cannot be resolved within the framework of existing institutional arrangements or ecological crises as the one the earth system is currently facing under the contemporary global socio-economic paradigm (Klein, 2002). Unfortunately, countless studies have shown that even institutional paradigm shifts in the face of crises almost never involve a clean break with the past (Kotz, 2009). One reason for this is path dependence; once a particular institutional path has been established, 'patterns

of political mobilization, the institutional "rules of the game," and even citizen's rational image of the political world tend to generate self-reinforcing dynamics that make reversals of the path difficult (Pierson, 2004) Furthermore, ideas and culture complicate long lasting institutional change; once particular conceptions have become hegemonic, they continue to prevent policy-making based on new ideas. As Buch-Hansen (2014) points out, societal power relationships are important denominators for change in this context. In his words, the ideas that prevail and become institutionalized are those that can be sustained by material resources and thus tend to be supported by powerful members of political and corporate elites. In addition, Haughton and Hunter (1994) mention that many attempts at transformation often get locked into suboptimal solutions due to primary stakeholder dominance or change resistance. Such processes might considerably change socio-economic structures, yet the outcomes will still resemble their predecessors to a degree insofar as they are made up of inherited principles and practices (Campbell, 2010). A useful heuristic to further analyze this that shows striking resemblances with the anthropocentric-ecocentric dichotomy as mentioned in the previous paragraph, is that of incremental and radical types of innovation (Orliowski, 1993): incremental changes represent an extension of the status quo, minor improvements or simple adjustment in current systemic configurations, as described by Campbell, (2010). They serve to represent a present understanding as well as an established configuration of interests and interest groups (Orliowksi, 1993). As such, active, resilient change processes with sustainable outcomes by incremental pathways are limited because structural change towards more sustainable socio-economic configurations calls for a deeper engagement with the structural socio-cultural elements that produce the system, which are often ignored, underestimated or undermined by current development strategies (Brown, 2005). Incumbent strategies mainly communicate socio-economic developments through market oriented innovation practices and public administration, which restrain the structural rearrangement of society to the institutional boundaries of the status quo and do not transform the socio-cultural foundation on which the system relies (Brown, 2005). Radical change goes beyond this and calls for a shift to fundamentally different systemic configurations by adopting a different paradigm based on radically different principles (Orliowksi, 1993). These insights are relevant in understanding the dynamics of a system-change from an anthropocentric to a more sustainable, ecocentric regime. In transformation thinking, the leading assumption is that no single actor or group in society possesses all skill, capital and knowledge needed to facilitate a paradigm shift, which is why radical change processes require multi-actor governance models and combine

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incremental and radical processes of change (Tukker and Butter, 2005). Rothmans and Loorbach (2009) co-developed the *transition management* theory to explain how multi-actor, transdisciplinary project teams might facilitate, manage and monitor successful transitions from one paradigm to the next.

2.4.   TRANSITION MANAGEMENT

In developing transition management theory, Rothmans and Loorbach (2009) deployed Rip and Kemp's (1998) multilevel model of innovation that generates deeper insight in the layers through which radical change projects materialize. This multi-level perspective assumes that individuals constantly engage in inter-subjective sense making which generally serves to produce shared values, mutual beliefs and collective action that reproduce existing social structures (Rip and Kemp, 1998) Though these structures may change whenever the social subject is carefully introduced to new interpretations of the world, which form the basis for an alternative belief system and create a new collective narrative within existing social structures, which might eventually become a point of departure for system-wide transition to a new socio-economic paradigm (Geels, 2010). The key mechanisms as explained by transition management theory (Rip and Kep, 1998) are bound in three levels of society: The first level in the multi-level perspective is called the socio-technical regime, the 'system' or *meso-level*. Regimes function as a web of interlinking actors that follow a set of technological rules embedded in a mutually established community of citizens, corporate players, institutional actors and the environment, whose outlook is determined by socio-economic infrastructures and available technology (Rip and Kep, 1998). Regimes can be framed at multiple geographical scales and exist in nested and overlapping hierarchies (Smith, Stirling and Berkhout 2005). For instance, a regime might exist at the national level, yet regulatory, normative and cognitive rules may differ per region or city. Although regimes resist radical changes, the integrity of socio-technical regimes is vulnerable to pressures from the larger *socio-technical landscape* formed by exogenous political, economic, demographic, and social grid structures (Geels, 2010). This socio-technical landscape is the second, *macro-level* of transition management theory. Socio-technical landscapes provide deep-structural gradients of force that make some actions easier than others (Geels, 2002). As the integrity of regimes relies upon stable landscape conditions, dynamics or changes on this level can result in "tensions and mismatches" inside the regime, generating temporary spaces for alternatives to materialize (Geels, 2002). These *micro-level* areas are the third level of transition management; the socio-technical niches, or protected networks in which societal rules of the game may be

changed or rewoven in the face of crisis (Geels, 2010). Within these networks, novel and initially unprofitable ideas are sheltered from regime selection pressures like market competition, regulation and societal norms (Rip and Kemp, 1998) Niches allow for new ideas to demonstrate viability, attract financial backing, build a constituency and encourage experiential learning and the institutional adaptation necessary for wider application, as well as the emergence of new shared values, mutual beliefs and collective consciousness independent of existing regime structures (Kemp and Loorbach, 2003). In transition management the focus on frontrunners is crucial, as these agents have the capacity to operate within these deviant structures to change the surrounding system (Rothmans and Loorbach, 2009). At the same time transformation of the *meso-level* regime is only achieved through interplay of *micro-level* and *macro-level* initiatives. In the words of Rothmans and Loorbach (2009), each endeavor aimed towards transition to a more sustainable regime is the result of a coevolution of economic, social, political and ecological developments at different scale levels.

Unfortunately, many niche projects often remain in isolation, unable to scale-up or share their ideology with the incumbent system or extend their collective identity to actors outside the transition arena (Boyer, 2013). The niches that manage to influence the incumbent regime are generally the ones that share some but not all elements of the existing regime (Boyer, 2013). That is, they are 'intermediately' situated relative to both the incumbent structures and the radical alternative. Niches that operate in 'intermediacy' are therefore able to translate their innovative practices to mainstream actors. Influential niches exist simultaneously inside and outside the regime, but do not start as intermediate. Rather, they "earn" this status by 'settling in' to the regime, accepting some regime rules, and demonstrating their feasibility to institutional actors in the mainstream (Boyer, 2013). According to Boyer (2013) given enough time, mainstream regime actors may identify the benefits of associating with niche projects, and the lines between niche and regime activity begin to dissolve. It is through these connections that the regime begins to 'warm up' to the niche experiments, and begins to adopt their practices as municipal code (Boyer, 2013). Intermediacy can therefore be considered a form of consensus, a balance needed to incrementally change the incumbent regime with multiple actors. Successful transformation thus depends mainly on the communication and alignment of various interests and the integration of perspectives, so that common ground may be created on which new societal configurations may be built (Boyer, 2013).

2.5. INTEGRATING PERSPECTIVES

As Wilber (1997) denotes, arriving at integrative practices implies brining various perspectives together, joining them, linking them and embracing shared commonalities and a wide range of differences that together allow for a multi-stakeholder approach of a system-wide change to sustainability. To further illustrate the implications of multi-actor change projects, Wilber (1997) mentions various levels of human experience and behavior that play a role when aiming to facilitate intermediacy between stakeholders to generate system transformation. Brown (2005) developed the 'integral framework', based on Wilber's theory (1997) to discuss four dimensions of human perception that determine the dynamics and structure of interpersonal relationships, which in turn define the success of a collaborative effort to work towards a desired future state. This theory explains how individual and collective consciousness generates behavioral routines, that in turn form the socio-cultural infrastructure that produces a system (Brown, 2005). In his theory, Brown (2005) follows the assumption that if a system is composed by such dynamics, it's transformation should follow similar patterns, starting at the lowest levels of changing individual attitudes. The author takes explains that the transformation of a particular system with a diverse group of actors should therefore involve all these levels of consciousness and behavior in order to facilitate intermediacy, build a network of interaction, strengthen collaborative action and generate long-lasting impact (Brown, 2005). According to Brown (2005) sustainability advocates that aspire to accurately respond to contemporary crises, should recognize, address and integrate these dimensions in their efforts to arrive at transformative and transcendent solutions:

- *Individual-interior:* psychology, involving the subjective experience of reality. This perspective refers to particular states of mind, logical patterns, mental models, worldviews and other psychological dimensions that determine one's attitudes towards reality.
- *Individual-exterior:* behavior, involving the objective reality with which one interacts. This perspective refers to tangible interactions with external phenomena, resulting in behavioral patterns and routines that shape both the individual and its environment.
- *Collective-interior*: culture, involving the inter-subjective experience of reality. This perspective refers to shared values, norms, belief systems, identities and communication that determine the collective experience of reality.

- *Collective-exterior*: system, involving the inter-objective reality, which is generated from a collective experience. This perspective refers to collective routines, social systems, economic models, political orders and environmental interactions.

With this in mind, the research that follows analyses the transformative potential of an initiative by the content, direction and success of activities executed to integrate perspectives on individual, collective, interior and exterior levels. As such, this research considers the transformative capacity of an initiative to be directly related to how stakeholders on the micro and –macro level approach proximity issues and work towards a mutual basis for collaboration and progress.

3. METHODOLOGY

The philosophical foundation for this research is critical realism, which does not make claim of totally comprehensive understanding of a certain problem or a big picture but instead considers all knowledge fallible. At the domain of empirical studies critical realism postulates that one make observations of what constitutes experience, meaning the visible observations of the phenomena we study, yet never arrive at absolute or infallible truths. Ontologically, the basic understanding of critical realism is that reality exists and that it is possible to conceptualize it by developing descriptive theories, though a total explanation of complex world phenomena is impossible as the human senses and mind are limited tools in terms of their inquisitive capacities (Jeppesen 2005). Within this framework, the central research question that is addressed is the following:

What is the sustainable quality of the Degrowth concept and do its practices have the potential to facilitate a large-scale transformation?

The analysis that follows to answer this question consists of a combination of descriptive and exploratory research that provides insight in both the sustainable quality of the Degrowth concept, by analyzing its academic discourse, as well as the transformative capacity of its practices, by evaluating two experiments in the field. Descriptive research is generally employed to describe the characteristics of a phenomenon under study and the causal relationships that may exist in reality; it addresses the "what" question and thereby formulates a diagnostic of the phenomenon as such (Shields and Rangarjan, 2013). Exploratory research on the other hand, facilitates the observation and enquiry of

relatively new phenomena, which is mostly, directed to general analysis and the discovery of interrelations between particular phenomena (Zikmund, 2010). Exploratory research has an experimental, comprehensive nature, which is crucial in order to refrain from solution-oriented thinking that would corrupt holistic analysis of relevant insights from theory and practice. The following paragraph explains the two phases of this research and provides a methodological motivation. The primary, descriptive phase is geared towards theoretical analysis, the second, exploratory phase towards practical evaluation.

3.1.   PHASE 1: THEORY

RQ 1: Does the academic debate on Degrowth provide a comprehensive future perspective and would this form a sustainable alternative to the current, growth-based regime?

This research phase focuses mainly on collecting, evaluating and integrating academic theory; the method used for to answer this research question is the integrative review for literature assessment. An integrative review is a systematic assessment of research studies and emerging theories in a particular field that uses explicit methods to identify, select, critically appraise, and analyse relevant data to create a consistent image of a particular field under study (Liberati et al., 2009; Moher et al., 2009). As such, integrative literature review is a distinctive form of research that generates new knowledge about an emerging topic by exposing inconsistencies, interrelations and complementary arguments (Torraco, 2005). This review does not aim to prove or disprove particular theories or evaluate them in terms of legitimacy. Instead it follows a dialogic process that recognizes the coexistence of various approaches and considers them existential and relativistic in their interaction (Markova, 2003). As Toracco (2005) mentions, an integrative literature review may synthesize new knowledge in various ways, including a research agenda, taxonomy, conceptual framework and a metatheory. This literature assessment aims to illuminate the various levels of the Degrowth debate and investigate what aspects of sustainability are covered, which remain unstudied and based on these insights, to determine the added value of the concept as currently described to the ongoing debate on sustainability and define what further research should proceed in order to provide a comprehensive and practically applicable synthesis. Since the Degrowth debate emerged only recently, this review will be based on the 10 most cited academic papers on Degrowth available on Web of Science, published between 2009 and 2015 to be able to provide an up-to-date reflection

of the concept (table 2). These papers are deployed as a basis to answer the sub-questions mentioned below, using the sustainability literature to guide the analysis:

1.1.   What aspects of sustainability are currently covered by the academic discourse on Degrowth?

1.2.   What gaps are most pressing in the academic discourse on Degrowth?

1.3.   What further theoretical research could proceed given these findings?

Author	Year	Title	Source
Alexander, S.	2012	Planned Economic Contraction: The Emerging Case for Degrowth	Environmental Politics
Alier, J. M.	2009	Socially Sustainable Economic De-growth	Development & Change
Cattaneo, C., G. D'Alisa, G. Kallis, and C. Zografos, eds.	2012	Degrowth Futures and Democracy	Futures
Fournier, Valerie	2009	Escaping from the economy: the politics of Degrowth	Int. Journal of Sociology and Social Policy
Kallis, G.	2011	In Defense of Degrowth	Ecological Economics
Kallis, G., C. Kerschner, and J. Martinez-Alier	2012	The Economics of Degrowth	Ecological Economics
Kallis, G., F. Schneider, and J. Martinez-Alier	2010	Crisis or Opportunity? Economic Degrowth for social equity and ecological sustainability	Journal of Cleaner Production
Kerschner, C.	2010	Economic de-growth vs. steady-state economy.	Journal of Cleaner Production
Lorek, S. Fuchs, D.	2010	Strong sustainable consumption governance – a precondition for a Degrowth path?	Journal of Cleaner production
Sekulova, F., G. Kallis, B. Rodríguez-Labajos, and F. Schneider, eds.	2013	Degrowth: From Theory to Practice	Journal of Cleaner Production

Table 2: Methodology. Selected Academic publications on Degrowth

3.2.   PHASE 2: PRACTICE

RQ 2: What is the transformative potential of current Degrowth experiments and what gaps may be identified?

The second phase of this research phase focuses on the assessment of the transformative capacities of current Degrowth experiments. To answer this research question two experiments have been selected from the field that share resemblance with the 'nowtopia' as mentioned in the literature. These experiments currently take a central position in the Global Ecovillage Network, which is a network of intentional communities dedicated to demonstrate low-impact lifestyles, environmentalism and voluntary simplicity (Carlsson, 2008). These ecovillages can be considered transformation arenas as they offer spaces in

which physical alternatives can be tested alongside social alternatives like consensus governance and the cooperative ownership of capital by build pragmatic solutions to mainstream development outside the rules and regulations of the mainstream (Smith, 2007). The Global Ecovillage Network was initiated and is currently maintained by three central players, that have a long history of research and activism with sustainable livelihoods; Findhorn in Scotland, Damanhur in Italy and Tamera in Portugal, who are actively working towards a network for global impact and transformative action towards a Degrowth future (Liftin, 2006). Based upon availability within the timeframe of this research, Tamera and Damanhur were selected for further investigation.

Damanhur is a federation of sustainable communities in the Piedmont region of Northern Italy that has been established as a significant spiritual ecovillage and research station for sustainable livelihoods, for over 40 years (Ananas, 2006). The federation has a well-organised system of economy and commerce, technological ability in the use of renewable energies; it constructs ecologically built dwellings and dedicates great attention to education (Merson, 2005). Functioning as a patchwork of autonomous communities spread throughout Valchiusella Valley, Damanhur designed and implemented its own social and political structure, has its own constitution, executes over 40 different economic activities and works with its own currency, schools and media platforms (Ananas, 2006). Overto Airaudi and a group of supporters bought property in the region of Piedmont, which grew to include 200 "citizens" in 1985, 450 by 1998, and exceeded 800 by early 2000 (Merrifield, 2006). Besides the group of citizens that inhabit the valley, there are hundreds of associated external members and participants who donate to the community and attend some of its functions (Merson, 2006). Damanhurian citizens come from various social, cultural and geographic backgrounds though the primary spoken language is Italian.

Tamera, located in Alentejo Portugal is an intentional community, as well as a school and research station for realistic utopia, embedded in a so-called 'healing-biotope', an ecovillage designed to improve life for individuals, groups and their surroundings (Duhm, 2015). Tamera originally is an offshoot of the German ZEGG movement, whose founders acquired a stretch of land in Portugal's inlands for landscape development through permaculture design (Dregger, 2010). The project in Germany was initiated in 1978, where the ideology was developed by a small group of visionaries through community experiments, moving to Portugal in 1995 (Coelho, 2014). The first core greatly invested in restoring the ecosystem while at the same time building a solid community that could carry further developments and projects that could support the wider philosophy of

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Tamera (Duhm, 2015) Over time, the group has intensively researched issues of love, sexuality, community life, spirituality, ecocentric behavior and sustainable land management in search for a different worldview, new interpretation of society and collective identity (Dregger, 2010). Currently, over 150 residents work together to model a non-violent co-existence of people and nature mainly focusing on education, self-sufficiency and global networking for the promotion of their philosophy in cooperation with other ecovillages (Coelho, 2014). At the same time, approximately 250 coworkers and students temporarily live and study at Tamera, contributing to an ongoing experimental research to human community and sustainable livelihoods. The current demographic composition is rather diverse, involving people from over 25 countries; the primary languages spoken at Tamera are German and English.

This research phase includes a descriptive paragraph, which generates preliminary insight into local characteristics and the general outlook of each Ecovillage. Next, a series of interviews was held that generate further insight in the transformative potential of both projects by illuminating their transformation oriented activities, deploying the integrative framework as developed by (Brown, 2005) and relationships with other actors to illuminate the opportunities and constraints for transformation that currently persist. These interviews were semi-structured, composing a list of predetermined questions (Appendix I) designed to provide an insight in stakeholder interactions and mutual activities, using transition management as an epistemological basis. Semi-structured interviews unfold in a conversational manner offering participants the chance to explore issues they feel are important (Longhurst, 2005). Following this informal line of discourse, the questions asked were 'open-ended', which have the advantage of "non-reactivity," that is, they do not cue respondents to think of particular causes (Ivengar 1996).

As Tamera and Damanhur invite several levels or scales of participation in their practices, illuminating the transformative potential of both initiatives requires an investigation of multiple perspectives (Wenger, et. al 2013). On both locations there is a variety of first-generation core members, second-generation core members and temporary members that compose the population. The core group develops, drives and actively participates in community projects, shares all resources and lives on site full-time (Merrifield, 2006). Temporary members contribute to financial goals and live on site for educational purposes; they attend community events and participate in leading activities, yet with a lower degree of regularity or intensity than the core group (Merrifield, 2006). Because of these existing sub-groups, the sampling method deployed in this research was in the first

place quota sampling. Quota sampling is a non-probability sampling method, which gathers representative data from existing sub-groups, in this case first generation core, second generation core and temporary members, to gather a deeper insight in the condition of the whole (Dodge, 2003). Unfortunately, due to tight community routines and a relatively high degree of privacy protection, conducting interviews systematically was practically impossible. As such, the dataset was composed based on availability, using snowball sampling as a secondary tool to access people from other sub-groups or project teams. Snowball sampling is a repetitive sampling procedure that involves accessing informants through contact information that is provided by other informants, who may provide contact information that leads to another informant (Noy, 2008). This is a much-employed method to obtain information on and access to 'hidden populations' (Noy, 2008). In the following table, the type of member is listed for each interview for both Tamera and Damanhur.

Details	% of sample
Interview 1: 3-5-2015	1st generation core
Interview 2 3-5-2015	1st generation core
Interview 3: 2-5-2015	2nd generation core
Interview 4: 4-5-2015	2nd generation core
Interview 5: 5-5-2015	Temporary member
Interview 6: 10-5-2015	Temporary member
Interview 7: 10-5-2015	Temporary member
Interview 8: 13-5-2015	Temporary member

Table 3: Methodology. Tamera Interview Details

Details	% of sample
Interview 1: 4-6-2015	1st generation core
Interview 2: 4-6-2015	1st generation core
Interview 3: 10-6-2015	2nd generation core
Interview 4: 10-6-2015	2nd generation core
Interview 5: 11-6-2015	2nd generation core
Interview 6: 12-6-2015	Temporary member
Interview 7: 15-6-2015	Temporary member
Interview 8: 18-6-2015	Temporary member

Table 4: Methodology. Damanhur Interview Details

The interview datasets are deployed to record the collaborative activities undertaken to improve micro-macro interactions and assess how they influence the transformative potential of each initiative. To structure this process, the following sub-questions have been formulated, based on the integrative literature review as designed by Torraco (2005):

2.1.   What activities are undertaken by the micro-level experiments to generate transformative impact?

2.2. What opportunities and constraints can be identified in the interactions that currently exist?

2.3. What further practical experimentations should proceed to improve transformative capacities?

4. DATA ANALYSIS

4.1. PHASE 1: THEORY

RQ 1: Does the academic debate on Degrowth provide a comprehensive future perspective and would this form a sustainable alternative to the current, growth-based regime?

As mentioned in the introduction the Degrowth perspective towards sustainability, involves promoting pluralism and diversity, decentralization and local autonomy, self-organization and self-sufficiency, horizontal decision-making processes and direct democracy (Kallis, 2011, Kallis et al. 2012, Schneider et al. 2010). Building a diverse economy based on localism, in countering the un-sustainable growth-based dynamics of the current system appears to be a comprehensive basis for a sustainable alternative to the current regime. Yet, what should be noted is that due to the high degree of specialism in academic research, Degrowth is currently the product of a diffused and rather disintegrated set of arguments and strategies. The following chapter provides deeper insight in this particular issue and what this implies for sustainability, using ten recent publications that have further elaborated on practical side of the Degrowth concept. The literature review focuses on the roots, direction and leading propositions covered in the Degrowth literature, to illustrate what elements of sustainability are included in general discourse, as to inquire into how a comprehensive perspective for a sustainable future may be composed.

4.1.1. *What aspects of sustainability are currently covered by the academic discourse on Degrowth?*

MOTIVATIONS
Degrowth literature takes the global, multi-component crisis as an international motivation for sustainability, a lighthouse that stresses the need for the development of alternative systemic configurations. Kallis et al. (2012) state that since these crises are obvious forms of conflict between central development mechanisms and the social and

ecological conditions of progress, driven by deliberate policy choices and business ventures intended to maintain growth within existing socio-economic and political structures, the need for an alternative system becomes internationally visible. Kerscher (2009) explains that the advancement of ethical properties of modern society in favor of a Degrowth path currently appears highly utopian, yet may become a more favored alternative in the face a universal threat such as climate change or a debt crisis. Following seemingly unattainable paths in his view might be precisely what is required to develop the moral properties of society so that socio-cultural foundations are laid that may sustain economic interpretations beyond growth. Kallis et. al (2010) continues by stating that the negative externalities of the growth-based economic system and the potential opportunities that lie in contemporary crises, require a positive, constructive, alternative imaginary in order to avoid authoritarianism, chaos and extremism. In his "In Defense of Degrowth" Kallis (2011) sums up the socio-economic constraints and ecological defects of the current system, using them as a contextual inventory for the outlook of a potential Degrowth future. In his words, these dilemmas define the Degrowth research agenda, in terms of the socio-cultural and political developments to that are required to generate and sustain a more sustainable alternative system. Kallis (2011) states that the current crisis may be welcomed as an opportunity to develop socially and ecologically sustainable economies, as the natural boundaries for global economic activity can now be clearly observed. In 'The Economics of Degrowth' Kallis et. al (2012) review recent contributions on Degrowth economics and compares them with his initial identification of need, to illuminate potential research avenues for ecological economists that may fill existing knowledge gaps on the outlook and strategic interpretation of a Degrowth future. Following the argumentation of Kallis (2010, 2011, 2012), Degrowth is presented almost as an evolutionary consequence of human life on earth, yet it is obvious that inertia of contemporary socio-cultural, economic and institutional structures do not necessarily facilitate that 'evolution'. As mentioned by Curry (2011), successfully moving towards sustainable systemic configurations is in the first place a question of consciousness and perspective as well as of implementing carefully designed, multilevel strategies for sustainable change (Bermejo, 2014). Basing strategies of change on finding the 'solution' to the global socio-economic and ecological crises does not necessarily move away from anthropocentric attitudes since it takes the human position as a point of departure. Such goal-oriented, specialist discourse is still based on human self-interest and does not critically restructure the deeper socio-cultural and psychological preconditions of the system that produce unsustainable practices (Kortenkamp & Moore, 2001). Ecocentric sustainability looks more deeply into

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the human-nature relationship to arrive at more profound, structural transformations of society; it takes an all-encompassing view of the world human beings live in and seeks to apply to life the understanding that the separate parts of the ecosystem, including humans (Curry, 2011). Taking this into consideration, economic crisis could function as an eye opener and a supportive argument for Degrowth, though a thorough, multi-level restructuration of society is required to avoid creating the very same issues in the future. To respond to this need for institutional and socio-cultural transformation, various academic have proposed strategic guidelines for a Degrowth future, which are discussed in the following paragraphs.

INSTITUTIONAL PROPOSITIONS

One primary focus of leading academic discourse on Degrowth to address structural change towards sustainability has been policy measures, based on scientific inquiry into the leading causes and drivers of unsustainable practices and societal mechanisms. The argument that prevails is that current institutional structures maintain unsustainable practices, obstruct the development of concrete alternatives and therefore require transformation. In many publications such as Kerscher's (2009) "Economic de-growth vs. Steady-State Economy" Degrowth is not a goal in itself, but a range of socio-economic strategies and political mechanisms to move towards a "Steady State Economy", which builds on the classical interpretation of the balanced economy by introducing whole systems thinking as a way to perceive the levels on which the economy may be in balance with its ecological and social resource base. In the words of Kerscher (2009) large-scale governance for sustainability demands clear objectives and change pathways, which may be offered by a Degrowth trajectory (Kerscher, 2009). This approach may include a large variety of rations and measures that maintain the stock of people and artifacts that constitute an economy by constraining the throughput of resources and energy (Kerscher, 2009). Such efforts involve for example physical depletion quotas for research use, redistribution of generated capital through economic production, selective growth/development of non-market activities and sustainable sectors, population control mechanisms and a reinterpretation of justice, equality and 'the good life' (Kerscher, 2009).

What this argumentation seems to suggest is that Degrowth trajectories can effectively materialize using existing institutional infrastructures. Though what can be observed when deploying the contributions on sustainable governance by Pierce (1993) is that strong sustainability requires preliminary processes of decentralization, localization and a reinterpretation of decision-making processes to facilitate democratically legitimate

reconfigurations of society. According to Alexander (2012) the solutions Degrowth propose to contemporary ecological and socio-economic issues is effectively unthinkable, given the current politico-economic climate. In his words, the most important features of a macro-economic system beyond growth, relate to changes in the structure of the labor market, taxation policies, subsidies and bans, production and investment schemes and the indicators of progress and wellbeing deployed for policymaking (Alexander, 2012). Central policy objectives that may emerge after such institutional developments could involve protect ecological integrity, counter social inequality and stabilize economic processes to achieve certain equilibrium; Alexander (2012) is a defining author in a type of Degrowth literature that specifically focuses on on macroeconomic interventions and strong state involvement. This does not, however, address the need for enhanced local political autonomy, community-based development processes, independent local economic development and other bottom up processes that are involved with the governance and implementation of ecocentric sustainability objectives (Pierce, 1993, Bermejo, 2014). As such, even though these proposals are conceptually 'ecocentric' in terms of the interventions they suggest, the fact that they do not address the responsibilities of actors in the civil and private sector decreases their strength in practice for sustainability (Bermejo, 2014).

SOCIO-CULTURAL PROPOSITIONS
Cattaneo et. al (2012) aim to address this issue by taking a cultural turn on institutional reform for Degrowth and addressing issues of democracy legitimacy and social justice that in their words, prevent the institutional design of an alternative socio-economic order. Their contribution illuminates what forms of democracy and institutions can make a Degrowth transition feasible and socially sustainable, as well as which economic implications such a democracy may have; examples from their work are the facilitation of local, direct democracy and other forms of horizontal, centralized governance. Cattaneo et. al (2012) question the extent to which such developments can take place within the context of liberal democracies as its hegemonic nature structurally maintains and reinforces incumbent routines. As such, instead of suggesting institutional reforms, their argument is that democratically legitimate configurations based on the principles of Degrowth should therefore materialize at the local level, without direct state involvement (Cattaneo et. al, 2012). In their words, this is the scale where democratically legitimate economic alternatives can emerge in relative neutrality from incumbent regime structures, by formulating a socio-cultural foundation for a Degrowth future. Such, alternative forms of social organization may emerge to support the emergence of a Degrowth mindset, which in

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turn may produce more sustainable behavioral routines. What should be noted is that Cattaneo et. al (2012) base their argumentation on the assumption that relative neutrality exists at the local level, or at least a relative independency of civil society actors to facilitate the development of alternative structures. Yet presently, many civil actors and private collectives are subjected to high system-dependency due to growing individualism and utilitarianism, which separates civil society and limits it s capacity for social organization (Axelos, 1976). Fournier (2009) takes a closer look at this 'lock-in', in her publication called "Escaping from the economy: the politics of Degrowth". She focuses on the decolonization of the economic rationale and the reinterpretation of the 'economic', to restore a balance between sectors in the global human society and release alternative, egalitarian development flows (Fournier, 2009). The author coins the term Degrowth as a democratic choice that autonomous civil collective can make *after* establishing system-neutrality, rather than it being a departure point of development discourse or a politically imposed imperative. To support the emergence of Degrowth 'spaces' Fournier (2009) calls on social and environmental imperatives for value creation and transaction to move beyond traditional economic rationality. In her words, this involves socially and politically promoting economic activity beyond utilitarianism, advocating alternative cultural anchor points for citizenship beyond consumerism, deploying the economy for collective wellbeing instead of individual welfare to eventually reduce the scale of the economic sector to ecological and socio-economic carrying capacities (Fournier, 2009). The author specifically mentions the need for a Degrowth cultural narrative, which require an identification of universal human needs, values and characteristics as a shared basis of mutual identity. She argues for the use of ecological principles and human-nature connections as a foundation for alternative forms of citizenship and culture (Fournier, 2009). What she does not further address is how development pathways should materialize and which actors are involved in these processes.

These culturally oriented publications offer a valuable insight in the practical side of a sustainable future based on the principles of Degrowth. What should be noted, however, is that a constructive approach to sustainability recognizes the interconnectedness of the mounting crises in society and long-lasting change towards ecocentric sustainability should involve all aspects of human life (Gibson, 2006). As mentioned in the theoretical chapter, no single actor or discipline can provide absolute answers to all-encompassing socio-economic issues and a multiplicity of perspectives is needed to arrive at a successful assessment of a particular situation as well as the formulation of sustainable solutions. Fragmented approaches that suggest either institutional developments or socio-cultural

developments thus miss a critical point. The following paragraph focuses on the publications that have addressed the notion of integration of multiple perspectives.

INTEGRAL PROPOSITIONS

In "Socially Sustainable Economic Degrowth', Alier (2009) takes a more balanced, position towards Degrowth and proclaims that institutional and socio-cultural developments are mutually dependent and complementary, which implies that Degrowth initiatives should incorporate developments on both levels. To strengthen this argument, the author states that the content and history of the current multi-component crises, taken as a basis for most Degrowth argumentation, illustrate the interdependency of political, economic, social and ecological problems. As such, in discussing more sustainable futures, Alier (2009) focuses on the need for a different interpretation of 'wellbeing' or 'the good life' and calls more for a socio-cultural development involving ecocentric worldviews and community-based development projects while at the same time illustrating the need for institutional reforms. He mentions an explicit adoption of social and environmental indicators of progress, a reinterpretation of productivity measures and value creation as well as an adaptation of work time policies and labor to support, as central policy instruments that may facilitate, structure and legitimize developments at the micro-level to move towards an alternative system (Alier, 2009). It is important to note that he considers micro-level, socio-cultural developments leading drivers of the overall transition towards Degrowth as these may produce new perspectives and forms of collective consciousness that constitute alternative systemic configurations; institutional parties are considered facilitators of these processes. Continuing this argument, Lorek and Fuchs (2010) denote that the underlying worldview of any sustainability initiative determines to a large extent its actual impact, as generating long-term sustainable changes are difficult if the underlying socio-cultural framework of values, beliefs, identities and mindsets remains unaddressed (Lorek and Fuchs, 2010). In their words, changing behavioral routines and collective consciousness requires multi-stakeholder, transdisciplinary action that combines top down and bottom up initiatives. In their words, leading notions such as the reinterpretation of wealth, productiveness and value creation, the introduction of alternative conceptions of well-being, justice and 'the good life' and the formulation of ecological and social objectives for economic reorganization, should be led by micro-level, bottom-up processes of socio-cultural development and grassroots innovation (Lorek and Fuchs, 2010). As mentioned in the introduction, social-activist experiments with the Degrowth concept currently offer neutral spaces for the development of concrete systemic alternatives, based on radically different socio-cultural patterns. Such experiments form

the cornerstone of a new cultural narrative for Degrowth and the main responsibility of political actors is to provide incentives and favorable legislation that facilitates developments in these areas (Lorek and Fuchs, 2010). Without institutional support these initiatives are bound to remain in relative isolation and are less able to transfer their practices to the mainstream, which is why public-private partnerships are necessary to strengthen Degrowth projects that align institutional objectives and mechanisms with developments on the local level (Sekulova et al. 2013). Sekulova et. al (2013) mention that the biggest challenge for Degrowth is related the embeddedness of weak sustainability principles in mainstream business and governance, which generates relative distance between radical micro-level developments and the surrounding system.

Based on this notion, Kallis et. al (2010) mention that transforming incumbent institutions that currently determine large scale development processes, control value creation mechanisms and determine processes of knowledge generation can also be considered prerequisites for Degrowth. The authors state that the contemporary fragmentation of political, economic and civil actors, the high degree of specialization and hierarchy as well as the competitiveness and individualism that determine contemporary research and development practice, do not allow for the multi-stakeholder cooperation, interdisciplinary research and egalitarian development pathways that Degrowth requires (Kallis et. al, 2010) Only by developing such new infrastructures for research and development practice first, progressive policies and socio-cultural development trajectories could be formulated through collaborative research and implemented by multi-stakeholder projects for sustainability, to eventually generate a smaller, qualitatively different economy (Kallis et. al, 2010).

4.1.2. *What gaps are most pressing in the academic discourse on Degrowth?*

Since Degrowth is subject to a high degree of pluralism and internal division, making generalized statements about the Degrowth concept is practically impossible. The proliferative nature of this concept can be considered both a strength and a weakness. It's strength lies in the fact that it recognizes that the crises that global human society is presently facing is complex, diverse and all encompassing, and thus requires a solution with similar characteristics. Degrowth combines a broad range of insights, theories and specialisms to compose an alternative paradigm that could replace the current, unsustainable, growth-based reality. In theory, Degrowth proposes an ecocentric approach to sustainability, including restorative ecological measures, a strong focus on social equity, a localization and qualitative development of the economy and decentralized, horizontal
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forms of governance. Yet without alternative psychological, socio-cultural and institutional arrangements, such theories lack cognitive and epistemological foundation, as well as political and social infrastructure for implementation resulting in a variety of complications.

First of all, is important to note that although Degrowth postulates an ecocentric vision of a future society, the underlying logic of finding 'a solution to the global multi-component crisis' can still be considered anthropocentric and paternalistic. As mentioned by (Kortenkamp & Moore, 2001), deploying a goal oriented, specialist approach based on human self-interest. Solutions for sustainability that emerge from this mindset do not structurally readdress underlying socio-cultural and psychological constructs and are bound to reproduce existing systemic configurations in the long term (Kortenkamp & Moore, 2001). Secondly, as Kallis et. al (2010) denote, Degrowth is supposed to be multidimensional concept that involves diversity of interpretations and proposals for practical implementation open for public debate, which requires new forms of knowledge generation and development practices, as well as alternative infrastructure for interaction and cooperation that allows for transfer of knowledge and skill across existing departmental, sectorial and regional scales. Contemporary fragmented ways research and development will not suffice as these deploy an instrumental, specialist rationality and incorporate weak sustainability principles (Sekulova et. al, 2013). Discussing, practically translating and up scaling Degrowth principles requires more complex, integral and holistic methods of knowledge generation and development practice. The lack of such multi-level methodologies and frameworks results in a Degrowth image that seems to be a product of 'multi-specialism' a convergence of multiple perspectives and arguments that still require further integration in order to actually form a comprehensive whole with practical value. As Gibson (2006) mentions, the challenge of sustainability resides in bridging worldviews and generating integral practices through cooperative work methods. Since Degrowth proposes an integration of a variety of approaches on institutional and socio-cultural levels, all with different points of departure, methods of knowledge generation and practical implementation strategies, the focus of inquiry may shift to the foundation of Degrowth discourse instead of the direct solutions it postulates. A leading challenge for Degrowth is to facilitate multi-stakeholder communication processes that allow for strategic alignment, collaborative action research and structuration of mutual efforts for collective benefit, thereby improving the potential of a system-wide shift to more sustainable configurations.

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4.1.3. *What further theoretical research could proceed given these findings?*

What can be concluded given these findings is that Degrowth currently lacks the integrative capacity, democratic legitimacy and overall sustainability to serve as a direct solution for a more sustainable socio-economic system, yet this may be overcome by addressing a number of issues. First of all, it is important to note that the current pathways deployed for Degrowth research and development of propositions and solutions for more sustainable configurations require a shift to more integral forms of science and frameworks for holistic analysis to generate the complex epistemological foundation and interdisciplinary perspective that Degrowth discourse requires. Such alternative forms of 'knowing' might eliminate issues of internal division, fragmentation and conflict that currently mark the Degrowth debate. Secondly, it should be noted that addressing psychological and socio-cultural structures of groups and individuals precedes the design of pragmatic solutions for societal development, as mindsets, belief systems, value schemes and worldviews determine the practical translations of such concepts into a socio-economic system (Curry, 2011). This implies that the development of alternative systemic configurations begins at the micro-level, by transforming personal routines and developing alternative cultural narratives. Social-activist Degrowth experiments are currently working to compose such socio-cultural foundations as a basis for alternative systemic configurations. Unfortunately, Degrowth discourse only deploys scientific insights from various academic departments and does not allow for an influx of non-academic insights from activists in the field. As such, these experiments remain in relative isolation and are less able to transfer their knowledge and skill for a broader application. As such, Degrowth research could further explore multi-stakeholder development processes to provide the infrastructures for collective research and development that facilitate an inquiry into highly complex global issues and the solutions that may be formulated in response. This might even involve a temporary departure from the Degrowth concept to allow for a preliminary exploration of supportive value schemes, belief systems and identities. A change of perspective as such could provide the necessary space for stakeholder alignment and cooperation, to improve sustainability and transferability of the solutions generated on all levels. From such multi-level processes of research and inquiry Degrowth might still emerge as the appropriate solution to contemporary issues, though with an improved sense of legitimacy, sustainability and practical value for implementation.

LIMITATIONS

The literature review that was conducted is relatively limited given the size, diversity and complexity of the Degrowth debate. Working with 10 publications only has been a

necessarily limit due to time constraints, yet it has not contributed to the diversity and integrity of analysis. To improve legitimacy and generalizability of results, this review could be extended infinitely, though the dilemmas that were identified have been and are still central to Degrowth discourse and are often recognized by leading authors as well. For the scope of this research, which aims to explore the added value of the Degrowth concept to the composition of more sustainable alternatives for society organization, the 10 publications offer a useful insight in current challenges and opportunities which, when combined with practical data from the field, provide a suitable basis for a set of recommendations that may help further shape the development of Degrowth as such. In the following chapter, an assessment is provided of Ecovillages Tamera and Damanhur, which serve as practical examples of Degrowth activism, to supplement the theoretical reflection given before to arrive at a conclusion on the sustainability and transformative capacity of the Degrowth concept.

4.2.   PHASE 2: PRACTICE

RQ 2: What is the transformative potential of current Degrowth experiments and what gaps may be identified?

To evaluate the transformative potential of Degrowth in practice, Ecovillages Tamera and Damanhur have been selected as they produce interesting, holistic social experiments with alternative, decentralized forms of human society that involve highly ideological utopian philosophies for a more sustainable future. In this sense, the ecovillages fit the definition of a socio-technical niche for the purpose of this research, as they are working to build pragmatic solutions to facilitate transformation for sustainability and operate to varying extents outside the rules and regulations of the mainstream (Smith, 2007). The following chapter is designed to add to the evaluation of the Degrowth concept, by illuminating its dynamics, opportunities and constraints in practices. This chapter starts by illustrating the content of Tamera and Damanhur as well as the characteristics of their surroundings, before further elaborating on their transformative potential. Mainly, the analysis that follows is geared towards an investigation of the transformative potential of the Degrowth concept as practiced by Tamera and Damanhur, by evaluating the core activities that constitute their transition programs and analyzing how this affects the existing

relationships with external stakeholders, to assess whether their approaches may alter incumbent system dynamics.

TAMERA

According to Coelho (2014) Tamera is an intentional training and experimental site for the development of replicable ecological, technological and socially sustainable models of human settlement, which forms a blueprint for an alternative global society. Because of their specific focus on the reinterpretation of human-nature connection and the position of humanity in its environment, Coelho (2014) states that their take on sustainability starts on a micro-level, from notions of personal and collective transformation. In Tamera's philosophy, sustainable societies emerge out of sustainable mindsets that naturally develop in community. In the words of Dergger (2010) their success is directly related to their high degree self-sufficiency, autonomy and independency from the incumbent regime that allows for the development of alternative socio-cultural foundations. The core group at Tamera has intensively researched issues concerning self-acceptance, love, sexuality, trust and spirituality, hereby focusing on domesticated patterns and mechanisms in order to identify potential pathways to return to a natural form of peaceful coexistence (Duhm, 2015) Deep structural transformation, psychological re-alignment and the construction of alternative moral foundations have contributed to the emergence of a community that is intrinsically promoting strong sustainability and driving an international network for sustainable change and large-scale impact (Coelho, 2014) Tamera launched a global peace project, Terra Nova, based on the knowledge and experience generated inside the community, which involves a vision of human life on earth based on mutualism and connection, instead of individualism and division (Duhm, 2015). This global change project is based on the following values:

- Realignment of the human world with the higher-order world of life and Creation
- Non-violent cooperation with all co-creatures. No violence against animals
- Healing of water through the development of "Water Retention Landscapes"
- On this basis development of permaculture and self-sufficient food supply
- Withdrawal from the oil industry. Development of autonomous energy systems
- Establishing decentralized subsistence economies
- Establishing functioning communities
- Ethic of truth, mutual support and responsible participation
- Ending of the war between the sexes and all sexual humiliation
- Truth in love. No deceit in partnerships

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Tamera operates in the Alentejo region, which is predominantly rural and home to many small and medium-sized agricultural cooperatives that outnumber the industrial sector (Roca et. al, 2012). In recent years the region has gone through major developments in logistics and internal services, which improved its interconnectedness with the rest of the country and sparked economic development (Roca et. al, 2012). A necessary development, given the fact that Portugal is currently subject to a relatively high degree of urbanization, which leads to an increase in demand of agricultural products and a decrease in active workforce in this sector (Rosado et. al, 2015). In relation to this, local enterprises and international politics are currently working to protect the fragile ecosystems of Alentejo and Portugal as a whole, that have been unable to keep up with the ever increasing pressure on natural resources, while at the same time countering the socio-economic constraints that are rising in the face of multiple national and international crises (Rosado et. al, 2015). Yet up to now progressive policymaking and innovative business strategies have been unable to generate long-lasting impacts due to the existing clash between socio-cultural trends and political aspirations (Rodrigo et. al (2009).

DAMANHUR

Liftin (2007) defines Damanhur as a well-established example of an alternative society that develops and promotes the transition to a more sustainable paradigm. The aims of Damanhur constitute a philosophy based on principles of freedom, the reawakening of human nature, to create a model of life based on principles of good communal living and love, harmonious integration and cooperation with all forces linked to the evolution of life on earth (Liftin, 2007). In their cultural development Damanhur strongly focus on the alignment of personal development and collective progress and embraces the complexity of building community (Hawken and Rand, 2014). According to Liftin (2007) Damanhur has made remarkable progress in the previous decades and is now functioning as an interdependent society with a wide range of internal and external activities that contribute to its philosophy. Its vision has both local and global aspects; the central elements are synthesized in a range of political and socio-cultural structures, which correspond to the behavioral aspects that are believed to positively influence development and growth of individuals, groups and organizations (Hawken and Rand, 2014). Their global change project is based on the following principles:

- Action based development trajectories on individual and collective levels
- Personal development for collective wellbeing
- Developing emotional and spiritual awareness

- Achieving psychological, social, economic and ecological balance

- Individual exploration of true potential and intrinsic motivations

- Development projects for continuous research, experimentation and activism

- Developing holistic lifestyles based on alternative conceptions of happiness

Damanhur is based in the Piedmont region, which is comparable to the Alentejo region, in terms of developmental characteristics. As Bagliani et. al (2013) indicate, small and medium sized agriculture are strongly represented , yet unfortunately these businesses are currently unable to fill the gap between supply and demand of food products that persists due to processes of urbanization and rural decline. Although progressive policy and alternative socio-economic infrastructure are slowly emerging with the help of European institutional support, environmental degradation generated by polluting industries and socio-economic crises in terms of unemployment and debt are still pressing (Rega and Bonifazi, 2014). As Bagliani et. al (2013) point out, in many cases policy-measures and large-scale development project are not in line with regional needs, socio-cultural trends and emerging economic issues, which complicates sustainable development. In relation to this, (Rega and Bonifazi, 2014) denote that Italy is subject to a high degree of internal division and is currently on the brink of institutional and socio-cultural developments that have long been suppressed by authoritarian governance and market-driven socio-economic development pathways. This implies a major need for new social configurations as a foundation for sustainability projects, as the inter-linkages required to design, execute and maintain sustainability initiatives are currently not present (Asola and Riolfo, 2009).

4.2.1. What activities are undertaken by the micro-level experiments to generate transformative impact?

The following paragraphs summarize the psychological, behavioral, cultural and systemic processes that determine the context and practical of the transformation strategies as developed and executed by Tamera and Damanhur as part of their philosophies for a sustainable future society. The nature, execution and effectiveness of these activities is deployed as a basis to understand the potential of these micro-level Degrowth experiments to transform the incumbent regime based on the theories given earlier in this research. To decrease complexity and optimize integrity of this assessment, the following section evaluates each initiative separately before drawing conclusions based on both examples in the sub-phases that follow.

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Details	% of sample
Interview 1: 3-5-2015	1st generation core
Interview 2 3-5-2015	1st generation core
Interview 3: 2-5-2015	2nd generation core
Interview 4: 4-5-2015	2nd generation core
Interview 5: 5-5-2015	Temporary member
Interview 6: 10-5-2015	Temporary member
Interview 7: 10-5-2015	Temporary member
Interview 8: 13-5-2015	Temporary member

Table 5: Data Analysis. Tamera Interview Details

1. Psychology:

Tamera's philosophy takes the adaptation of individual consciousness as a point of departure for structural transformation of a larger system, as hidden complexities, domesticated patterns and the power struggles that may emerge from that are considered carriers of fear and violence that interfere with the creation of a stable community for sustainable development (Interview 1 Tamera 3-5-2015, Interview 3 Tamera 2-5-2015). With this assumption as a basis, Tamera's core mechanisms of community development all rely on an ongoing cycle of individual introspection and personal development, intended to expose destructive patterns, incumbent moral justifications, taught assumptions and other internal mechanisms that have their roots in incumbent development processes. "A collective project for sustainable change with individualist mindsets may be temporarily upheld by utopian impulses but is doomed to fail on the long-term as individual power-struggles and sub-conscious inter-personal mechanisms will inevitably infuse destructive, old structures into the activities undertaken" (Interview 2 Tamera 3-5-2015). The psychological development processes deployed to initiate the transformation project, involve the transfer of individual issues to the group, taking the sum of individual struggles as a form of cultural heritage to create a collective narrative from which relationships of trust may be derived, which in their philosophy is the only legitimate starting point for new systemic configurations (Interview 3 Tamera 2-5-2015). To support these developments, core members and temporary residents engage in a variety of individual and group processes including spiritual practice, self-investigation processes, public vulnerability exercises, trust-building exercises and group therapy, which together constitute a program for the interference with and adaptation of individual perspectives. This forms a complex set of activities that determine much of the daily, individual routines of the residents at Tamera; all these individual patterns contribute to the larger cultural narrative that the community postulates as baseline for transformation to a sustainable future paradigm (see:

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3. Culture) (Interview 2 Tamera 3-5-2015, Tamera 2015, Interview 5 Tamera 5-5-2015, Interview 6 Tamera 10-5-2015). As mentioned by various interviewees, such psychological transformations involve a great deal of investment, dedication, and courage that can only be made by limited amount of people (Interview 1 Tamera 3-5-2015, Interview 3 Tamera 2-5-2015, Interview 5 Tamera 5-5-2015). Many arrive at Tamera looking for answers, yet only a handful manages to integrate the radical, confronting and demanding psychological process that the community (Interview 4 Tamera 4-5-2015). Second-generation citizens, children that were born in the community and spent most of their childhood years in Tamera education facilities, inhabit radically different value schemes and find it much easier to live the community lifestyle and 'live' groundbreaking new approaches to sustainability and transformation (Interview 1 Tamera 3-5-2015, Interview 2 Tamera 3-5-2015).

2. Behavior:

Following initial processes of introspection to facilitate self-exploration and collective processes of sharing and trust building, each individual is motivated to initiate a range of individual transformation projects that form pragmatic anchor points for the large scale, multi-level transformation strategy (Interview 1 Tamera 3-5-2015, Interview 3 Tamera 2-5-2015). Furthermore, these projects generate knowledge on personal development for sustainability and on the micro-level transformations that may constitute a dynamic community of change (Interview 1 Tamera 3-5-2015, Interview 2 Tamera 3-5-2015). Furthermore, the rationale behind the initiation of such projects is that individual members are given the opportunity to discover their true potential while creating new value creation mechanisms inside and outside the community that contribute to the larger research to system transformation for sustainability (Interview 1 Tamera 3-5-2015, Interview 3 Tamera 2-5-2015). In the philosophy of Tamera, a true process of individualization implies acting from an existential sense of self-awareness and innate aspirations, which naturally evolves from and may be stimulated by community (Interview 2 Tamera 3-5-2015). As such, the community's strategies and mechanisms for large-scale transformations are considered to be a direct reflection of individual development projects, composing a patchwork of internal and external practices that translate the universal philosophy into concrete activities and by doing so form the first plots and drivers of the transformation network that Tamera aims to create (Interview 2 Tamera 3-5-2015, Interview 4 Tamera 4-5-2015). So far, most of these strategies have been internally oriented, supporting behavior change processes through spiritual development, creative expression exercises, inner peace work

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and practices to strengthen social relationships for the generation of a stable and living community (Interview 3 Tamera 2-5-2015). Tamera's daily routines also contribute to this trajectory, being composed of group activities that involve agricultural shifts, food preparation, construction work, logistic service and technological or spiritual research; all directed to breaking patterns of individualism and egocentrism to build a collective culture of cooperation, mutual trust and shared responsibility (Interview 3 Tamera 2-5-2015, Interview 5 Tamera 5-5-2015). To strengthen the transformative potential of these activities, these routines are integrated on all communal levels; all community members and temporary residents are considered an integral part of the ongoing research on community life for sustainability change and are therefore under continuous exposure, always contributing to a process of collective development (Interview 1 Tamera 3-5-2015, Interview 3 Tamera 2-5-2015).

3. Culture:

The philosophy of Tamera states that processes of healing and reconnection precede the formulation of externally oriented activities, hence ensuring that the transformation project that follows is driven by alternative mindsets and so produce truly alternative systemic structures (Interview 1 Tamera 3-5-2015, Interview 3 Tamera 2-5-2015). The personal and group transformation projects inside and outside of Tamera complement each other and constitute an interconnected whole of psychological development processes and alternative behavioral routines, which currently composes a resilient socio-cultural foundations for alternative systemic configurations (Interview 1 Tamera 3-5-2015, Interview 3 Tamera 2-5-2015). All these processes have generated data for an ongoing research into large-scale transformation to a more sustainable society based on community life, Terra Nova, which is currently in a stage where initial activities are being designed to share the Tamera's cultural narrative and compose learning networks geared towards up-scaling and global impact (Interview 2 Tamera 3-5-2015). The activities that are currently deployed to share Tamera's cultural narrative and its integral transformation mechanisms mainly involve educational and participatory workshops with people that show an interest in the community's practices and philosophy (Interview 1 Tamera 3-5-2015, Interview 2 Tamera 3-5-2015). These activities include temporary residency, permaculture programs and various schools that focus on specific areas of Tamera's philosophy that are geared towards the socio-cultural and psychological developments that support more sustainable livelihoods (Interview 5 Tamera 5-5-2015, Interview 6 Tamera 10-5-2015). These activities are crucial in spreading Tamera's message and infusing it in external projects, as in their view

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deep sustainability of efforts depends primarily on internal collective transformation; promoting the perspective for non-violent coexistence that was generated by decades of research and collaborative action (Interview 1 Tamera 3-5-2015, Interview 2 Tamera 3-5-2015, Interview 6 Tamera 10-5-2015). At the same time, the length and intensity of this trajectory indicates the amount of work needed to actually develop new psychological and socio-cultural perspectives; confusion, frustration and mid-program departure is not uncommon amongst temporary residents and those that feel comfortable with further investigating the philosophy in most cases either end up living on location or remain relatively distant from Tamera's activities (Interview 4 Tamera 4-5-2015, Interview 7 Tamera 10-5-2015, Interview 6 Tamera 10-5-2015). Furthermore, it is important to note that these education and participation activities are generally visited by actors that operate in niche-developments elsewhere, or are part of sustainability oriented projects in other sectors, which limits the knowledge transfer to mainstream actors and distant stakeholders (Interview 4 Tamera 4-5-2015, Interview 6 Tamera 10-5-2015). Tamera is currently running various projects that are involved with the question of how to extend this to individuals and groups that operate on a relative distance or that do not necessarily have the motivation, time and resource to live a community lifestyle as currently practical value of Tamera's philosophy in terms of individual and collective development remains limited to those that decide to engage in long-term therapeutic work, on site (Interview 4 Tamera 4-5-2015, Interview 7 Tamera 10-5-2015).

4. System:

On an external, systemic level, Tamera has developed various projects in ecology, technology, infrastructure, agriculture, economy and politics that focus on outside participation, inclusion and collaborative action research to support the transformation project (Interview 2 Tamera 3-5-2015, Interview 3 Tamera 2-5-2015). Such activities tend to spark internally as a manifestation of personal development projects and obtain further support as a collective activity once deploying such activities to reach out to external stakeholders (Interview 2 Tamera 3-5-2015, Interview 5 Tamera 5-5-2015). These collectively executed projects that involve external projects illustrate a conflict in Tamera's approach to transformation, as these activities do not necessarily advocate Tamera's value schemes but focus mainly on how these projects deliver benefits that contribute to the community's existence (Interview 7 Tamera 10-5-2015, Interview 8 Tamera 13-5-2015). Due to the relatively large amount of people that live, work, study and learn at Tamera, it has become practically impossible to be completely self-sufficient, as such, the community has

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established bond of mutual benefit with external agricultural enterprises, that promote the viability of local economy but do not address deeper socio-cultural aspects (Interview 7 Tamera 10-5-2015, Interview 8 Tamera 13-5-2015). In a sense, this brings the various actors closer together as relationships of trust are built through mutual experience, although no collective identity is created that can function as a basis for sustainable change (Interview 4 Tamera 4-5-2015, Interview 7 Tamera 10-5-2015, Interview 6 Tamera 10-5-2015). Tamera is currently in a transition phase, where attempts are made to shift focus from internal developments to outreach activities that can fuel the Terra Nova project and build the infrastructure needed for a more sustainable future (Interview 3 Tamera 2-5-2015, Interview 4 Tamera 4-5-2015, Tamera 2015). In the philosophy of Tamera, incremental change projects with external parties are necessary activities as these lay the foundation upon which transformation projects can be built in later phases (Interview 1 Tamera 3-5-2015). Such activities are undertaken on multiple levels, including for example institutional negotiations for suitable legislation that may support the Healing Biotope and its integral activities, which require a changing subsistence and regional autonomy with regards to infrastructure, education and local economy (Interview 4 Tamera 4-5-2015). The internal organization of Tamera is currently changing in format to support project-based transformation activities with external stakeholders, based on member specialism and interest (Interview 3 Tamera 2-5-2015, Interview 2 Tamera 3-5-2015). As such Tamera is slowly composing a portfolio of technological, ecological, economic, political and socio-cultural projects with external parties that form primary extensions of the underlying community philosophy (Interview 3 Tamera 2-5-2015, Interview 2 Tamera 3-5-2015). Their existing network, skill and knowledge provides a form of direct benefit to the participating stakeholder, which has been the case in most local economic development projects and Tamera's extensive investment in ecology and agriculture; past successes have contributed to a celebrated position of the Ecovillage in local community and provided Tamera with a range of subsidies that have been deployed for an extension of current efforts (Interview 3 Tamera 2-5-2015, Interview 2 Tamera 3-5-2015). What should be noted, is that all these activities currently rely on incumbent socio-economic infrastructure and have mainly been pursued from a basis of self-interest by all stakeholders (Interview 8 Tamera 13-5-2015). The decision to not impose the philosophy of Tamera on others in its external activities has generated a degree of intermediacy that facilitates multi-stakeholder cooperation and allows for a transfer of sustainable practices and ideas in a voluntary setting (Interview 3 Tamera 2-5-2015). By doing so, Tamera's projects decrease system dependency of external actors and facilitate the emergence of off-grid socio-economic structures (Interview 3

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Tamera 2-5-2015). In their view, the answer to the paradox of incremental and radical change is building an interconnected network of healing biotopes, where Tamera-like community centers provide knowledge, skill, technology and alternative socio-cultural narratives and involve their surrounding areas in off-grid socio-economic structures by setting up collaborative projects that generate a sense of 'system-neutrality', which allows for the explorations of alternative value schemes and systemic structures (Interview 3 Tamera 2-5-2015, Interview 4 Tamera 4-5-2015).

DAMANHUR

1. Details	% of sample
Interview 1: 4-6-2015	1st generation core
Interview 2: 4-6-2015	1st generation core
Interview 3: 10-6-2015	2nd generation core
Interview 4: 10-6-2015	2nd generation core
Interview 5: 11-6-2015	2nd generation core
Interview 6: 12-6-2015	Temporary member
Interview 7: 15-6-2015	Temporary member
Interview 8: 18-6-2015	Temporary member

Table 6: Methodology. Damanhur Interview Details

1.   Psychology:

Damanhurians take a similar approach in designing transformation pathways; their vision is that alternative systems can only arise from new forms of individual and collective consciousness that are motivated by enhanced self-knowledge, meaningful interaction and re-establishing harmonious relationships with the ecosystem (Interview 1 Damanhur 4-6-2015, Interview 4 Damanhur 10-6-2015). As such, the psychological aspects of change are taken as a point of departure, by focusing specifically on human experience of life on earth, the position of humanity in nature based on biophysical and ecological needs (Interview 3 Damanhur 10-6-2015). Initial work conducted at Damanhur concerning transformation therefore involves mainly the investigation of what domesticated patterns and mechanisms have historically diverted humanity from its evolutionary patterns and how the natural balance may be restored by a new socio-cultural context (Interview 3 Damanhur 10-6-2015). The core mechanism that is deployed for this purpose is the 'School of Meditation' a spiritual education program designed to facilitate an overall quest for meaning that is supposed to enhance personal existential awareness (Interview 2 Damanhur 4-6-2015). By exploring a wide range of theories and techniques for spiritual and emotional development, members are encouraged to break down the walls of domestication, reconnect with their essential selves and recognize their place in the universe (Interview 2 Damanhur 4-6-2015). At Damanhur, seeking deeper emotional and spiritual significance is
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considered a central element of individual development as these aspects of life are structurally neglected in the current system (Interview 2 Damanhur 4-6-2015). As such, the School of Meditation is an integral part of daily routine and the primary focus of those who decide to become (temporary) community members (Interview 2 Damanhur 4-6-2015). The School of Meditation is an important mechanism to illuminate the direct link between individual growth and collective wellbeing, as the emotional and spiritual development of each member benefits the wellbeing of the community as a whole (Interview 2 Damanhur 4-6-2015). An element that builds on these new levels of awareness is the 'Social Pillar', which is involved with the development and maintenance of the socio-cultural foundation that forms the basis of Damanhur's transformation project (Interview 3 Damanhur 10-6-2015). This structure offers various options for engagement depending on the level of individual commitment; it is designed to facilitate the collective exploration of mutualism and community life (Interview 3 Damanhur 10-6-2015). In Damanhur's philosophy, human community is the natural carrier of sustainability. By learning to understand one's own natural dynamics through the School of Meditation and exploring the other through processes of sharing and meaningful interaction within the Social Pillar, one may begin to recognize the other as kin and overcome the position of the isolated, competitive, egocentric individual (Interview 3 Damanhur 10-6-2015). The Social Pillar facilitates routines of inter-subjective sense making that consist of weekly exploration, sharing, bonding and evaluation processes (Interview 3 Damanhur 10-6-2015). These determine and strengthen the core of the community by forming a socio-cultural baseline, while at the same time contributing to ongoing research to the value and processes of community for sustainable change (Interview 3 Damanhur 10-6-2015). The residential groups that compose the federation of Damanhur provide dynamic social environments where members can develop themselves on various levels and are continuously involved in the arrangement of the communal identity (Interview 3 Damanhur 10-6-2015). As such, the collective sense of belonging is subject to continuous change and development through the introduction of new members, projects or objectives that motivate new learning cycles (Interview 3 Damanhur 10-6-2015). The actual practices of the Damanhurians are widely described in books and publications, however they cannot be studied or attended by those who are not involved in a community cluster that is considered the vehicle of transformation on a personal, group and environmental level (Interview 3 Damanhur 10-6-2015, Interview 6 Damanhur 12-6-2015).

2. Behavior:

From these initial processes of individual psychological transformation and collective exploration, a variety of concrete transformation pathways are designed in the form of individual projects and collective routines that contribute to the overall philosophy for a more sustainable future, based on community oriented transformation networks (Interview 2 Damanhur 4-6-2015). Following the relatively hierarchical organizational structure of the community, each of these processes occurs within a specific community faculty department, each with its own respective leadership team and decision-making process (Interview 7 Damanhur 15-6-2015). The first mechanism that is deployed at Damanhur to practically translate psychological development processes is the 'Tecnacato', which is a program for personal evolution that incorporates a collection of tools and techniques for the formulation and execution of individual transformation strategies (Interview 2 Damanhur 4-6-2015). These strategies should be designed to align individual development processes with Damanhurian philosophy and support its overall objectives within the range of personal aspirations and intrinsic motivation (Interview 2 Damanhur 4-6-2015). Each citizen at Damanhur continuously practices the Tecnacato, by setting new goals for personal renewal every three months and working with a variety of sponsors or 'mirror's to provide support and guidance in this process (Interview 2 Damanhur 4-6-2015). This process is supposed to generate a natural routine of self-awareness, personal assessment and intrinsic motivation for development in each individual; in the philosophy of Damanhur the transformative impact of the community is a direct reflection of the micro-level developments of its members (Interview 2 Damanhur 4-6-2015). On a group level, behavior change projects for overall transformation are captured by 'the Game of Life', which represents the central value of change, creativity and positive energy in the socio-cultural foundation of the community (Interview 5 Damanhur 11-6-2015). This mechanism was created to become an engine of individual and collective transformation and is a method that safeguards openness, flexibility and evolution, by motivating groups and individuals to set up internal and external transformation projects, which contributes to mutual trust and solidarity as well (Interview 5 Damanhur 11-6-2015). It can thus be considered a strategy to align objectives of community reinforcement with large-scale transformation objectives. By integrating this mechanism into the daily routine of the community, Damanhur attempts to cultivate natural human talents for bonding and cooperation to routinize collective development (Interview 5 Damanhur 11-6-2015).

3. Culture:

The aforementioned activities contribute to the composition of a socio-cultural narrative that forms the foundation of the transformation strategy that Damanhur postulates. Their approach to system-wide transformation to a more sustainable form of human society, departs from the assumption that the attitudes towards 'being human' and 'being' alive require reinterpretation, which is why the activities developed for transformation mainly involve notions of changing perspectives and altering consciousness (Interview 1 Damanhur 4-6-2015, Interview 3 Damanhur 10-6-2015). The socio-cultural foundation that has been developed is a baseline for collective solidarity and trust, without which a community-based transformation strategy for sustainability would have been impossible (Interview 1 Damanhur 4-6-2015, Interview 3 Damanhur 10-6-2015). Presently, the community captures, translates and promotes this socio-cultural baseline in a variety of forms, which allow for knowledge transfer, strategic alignment and collective progress throughout the federation and beyond (Interview 5 Damanhur 11-6-2015, Interview 6 Damanhur 12-6-2015). The first mechanism is the constitution, which is a set of socio-political axioms that have their roots in philosophical and spiritual principles and serve as general guidelines for strategic alignment within the community and in its project portfolio (Interview 5 Damanhur 11-6-2015, Interview 6 Damanhur 12-6-2015,). The constitution is designed to offer a set of recognizable values and customs that together form a basis for collective imagination and inspire a sense of mutual identity among community members; this socio-cultural foundation is considered essential in executing any collective activity (Interview 5 Damanhur 11-6-2015, Interview 6 Damanhur 12-6-2015). The organizational structure that relies on this constitution is designed to produce a patchwork of self-organizing, self-sustaining and naturally innovating communities, which is the blueprint for a sustainable society that Damanhur postulates (Interview 5 Damanhur 11-6-2015, Interview 6 Damanhur 12-6-2015). The federation of communities that has thus far been built according to these principles includes a large variety of members and is involved with a pluralism of activities, which are all inspired by similar ideological principles and are governed by an interconnected, horizontally organized political structure (Interview 5 Damanhur 11-6-2015, Interview 6 Damanhur 12-6-2015). In Damanhur's philosophy, their current structure may expand globally, to produce a new social, economic, political and environmental equilibrium (Interview 7 Damanhur 15-6-2015). Behind this, should be an interconnected network of small-scale, autonomous communities that cooperate to establish new mutual values and collective identity, by practicing sustainable forms of socio-economic behavior (Interview 7 Damanhur 15-6-2015, Interview 8 Damanhur 18-6-

2015). For this purpose, Damanhur provides a range of educational facilities that borrow principles from its internal mechanisms and are designed to inspire, motivate, activate and connect external actors by spreading the socio-cultural tissue and message of transformation that the community postulates (Interview 7 Damanhur 15-6-2015, Interview 8 Damanhur 18-6-2015). Furthermore, the Ecovillage is one of the leading parties that drives the Global Ecovillage Movement and is working on the development on education and consultancy services that can be deployed to connect, align and integrate various perspectives and activities in the Ecovillage movement based on a universal foundation similar to the Damanhurian Philosophy (Interview 7 Damanhur 15-6-2015, Interview 8 Damanhur 18-6-2015).

4.   System:

Besides these micro-level and macro-level activities for global transformation, Damanhur engages in a wide variety of network-based projects and is involved with several organizations that facilitate socio-economic progress, political reform and environmental sustainability on a local, regional and interregional level (Interview 1 Damanhur 4-6-2015, Interview2). As mentioned before, the 'Game of Life' provides a basis for collective transformation projects, which generally involve external activities that benefit the expansion of the Damanhurian network (Interview 1 Damanhur 4-6-2015). A wide range of environmental and agricultural projects was executed to improve ecological standards in the region and promote local socio-economic developments by connecting surrounding small and medium enterprises to the economy of Damanhur (Interview 1 Damanhur 4-6-2015: 1st generation core). In the view of Damanhur, such developments could decrease the relative distance between their system and the current regime, which might facilitate more efficient interchange of knowledge and practical solutions for more sustainable lifestyles. Citizens at Damanhur try to maximize local efforts to increase interactions with surrounding communities and generate goodwill with those that are not directly connected to the Ecovillage such as voluntary action in local non-profit organizations and several programs that aim to improve education and healthcare facilities (Interview 1 Damanhur 4-6-2015: 1st generation core). Furthermore, Damanhur is politically involved in governmental reform to create political and legislative spaces that enable, protect and regulate community livelihoods; a central mechanism here is its political movement "Con Te, per il Paese" or "With you, for the country", which currently functions as an important carrier for local social activism (Interview 1 Damanhur 4-6-2015: 1st generation core). Such political involvement is considered a necessary step in working towards a new equilibrium

based on autonomous, decentralized community life, because contemporary legislative structure does not recognize the legal positions of these entities.

What should be noted however is that the interconnections that currently exist locally have mainly materialized due to local co-dependency and have not reached many actors outside the direct proximity of the community (Interview 7 Damanhur 15-6-2015). Although system-dependency, socio-economic constraints and environmental degradation have significantly decreased, these developments have mostly deployed existing, incumbent infrastructure and have not resulted in structural reinterpretations of human society; psychological and socio-cultural transformation remains limited to those who chose to voluntarily engage in the internal activities of the community itself. (Interview 7 Damanhur 15-6-2015). Damanhurians are aware of the limited reach of the ideological message and have therefore initiated new investment structures to acquire additional property and initiate pilot projects on other territory (Interview 1 Damanhur 4-6-2015).

4.2.2.   *What opportunities and constraints can be identified in the interactions that currently exist?*

Tamera and Damanhur are strikingly similar with respect to how both communities envision and approach sustainability and how transformation pathways are designed. Both Ecovillages postulate that alternative systems can only arise from alternative forms of individual and collective consciousness, which in both communities is the primary focus of activities for global transformation to a more sustainable system (Interview 1 Tamera 2015, Interview 4 Damanhur 10-6-2015). This resulted in an internally oriented form of development practice, which was believed to be necessary in both Tamera's and Damanhur's early phases of development, to lay a foundation for a stable community of change, organized around radically different value schemes. In Tamera and Damanhur's philosophy, the only way to arrive at structurally different systemic configurations is to break down the walls of domestication and initiate transformation projects on the smallest, individual level, so that the organized, collective efforts that emerge, are a reflection of the internal developments of all members (Interview 3 Damanhur 10-6-2015). Such approaches facilitate strong and structural transformation processes on the micro-level, though they generate a broad range of limitations that complicate the system-wide transfer of such constructs. As mentioned by various interviewees, psychological transformations as promoted by Tamera and Damanhur involve a great deal of investment, dedication, and courage that can only be made by limited amount of people that may already operate in socio-technical niches or

are familiar with theories and practices of sustainability and transformation (Interview 1 Tamera 3-5-2015, Interview 3 Tamera 2-5-2015). As a result, the communities' facilities for participation and education that promote their socio-cultural baselines as the departure point for large-scale transformation, mainly attract visitors with similar mindsets, which limits the knowledge transfer to mainstream actors and distant stakeholders, and decreases the influx of alternative insights (Interview 4 Tamera 4-5-2015, Interview 6 Damanhur 12-6-2015). The length and intensity of the holistic transformation trajectories as promoted by Tamera and Damanhur generate a situation where people either end up living on location and to dedicate their lives fully to the philosophy, or remain on a relative distance from the community activities and interact mainly by engaging in externally oriented community activities in politics, economy, ecology or technology (Interview 7 Tamera 10-5-2015,

Interview 7 Damanhur 15-6-2015). Such activities compose project portfolio's that form primary extensions of the underlying community philosophy (Interview 1 Damanhur 4-6-2015, Interview 2 Tamera 3-5-2015). In a sense, such incremental change projects with external parties improve transformative potential as these lay the foundation upon which sustainability projects can be built in later phases by decreasing the dependency of surrounding stakeholders on the incumbent system (Interview 1 Tamera 3-5-2015). What should be noted however is that the interconnections that currently exist locally have mainly materialized due to local co-dependency, in terms of shared resources and infrastructure and have not reached many actors outside the direct proximity of the community, nor have they led to any structural developments beyond economic cooperation (Interview 8 Tamera 13-5-2015, Interview 7 Damanhur 15-6-2015). This particular issue seems to relate directly to the paradox of incrementalism and radicalism; because of the distance that persists between stakeholders on the socio-cultural level, the communities need to find for common ground beyond their radical philosophy, which generates a basis for multi-stakeholder cooperation, but does not lead to a knowledge-transfer in the central area of focus. Furthermore, developments tend to freeze, stop or slow down whenever a mutual issue is solved or a collective need is satisfied (Interview 8 Tamera 13-5-2015, Interview 7 Damanhur 15-6-2015). Tamera and Damanhur both decided to protect their socio-cultural development process from direct external exposure and to facilitate only an outward flux of knowledge and skill for sustainability and transformation, which limits opportunities of external parties for inclusion or involvement in the deeper levels of the transformation project and therefore makes the democratic quality and transferability of these 'transformation blueprints' rather questionable. Both communities are currently on the brink of facilitating further expansion of their ideologies

and are struggling with the question of how to further deploy existing incremental infrastructure in direct community proximity and extend their practices to individuals and groups that operate on a relative distance (Interview 4 Tamera 4-5-2015, Interview 7 Damanhur 15-6-2015). The current strategic milestones designed for this purpose involve mainly the generation of new settlements, the rationale being that Tamera or Damanhur-like settlements could provide the skill, knowledge and economic activity to improve local autonomy and neutralize space for the development of alternative systemic configurations. Unfortunately, this does not fully address the question of how to involve mainstream actors and surrounding stakeholders that operate on different socio-cultural levels into the development process to legitimize emerging solutions and develop an inclusive culture of change.

4.2.3 *What further practical experimentations should proceed to improve transformative capacities?*

Both Tamera and Damanhur have made significant progress in developing approaches for structural transformation, involving psychological, behavioral, socio-cultural and systemic dimensions that compose mechanisms that can be deployed to create a sustainable global society. The theories and practices that constitute these approaches are currently in a phase of up scaling and transfer, for which a broad range of educational facilities and external project portfolios have been designed. As mentioned before, most of these activities promote the products of decades of community-based action research as a 'solution' but do not allow for an influx of external input to arrive at legitimate approaches to transformation on a larger scale. Tamera and Damanhur have managed to generate an expansive network of activities and projects with surrounding stakeholders, deploying incumbent infrastructure to build relationships for future transformation, which could in theory provide a basis for the adaptation and transfer of internal community practices to other stakeholders and areas. Both Ecovillages could dedicate additional research and experimentation to how to involve mainstream actors, generate an influx of external input and construct multi-actor methods for development practice. By doing so, these experiments could facilitate multi-level intermediacy between stakeholders, constitute stable platforms for interaction and cooperation and release egalitarian flows of development, to constitute an effective transfer of knowledge and practices for system-transformation towards sustainability. Ironically, the high degree of psychological and socio-cultural development that has been promoted as a prerequisite for sustainable

change on the micro-level currently generates non-egalitarian forms of interaction and obstructs collective evolution towards more desirable systemic states. The psychological and socio-cultural progress made by Tamera and Damanhur is promising and can serve as a viable source of knowledge and skill for individual and collective transformation pathways, yet in facilitating multi-stakeholder transformation trajectories, these developments mainly increase the distance between actors. Perhaps, the present stage of development will spark new cycles of research and experimentation to overcome these issues. If so, these cycles should motivate external stakeholder participation, invite other academic theories and integrate studies of contemporary societal dynamics to arrive at a more holistic, integral and transferrable approach to system-transformation.

LIMITATIONS

The empirical data deployed for this research phase poses a variety of limitation in terms of legitimacy and reliability. First of all it should be noted that the interviews conducted cover only a relatively small amount of the entire population of each community, complicating generalizability of results. The interviewees were selected upon availability and since the content of community activities was personal and sensitive at times, not all interviews provided useful data for the assessment of the transformative potential of the Ecovillage under study. In addition, time constraints and a lack of communication to prepare this research beforehand resulted in hasty discussions with very little time to explore the deeper layers of processes and events. With hindsight it would have been more productive to dedicate more time to this research phase, live on location longer and collect data through more participatory research methods and collective forms of inquiry that align with the community dynamics in place. Furthermore, it should be noted that the definition of Degrowth, is relatively undefined, making it difficult to state whether these Ecovillages are indeed 'successful Degrowth experiments'. Such ontological questions were considered outside the scope of this research, as the academic debate on this matter has not progressed far enough. As such, these Ecovillages are taken as examples to illustrate the role of niche experiments in promoting decentralized, autonomous forms of sustainable human settlement as a point of departure for future societal configuration. In this sense, valuable lessons learned have been gathered on the activities, opportunities and constraints that determine the success of such initiatives. These results do not, however, provide a basis to draw conclusions about the entire field of contemporary Degrowth practice. They merely deploy the cases of Tamera and Damanhur to illustrate the processes of niche experiments with Degrowth, which may add to the overall discussion of a potential future based on such principles.

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5. CONCLUSION

RQ: Does the Degrowth concept propose a sustainable alternative to the current growth based regime and do its practices have the potential to facilitate a large-scale transformation? .

Degrowth is a promising concept that can provide an inspiration in moving towards a more sustainable system, mainly because it indicates the need for an enhanced sense of collaboration in the field of research and development when it comes to sustainability and system-transformation. Both in theory and practice, Degrowth is subject to a degree of idealism, which has both its advantages and its downsides, and is relatively conceptual in terms of facilitating large-scale transformation towards sustainability. This results in the use of and relative dependency on incumbent infrastructure and development pathways, which generates a variety of complications.

Degrowth theory recognizes the need for a complex, holistic and integral approach to counter the multi-component crisis that is at stake, though currently, most contributions have not adjusted their analytical frameworks, methodological structures and epistemological bases. This complicates the integration of the various approaches that are mentioned in designing a Degrowth trajectory, into a holistic body of knowledge and practice for system-wide application. It is important to note that even though Degrowth pathways for future societal configuration are in theory ecocentric and offer valuable contributions by elaborating on how the growth-based dynamics of the current system may be effectively countered, the departure point of its discourse is not inherently different from the incumbent perspective upon which this system relies. An exploration of different perspectives can be found at the micro-level, where Degrowth activists are experimenting with alternative lifestyles. Unfortunately the modes of interaction and platforms for cooperation, knowledge sharing and mutual development of transformation trajectories have not yet materialized. The goal oriented, specialist and relatively isolated academic approach from which academic Degrowth discourse has emerged, is still partly rooted in traditional value schemes that do not allow for integration of non-academic knowledge or the combination of various scientific insights into a single theory.

Degrowth practice is struggling with issues at the exact opposite end. Tamera and Damanhur have both dedicated a tremendous amount of time and resource to the development of independent psychological and socio-cultural foundations for an alternative, sustainable form of human co-existence, creating strong forms of sustainability for structural system transformation at the micro-level. Though in up-scaling their activities, Tamera and Damanhur are facing complications because of a structural dependency on incumbent development infrastructure, as well as a relative distance that exist between them and other stakeholders in terms of psychological development and socio-cultural tissue. As such, the cooperative projects that have emerged as an extension of the global transformation projects that the Ecovillages postulate do not yet allow for effective transfer of knowledge and skill for the adaptation of the incumbent regime. As such, to improve transformative potential, these micro-level actors should also explore multi-stakeholder research and development methods that may regenerate intermediacy and help produce legitimate solutions for sustainable societal configurations by facilitating influx of external input and an inclusion of other stakeholders.

These conflicting needs for future development illuminate again the paradox of incrementalism and radicalism, where a degree of radicalism is needed to develop structurally different systemic configurations, yet incrementalism and stakeholder proximity are required for the implementation of alternative constructs. As such, arriving at sustainable societal configurations, based on whatever concept, depend on the extend to which radical and incremental cycles of research and develop complement each other, interrelate and address particular aspects of the same transformation process towards sustainability. In this sense, academic actors and activists may in the first place provide knowledge, tools and mechanisms for the development of multi-level radical and incremental change pathways that are part of a larger transformation project. Instead of taking the solution, Degrowth, as a point of departure, sustainability-oriented discourse may direct itself towards the investigation of alternative forms or knowledge generation, cooperative work methods for research and development. Enabling such collaborative efforts in this stage will depend mainly on freeing up necessary space for cooperation, integration and collective evolution, which implies moving beyond the high degree competitiveness, protectionism and specialism that has long marked the history of modern science and development practice.

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7. APPENDIX

I.   *INTERVIEW STRUCTURE*

Transition management

- Does the initiative have the motivation to facilitate a large-scale systemic transformation?
- What are its core transformation objectives and leading actions geared towards these objectives?
- How does the initiative position itself as a niche in relation to the socio-technical landscape and the current regime?
- Does the initiative receive macro-level support that increases its potential as a transition arena?
- What is the strategic pathway designed by the initiative to facilitate a transition project and what are its core mechanisms?

Integrating perspectives

- What is the perceived distance between the initiative and surrounding system stakeholders in the existing knowledge base and learning/sharing activities?
- Do relationships of trust and solidarity exist between the initiative and surrounding system stakeholders?
- How does the initiative adapt is structures, institutions and strategies to external and internal changes?
- How does the initiative create social capital between its members and how does this support the success of the project as such?
- What is the shared domain of the initiative, who constitute the community and what practice/practices does it engage in to support the collective purpose?
- How is the group's identity and feeling of connectedness created?
- How is community leadership organized and how does this structure benefit effective collaboration as a group?
- What phases/stages of community development did the initiative go through and what were enabling/disabling factors in this process?