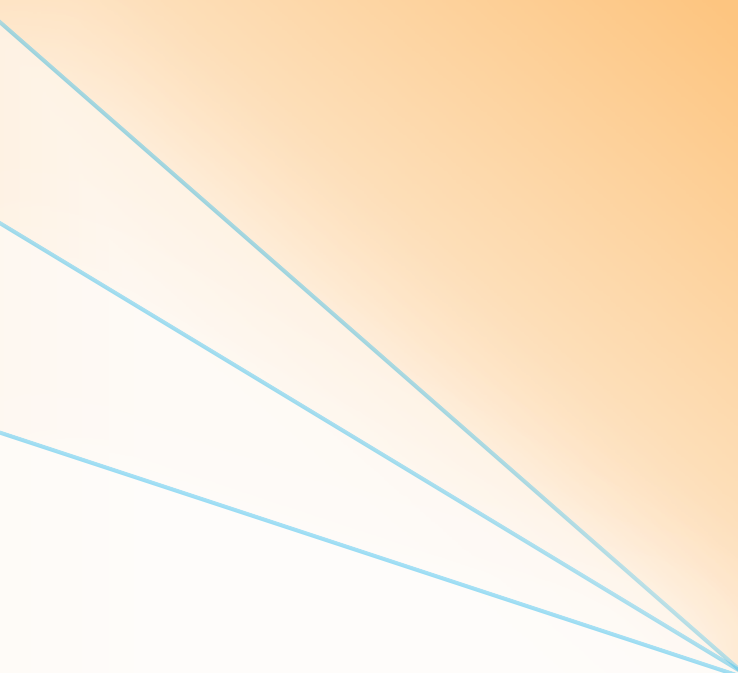


Critical Future(s) of Aging in Society

Understanding the Potential of Intergenerational Collaboration



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Understanding the Potential of Intergenerational Collaboration

By Nourhan Khaled Hegazy

Submitted to OCAD University in partial fulfillment for the
degree of Master of Design in Strategic Foresight & Innovation

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Author's Declaration

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Abstract

Our relationship with younger and older generations in our lives can facilitate our need for personal care, material security as well as our search for identity and belonging. Biggs [2007] describes how understanding relationships between generations lies at the heart of society's contemporary dilemmas yet in the social sciences, it remains to be a relatively under explored lens to understand processes of change [Biggs, 2007, p. 695]. The following research gathered existing literature that discusses intergenerational relations in the domains of a) Sociology and b) Social Gerontology. The sociological tradition discusses processes of social change or how significant historical events shape the environment we age in while the Social Gerontological tradition examines social structures that organize activities across the life course.

Using Suhair Inayatullah's Causal Layered Analysis as a framework, the following research deconstructed a projected trend of rising demographic dependency in Canada to understand its systemic causes, world views and metaphors. The "assembly line of aging" is revealed as a metaphor that describes a rigid system of age specialization, based on the standardization of activities across

the life course. However, as changes in demography, lifestyle and lifespan continue to transform, the assembly line of aging is argued to be too rigid to adapt to the needs of future generations. The "meandering river" is introduced as an alternative metaphor that has the potential to work with and balance a rigid system through recognizing age heterogeneity and challenging conventional age specializations. In order to so, enablers and key stakeholders are highlighted to address the issue more systemically by representing opportunities for agency and action at the individual, community, organizational, and policy level. Finally, this project suggests that a) celebrating age diversity, b) nurturing intergenerational empathy and c) collaborating towards sustainable futures have the potential to enable futures of intergenerational knowledge creation.

Keywords: Critical Futures; Sociology of Knowledge; Intergenerational Relations; Age Integration.

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I would like to thank my family for always being there to guide me with compassion and to stand

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Finally, I was both privileged and enabled to pursue further research and carry out this exploration thanks to the generous support of the Social Sciences and Humanities Research Council of Canada (SSHRC) and the Joseph Bombardier Master's Scholarship.



Social Sciences and Humanities
Research Council of Canada

Conseil de recherches en
sciences humaines du Canada

Dedications

To all those younger and older in my life, who
have been a source of inspiration.

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Preamble

The journey of my research process was full of pivots and discoveries. A journey I can imagine many SFI students share. Initially, my research plan aimed to explore creative and entrepreneurial ecosystems with a focus on youth and to contribute to the understanding of today's knowledge economy. However, as we were introduced to new methods and topics through the SFI program, my research began to pivot.

I recognized that as the knowledge economy grows parallel to an aging population in Canada, integrating knowledge and ideas between older and younger generations is an emerging opportunity area yet there is a significant research gap to address it. I was driven by a curiosity to understand what the purpose of age diversity may be in creating culture, in navigating the future, and in promoting sustainability.

I was reminded of how growing up in Cairo, extended family would all gather at my grandmother's place every week. My grandmother's home functioned as a guest house and she was active in resolving any conflicts between family members.

Whenever my mom was busy with work or studies, she would drop me off at my grandmother's place which was five minutes away from our home. During our time together, I would ask her a lot of questions. My questions would lead to her stories, and her stories would lead to artifacts about a time I knew very little about. Hearing my grandmother describe her youth, revealed to me how different mine is.

She would share with me photos of her wedding day, of my grandfather who passed away when I was only a baby, of my mother when she was a child. I remember feeling ambivalent seeing these photos, as though up until that point it had never crossed my mind that older people in my life were also once young like me.

These reflections made me see that just as my grandmother and I grew up in different times, we will also grow old in different times. They made me wonder how different the world and my experiences will be when I am in her shoes and what juxtapositions and appreciative sympathy may come with older and younger learning from each other's past and future histories.

My grandmother when
she was my age



Me when I am my
grandmother's age

Introduction

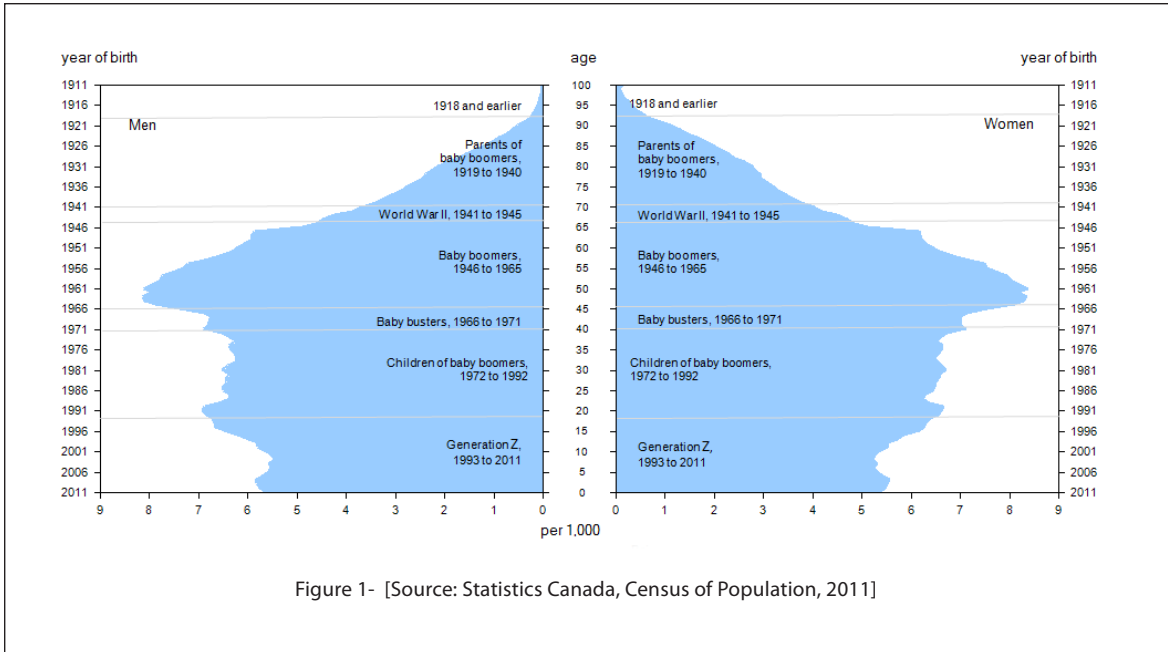
An aging population brings many opportunities and challenges for both younger and older age groups. Yet at a time when intergenerational collaboration becomes imperative, age is becoming an emerging divide in society with age inequality on the rise in Canada [Conference Board of Canada, 2013]. Therefore, bearing in mind that our potential to develop ideas sustainably is influenced by how we use networks [Howkins, 2009], connecting knowledge across generations becomes an important consideration for developing sustainable societies for the future.

The following research explores the following question: How might we enable futures of intergenerational knowledge creation by rethinking aging in society? Although initially the project aimed to focus on workplaces, research quickly revealed that knowledge flows more easily in the case that relationships are socially embedded and that a deeper understanding of the social structures that have created invisible borders between generations is needed.

Figure 1 represents the six generations in

Canada using the age pyramid and illustrating how generations can vary greatly in size depending on the number of births during a given period [Statcan, 2011]. Three large generations can be identified in the figure: a) Parents of baby boomers. b) Baby boomers and c) Children of baby boomers -commonly referred to as the millennials. Members of other generations currently present include those born in 1918 and earlier, Baby Busters and Generation Z. The size of a generation may not only impact those who belong to it, but also the future of other generations. For example, as the baby-boom generation approaches an age of retirement, it raises many questions for the futures of the millennials as they continue to enter the workforce.

For the purposes of this project, literature that discusses 'generations' was gathered from the domains of Sociology and Social Gerontology and an environmental scan captured trends and emerging issues from a variety of sources and applied it to a critical futures methodology. Critical futures aims to both challenge assumptions about the future and to become a basis for social innovations and creativity. Using Suhair



Inayatullah's Causal Layered Analysis [CLA], the project uncovers a dominant aging narrative or 'status quo' and its deeper systems, world views and metaphors. Next, a forgotten yet emerging paradigm of aging is argued to challenge a rigid system of age specialization.

Enablers and key stakeholders are highlighted to address the issue more systemically by representing opportunities for agency and action at the individual, community, organizational, and policy level. Finally, this project suggests that a) celebrating age diversity, b) nurturing intergenerational empathy and c) collaborating towards sustainable futures have the potential to enable futures of intergenerational knowledge creation.

Critical Futures Research Methodology

Critical futures is part of an emerging field in Social Foresight and is a methodology that was originally developed by Richard A. Slaughter. Critical futures is not only a way to analyze the future, but also a basis for “social innovations and creativity for cultural renewal [Ramos, 2003, p. 18]”:

Rethinking epistemic and cultural assumptions could lead to more fruitful answers to pressing problems, and open up new spaces for creativity and action [Ramos, 2003, p. 27].

An emerging discourse in social foresight is future generations studies which considers the needs of future generations as current unsustainable practices continue to disadvantage them [Slaughter, 1996]. For instance, the values of First Nations people has been linked to long-term thinking and sustainability [Kornet, 2012]. First Nations peoples also have a long tradition of intergenerational storytelling that is central to their preservation of culture and heritage.

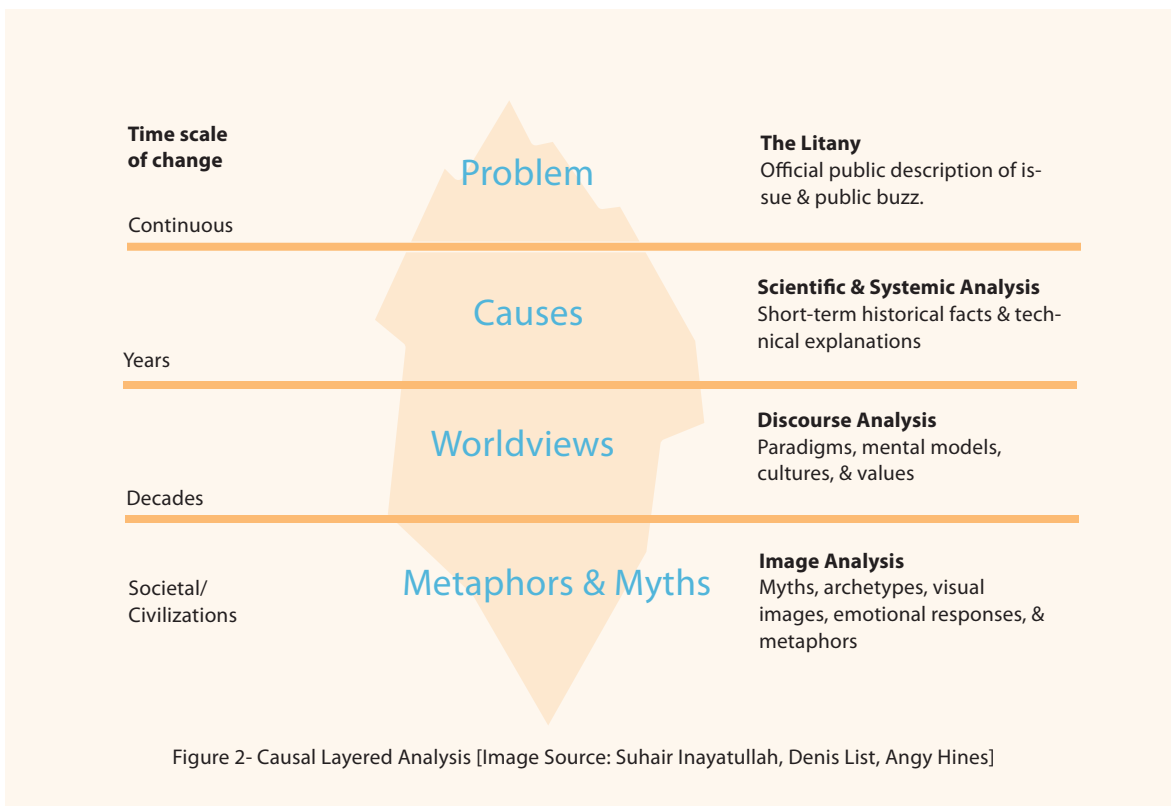
Therefore, critical futures studies recognizes that the present is a consequence of a dominant narrative or a “status quo” [Inayatullah, 2005].

Its objective is to “un-define the future” through challenging predictive approaches and moving past cultural assumptions often based on dominant industrial paradigms originating in the West [Inayatullah, 2005]. In doing so, it uncovers deeper layers about the future by questioning the nature of “time, rationality and agency [Inayatullah, 2005]”.

A post-structural approach attempts to question trends and events that appear at the surface. Building on Slaughter's work, Inayatullah [2005] developed a tool called Causal Layered Analysis [CLA] that allows these deeper layers of cultural reality, world view and metaphor to emerge:

CLA can be seen as an effort to use poststructuralism, not just as an epistemological framework—as developed by thinkers such as Michel Foucault—but as a research method, as a way to conduct inquiry into the nature of past, present and future [Inayatullah, 2005, p. 2].

Deconstruction, genealogy, distancing and re-ordering knowledge are among the elements introduced by Inayatullah [2005] when conducting post-structural futures research.



Deconstruction reveals the deeper narratives behind a trend or event by breaking apart its components and “asking what is visible and what is invisible?” [Inayatullah, 2005]. While deconstruction reveals invisible layers of a trend, genealogy shows discontinuities in its history by tracing how a particular paradigm has be-

come dominant at the expense of another.

Finally, distancing builds “images of the possible which critique the present” [Inayatullah, 2005]. Using knowledge and culture from other civilizations is one way to distance the present while other ways include utopias, dystopias, and

faraway places [Inayatullah, 2005]. Developing scenarios after de-constructing conventional ones can better inform alternatives through the use of metaphor:

Metaphors and myths not only reveal the deeper civilizational bases for particular futures, but they move the creation/understanding of the future beyond rational/design efforts. They return the unconscious and the mythic to our discourses of the future—the dialectics of civilizational trauma and transcendence become episodes that give insight to past, present and future [Inayatullah, 2005, p.6].

CLA links mythic and metaphorical dimension with other levels of analysis by acknowledging that “individuals, organizations and civilizations see the world from different positions—horizontal and vertical [Inayatullah, 2005, p.6]”.

The four dimensions of the CLA -as proposed by Inayatullah [2005]- are represented in Figure 2 and discussed more deeply below.

a) The Litany

The first layer is the litany which includes quantitative trends and issues as they appear in mainstream media such as news. Fisher [2003]

developed the term “litany” which refers to the clichés and stereotypes we live in everyday. Described by Slaughter as ‘pop futurism’, litany is the most visible form of reality and was later adapted as the first layer of CLA by Inayatullah [Ramos, 2003].

It is considered to be the most conventional, visible and rarely questioned level of futures research. Depending on the issue being discussed it may lead to “a politics of fear through feelings of helplessness (what can I do?), apathy (nothing can be done!) and projected action (why don't they do something about it?) [Inayatullah, 2005, p.6]”.

b) The Causes and System

Beneath the litany, social and systemic causes question the quantitative data presented by considers various economic, cultural, political and historical factors [Inayatullah, 2005]. It uses technical explanations and academic analysis and explores the role and interests of actors. It also draws relationships between the various factors to show complexity and contradictions.

c) The Worldviews

Beneath the social and systemic causes lies the worldviews revealing the deeper discourses that are reinforcing the system [Inayatullah, 2005]. For instance, one may explore various mental models that may lead to a re-framing of the issue such as economic, social, religious or cultural.

d) The Metaphors and Myths

Finally, the deepest layer reveals metaphors or myths which represent the “unconscious, often emotive, dimensions of the problem [Inayatullah, 2005 p.7]”. It is concerned with evoking visual images, emotional responses and uses more open language. It is what Inayatullah refers to as the “root level of questioning [Inayatullah, 2005 p.7]”.

It’s important to note that there is some overlap between the layers. While the litany is the tip of the iceberg, the layers beneath it aim to create different perspectives.

Furthermore, at each level scenarios take different forms and represent different actors

[Inayatullah, 2005]. Litany type scenarios are often more instrumental and actors may include government or corporations. Social and systemic level scenarios are often more complex and represent relationships and partnerships between different groups. While world view scenarios aim to capture fundamental differences and actors. Scenarios at the myth and metaphorical level use right brain methods such as poems, stories or images and are often evoked by artists or leaders [Inayatullah, 2005 p.7].

Among the limitations of the CLA method is that it focuses on problem framing and not on solution finding, therefore, it is best used with other methods such as emerging issues analysis in order to reflect on implications for the future.

Other Tools and Methods

Considering the limitations of the CLA, other synthesis tools were adopted to support the sense-making process and bring a horizontal dimension to the future. The following tools include:

a) Environmental Scan-

Literature from various sources were collected in order to determine signals and trends on and beyond the horizon. On the horizon signals and trends are more visible, with quantitative data indicating change such as growth or decline. For a phenomenon to become a trend, it must show a continuous direction of development for a significant period [Inayatullah, 2005]. On the other hand, beyond the horizon issues are less visible, identified through weak signals and are considered to be emerging issues [Inayatullah, 2005].

A STEEP+V taxonomy was used to categorize social, technological, environmental, economic and values based signals and weak signals of change. These are discussed at the litany level and analyzed more deeply at the social and systemic level.

b) What if Questions

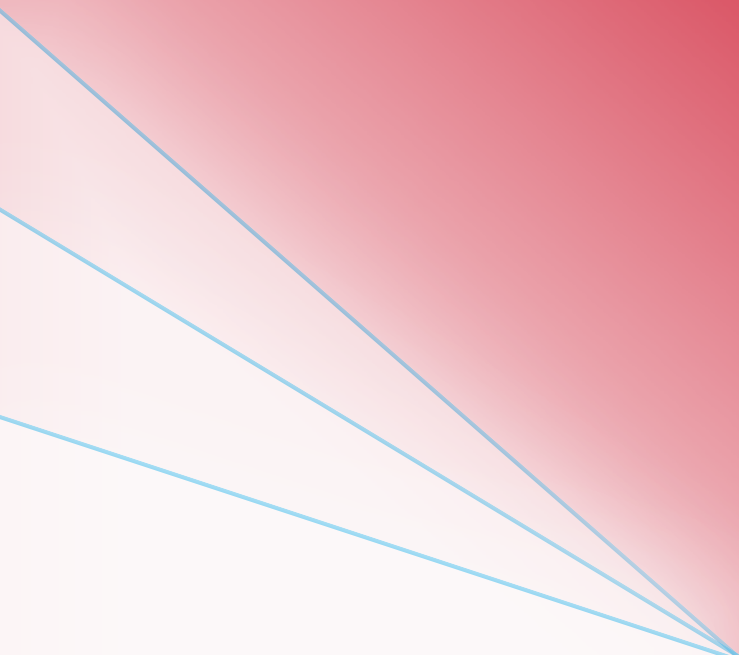
What if questions were used to challenge the implications of an issue that may at first seem unlikely or absurd while maintaining some level of plausibility [Inayatullah, 2005]. They extend the findings of the CLA by articulating the future implications of signals and weak signals. They

are discussed at the end of each CLA findings in the form of scenarios to bring a horizontal dimension to the futures research.

c) System Maps and Archetypes-

Systems maps are used to make connections and illustrate complex relationships. Developed by Peter Senge [2002], system archetypes describes the pattern of behavior of a system. Archetypes are made of balancing and reinforcing loops and consist of two or more loops. A balancing loop represented by the letter (B) attempts to move a current situation to a desired goal though an action. A reinforcing loop represented by the letter (R) is one in which the consequence of an action influences more of the same action leading to growth or decline.

Conceptual Approaches



Conceptual Approaches

To Understanding Relations Between Generations

The phenomena of generationality has been documented for years through philosophy, literature and science across cultures to make sense of everyday experiences. We often speak of “my generation”, “older and younger generations”, and “the generation gap”, hence, the term generation is used in everyday language to locate both individual and collective identity [Pilcher, 1994, p.481].

In the social sciences, the term generation is lacking conceptual development and is a relatively under explored lens to understanding processes of change, similarly the development of generational relations is also at an early yet critical stage [Biggs, 2007, p. 695]. A Professor of Gerontology and Social Policy at the University of Melbourne, Biggs [2007] describes how understanding relationships between generations lies at the heart of society’s contemporary dilemmas and is a phenomena that links a variety of fields and issues:

Scientific advances promise to extend the life course, there are social and economic concerns about the sustainability of society’s pay as-you-go approach to pensions, and lifestyle changes appear to be redefining traditional roles and as-

pirations associated with later life. Each of these factors will influence the way that succeeding generations define each other and the degree of solidarity and rivalry that might result. The life course, and its influence on intergenerational relations, is in a period of considerable flux [Biggs, 2007, p. 695].

For instance, in the past, mapping life-stage characteristics has been the concern of generational studies, however, changes to lifespan and lifestyle have blurred generational roles creating a need for alternative approaches to understanding aging [Biggs, 2007].

Simon Biggs [2007] proposes two dimensions of intergenerational relations: a) Public Sphere b) Private Sphere [Biggs, 2007, p. 696]. Based on kinship ties, one is commonly referred to in the private sphere of family relations and operates at the micro level [Biggs, 2007].

Based on shared social and historical characteristics, the other is commonly referred to in the public sphere of age-based cohorts “traveling through time together [Biggs, 2007 p. 696]” and operates at the macro level.

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Operating in and influenced through both private and public spheres, intergenerational relationships are a source of personal care and material security [Walker, 1996]. Connecting between both private and public spheres, the following research discusses two conceptual approaches in two academic domains where literature was gathered: a) Generations in Sociology b) Generations in Gerontology. The sociological domain discusses processes of social change or how significant historical events shape the environment we age in. The gerontological domain discusses processes of aging or how we grow up and grow old as we move through the life course.

THE
ORIGINAL
GENERATIONS
A



I. Age of Generations

A Sociological Approach to Understanding Relations between Generations

The Sociological tradition examines generations in society with a focus on social change in the public sphere of age based cohorts [Biggs, 2007]. A German Sociologist, Karl Mannheim was among the first to investigate the phenomena of generations in the social sciences and has a significant effect on the empirical understanding of generations [Biggs, 2007].

Mannheim [1927] describes how new participants in the cultural process are continually emerging or entering while former participants are continually disappearing or exiting [Mannheim, 1927]. He introduces various layers of a generational bond, highlighting how as more “mental data” is shared between individuals in society this bond intensifies:

Mental data are of sociological importance not only because of their actual content, but also because they cause the individuals sharing them to form one group—they have a socializing effect [Mannheim, 1927, p. 184].

Mannheim’s model links between generational identity and times of increasing social change [Biggs, 2007]. He describes how significant moments in history affect people in their adoles-

cence creating a generational consciousness [Mannheim, 1927].

Furthermore, new generations are considered to be a source of cultural renewal as they adapt to contemporary needs [Biggs, 2007] and teach us “both to forget that which is no longer useful and to covet that which has yet to be won [Mannheim, 1927, p.173]”. The role of family members passing down memories of historical events is also significant as “each generation has one foot in the history which formed its predecessor and one in its own history and time [Attias-Donfut & Wolff, 2005, p. 453]”.

Through the example of the German youth movements of the early 19th century, Mannheim [1927] describes how a generation can become an agent for social change once it forms a shared identity and participates in a common destiny. For example, the Burschenschaften are student associations in Germany strongly engaged in activities that promote freedom, rights, and democracy.

The notion of generational conflict is also seen

as “a structural aspect of social struggles over limited resources [Turner, 1998 p. 299]” as discussed in the following quote:

Events such as the “Sixties Generation” are seen as an attempt to rebalance inequalities between generations, which, as that large cohort moves through time, itself comes to engage in exclusionary practices. These practices are intended to prevent succeeding generations from accessing the resources held by the dominant generational group through credentialism and by privileging “generationally marked experiences.” [Biggs, 2007, p.702]

This describes how generations become agents of change in times of uncertainty and resource scarcity. However, in contrast to this debate, in Asian societies Confucianism emphasizes cultural continuity and is a significant force that regulates hierarchy and power between generations, emphasizing obedience and care towards one’s elders [Hashimoto and Ikels, 2005].

Another more contemporary debate is the blurring of generational differences [Biggs, 2007]. Gilleard and Higgs [2005] suggests that we are now dealing with “post generational fields” that are no longer defined by kin, age cohorts, or a

particular generation.

“I don’t think generations exist any more [...] Once we gathered around the television set, now we live online, exploring niche interests and meeting co-conspirators. Sixty-year-olds can quote Kanye while 20-year-olds have discovered King Crimson. Meanwhile, the first two decades of the 21st century – the aughts, the naughts, the teens? – have proved stubbornly resistant to nicknames. Attempts to categorize the rising generation seem equally futile: Are the so-called millennials painfully entitled or dedicated to improving the world? I never can remember, any more than I can recall what I was doing in 2007. Or was that 2013? Once we were cohorts and generations, apparently moving in lockstep to a chronology of distinctive decades; now we are individuals and tribes floating free in time”

-Coupland, 2015

I. Generations of Age

A Gerontological Approach to Understanding Relations between Generations

Social gerontology is multidisciplinary, linking between both private and public dimensions of intergenerational relations [Biggs, 2007]. In “Age and Structural Lag, Society's Failure to Provide Meaningful Opportunities in Work, Family, and Leisure”, Riley et al [1994] discusses how a “mismatch” or “lag” exists between the process of aging and opportunities made accessible through the life course.

Among the significant factors influencing why age defined roles are challenged to meet the needs of their age groups is longevity. For example, longevity has created more opportunities to take on alternative roles that challenge conventional retirement [Riley and Riley, 2000]. Other significant factors include a growth in age heterogeneity as well as in the number of older age strata:

For the first time in history, the people alive at any one time now include remarkably large numbers in the strata aged 65 to 100 or more. Consider also the unprecedented heterogeneity of these many age strata—heterogeneity not only in number and size, but heterogeneity also in biological functioning; in accumulated experiences; in variety of ethnic, racial, and socioeconomic backgrounds; and in cohort exposure to

the changing events and cultures of successive historical eras [Riley and Riley, 2000].

In the domain of Social Gerontology, two social structures are discussed: a) Age segregated also referred to as Age differentiated and b) Age integrated [Riley and Riley, 2000; Uhlenberg, 2000; Kohli, 2000]. An age segregated structure is one that uses age criteria to organize activities -education, work, family, leisure- across the life course while an age integrated structure does not [Riley and Riley, 2000; Uhlenberg, 2000].

Based on an industrial model of age specialization, an age segregated structure represents conventional life stages where people are expected to gain their education when they are younger, spend their middle-ages working, and save leisure time for when they are older:

Industrialization brought increased specialization of all kinds, and age was an important category used to sort people. Society expected teachers to be experts on a particular age group, family members to specialize in different kinds of work, and people to move through major life roles in a fixed pattern. The labor force participation of older women and men declined, and was replaced by leisure retirement [Loscosco and Karen, 2002]

Age segregation organizes activities across fixed life stages and is part of a capitalist model which focuses on individuals as separate units [Kohli, 1986]. The following is said to have “freed people from the bonds of status, locality and family of origin [Kohli, 1986, p. 272].

The life course also became more “chronologized” as age became a conventional criteria that is centralized around a “system of work based on wage labour” [Kohli, 1986, p. 272]. The following suggests how the human life course became increasingly “institutionalized” through “providing the rules by which individuals unfold and conduct their lives” [Kohli, 2007, p.256].

When compared to race and sex segregation, age segregation is not yet a visible problem as current convention holds age segregation as “natural” or based on “individual preferences” [Uhlenberg, 2000]. To challenge this, Uhlenberg [2000] considers some similarities between age segregation and racial segregation.

Both explicit laws and informal norms promoted racial segregation [Uhlenberg, 2000]. This limited

interactions between racial groups as individuals were prevented from accessing some spaces, institutions, and services and splitting society along race [Uhlenberg, 2000]. Uhlenberg [2000] claims that it is useful to consider how similar formal and informal barriers limit opportunities for individuals of different ages to interact in environments of living, working, playing and learning [Uhlenberg, 2000]. A lack of healthy interaction between age cohorts is likely to increase prejudices and conflict. Life course flexibility, ageism, civility, and productive aging are among the significant ways the degree of age integration or age segregation may affect society [Uhlenberg, 2000].

For instance, ageism may increase in environments where cross age interaction is uncommon reinforcing age stereotypes [Uhlenberg, 2000]. Civic life may become increasingly divided into competing age groups especially in the case there is a perception that governments favour one age group over another [Uhlenberg, 2000]. On the other hand, integrating older and younger generations through work and volunteer organizations can lead to better social cohesion

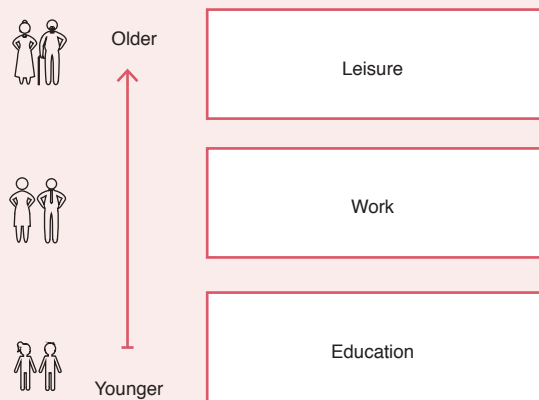


Figure 3- Age Segregated Life Course Structure [Riley and Riley, 2000]

[Uhlenberg, 2000].

Riley and Riley [2000] investigated the potential and emergence of an age integrated structure which opens opportunities to pursue different roles across the life course, however, within the limits of biology [Riley and Riley, 2000]. For example, age inclusive public spaces may welcome those across the age spectrum.

Age integration is considered a continuum. Individuals and societies may experience more age integration than others and no society can be fully integrated or segregated [Uhlenberg, 2000]. The two core components of age integration include: a) Flexible Lives and b) Cross Age Interaction as described by Riley and Riley [2000]:

- **Flexible Lives:** Individuals have opportunities throughout their lives to diversify

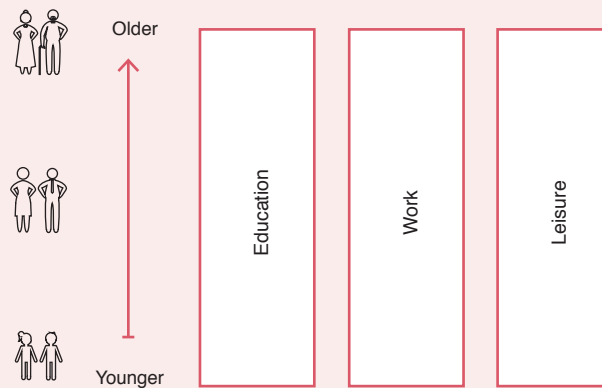


Figure 4- Age Integrated Life Course Structure (Riley and Riley, 2000)

periods of education, work, family time and leisure as entry and exit in social roles and activities are not limited by age.

- **Cross Age Interaction:** Individuals have opportunities to interact with diverse age groups. Interactions range in duration and intimacy, as well as in nature (ex. competitive vs. collaborative).

Riley and Riley [2000] claim that age integration is emerging, however, that changes in flexible lives, age heterogeneity, technology, economics, and migration are unpredictable and will influence each other in different ways.

Furthermore, both components of age integration are interdependent as flexible age criteria is likely to increase opportunities for interaction between diverse age groups while interaction

between diverse age groups is likely to lead to more flexible lives [Riley and Riley, 2000]. These interactions can be just as negative as they can be positive:

One might hypothesize that age integration would tend to reduce ageist stereotypes that adolescents have of old people, and vice versa. To examine this hypothesis, however, it is important to consider different possible types of interaction. For example, one can imagine negative interactions that would, in fact, drive a wedge between older and younger persons [Uhlenberg, 2000, p. 264].

It is important to consider the appropriate conditions that can foster healthy interactions between generations and to avoid situations that would reinforce negative views on aging. One opportunity in overcoming age barriers and stereotypes is to bring together older and younger generations with common interests to collaborate [Uhlenberg, 2000].

Nurturing sustained relationships that encourage equality, empathy and solidarity is key [Uhlenberg, 2000]. However, while solidarity and conflict represents two extremes of describing the nature of intergenerational relations, am-

bivalence provides another lens:

As in life, an exclusive conceptual focus on rivalry or solidarity leads, paradoxically, to an inability to genuinely separate from another generation, as the first step to achieving reconnection. Placing oneself in the position of the generational other, it appears, may not be an easy business. It is necessary, however, if sustainable solutions are to be found to contemporary problems [Biggs, 2007; p.708].

As an alternative to the “dualistic solidarity versus conflict debate”, Luscher and Pillemer [1997] propose a theory of intergenerational ambivalence. They claim that both positive and negative feelings are generated and that recognizing ambivalence is important for moving beyond conflicts and differences between generations. Therefore, fostering environments that acknowledge ambivalence, nurture empathy and negotiate solutions between generations is important moving forward.

“Hidden behind all other issues, the most formidable dilemma of age integration remains unresolved: the choice between materialism and more time for family, friends, and self. Will people ever be willing and financially able to forego guaranteed economic security as a summum bonum for a basically new life style that emphasizes leisure and time free for social and cultural pursuits?”

-Riley, 1998

Through the application of CLA, two metaphors were developed: 1) The assembly line of aging which represents the status quo and 2) The meandering river of aging which represents a forgotten yet emerging paradigm of aging. Therefore, the CLA was conducted twice. First it placed trends at the litany and de-constructed them down to a metaphor. Second it challenged the metaphor and moved back up the ladder to question the litany. In the first attempt, an assembly line metaphor was revealed to represent a dominant narrative or 'status quo'. Next, an emerging paradigm of aging is introduced through the meandering river, which is argued to open up a rigid system of age segregation.

LITANY

Projected
Growth of Demographic
Dependency

SYSTEM

Age Segregated Structure
based on an Industrial Model of
Age Specialization

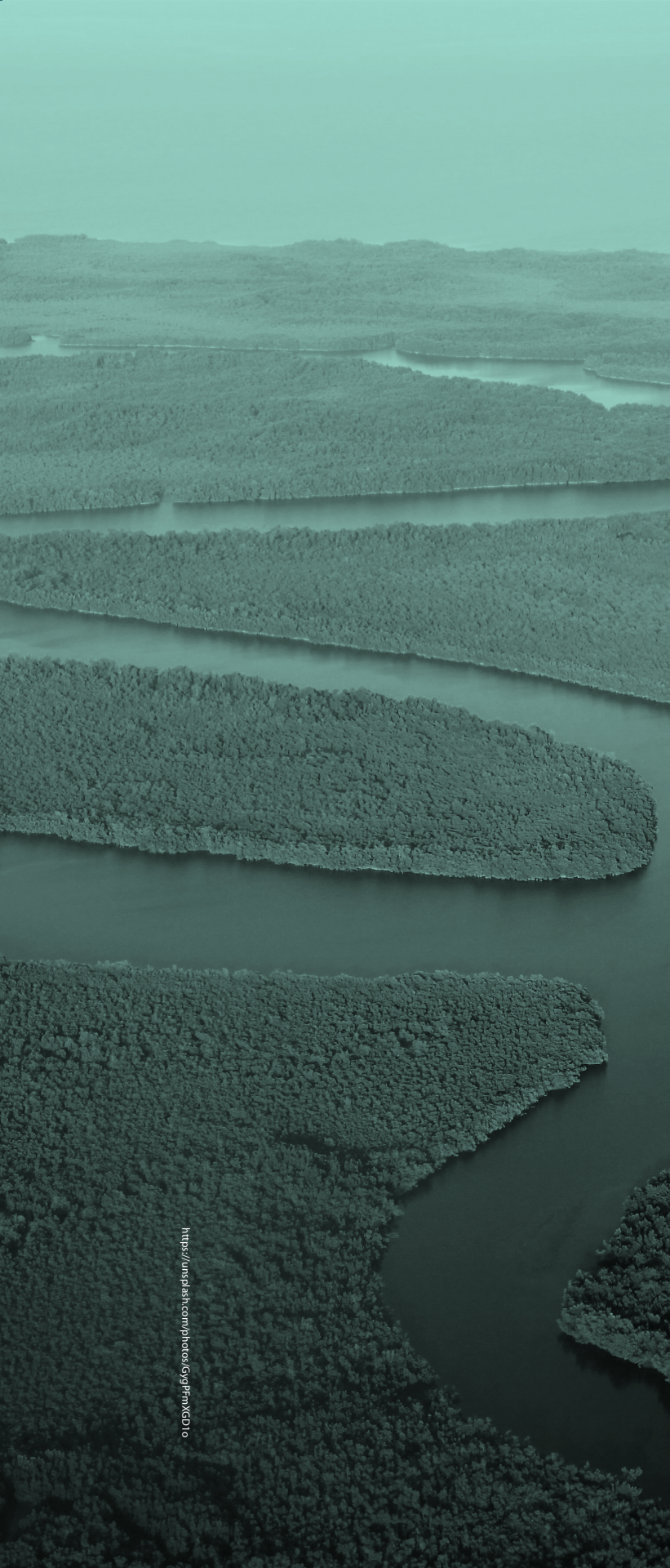
WORLDVIEW

Monochronic Time,
Individualism,
Materialism

METAPHOR

The Assembly
Line of Aging





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Weak Signals of
Demographic
Interdependency

LITANY

Age Integrated Structure
based on an Alternative Model of
Age De-specialization.

SYSTEM

Polychronic Time,
Collectivism,
Human Centred

WORLDVIEW

The Meandering
River of Aging

METAPHOR

I. The Assembly Line of Aging

Overview

More objective, the assembly line of aging is based on a linear model of organization intended to regulate needs across the life course and to maintain social security in life stages where individuals are likely to need it most. However, it also limits the freedom to pursue alternative choices and reinforces stereotypes in the case the rules do not fit. The following section first begins by describing the litany or the quantified trends, then moves to reveal their systems, world views and metaphors. Table 1 summarizes this process.

The Litany

Projected Rise of Demographic Dependency

Throughout the process of environmental scanning many signals indicated that neighborhoods, civic life, technology and wealth are becoming increasingly split by age [Refer to Appendix A]. For instance, an article in the Globe and Mail titled “Boom, Bust and Economic Headaches” published on Nov. 8th of 2015 highlighted how succession planning remains to be a significant challenge as the population continues to age and paints a dystopian scenario for the future:

The result will be a dramatic greying of Canada’s demography – one that has serious implications for the national economy, government policy and the well-being of its citizens. Without

Litany	Projected Rise of Demographic Dependency
System	Age Segregated Social Structure
Worldview	Monochronic time, Individualism, Materialism
Metaphor	The Assembly Line of Aging

Table 1 -The Assembly Line of Aging CLA Findings

significant adjustments, we could be headed for decades of anemic economic growth, shrinking per capita incomes and eroding wealth. Governments could face skyrocketing deficits and tough choices about what kinds of health care and social supports we can afford, as a smaller pool of taxpayers must fund the rising costs of the growing numbers of seniors. The gaps between the wealthy and poor may widen into gaping social wounds, as the adequacy of pensions and private savings are tested to their limits.

The demographic dependency ratio is an economic indicator that describes this socio-economic relationship between those typically not in the workforce referred to as dependents and the working age population [StatCan, 2011].

The demographic dependency ratio uses a formula to measure the pressure on a productive population through dividing the number of youth and seniors by the working age to generate the youth, senior and total demographic dependency per 100 working age persons.

The data in Figure 5 reflects both past observations as well as future projections. While observed data reflects what is perceived to have taken place in the past, projected data reflects

an estimate of what might happen in the future.

The total demographic dependency ratio fell from 89 to 60 between 1971 and 2006, and is projected to rise to 84 dependents by 2056 as the population ages [StatCan, 2011]. As the baby-boom generation that followed World War II continues to retire, the data projects that there will be a decline in work force participation [StatCan, 2011].

As generations exit the workforce, there will be fewer generations entering. Figure 6 represents how millennials and boomers are currently in a state of transition into and out of the workforce. This decline will continue to take place as the millennial generation exits the workforce meaning that it's only a matter of time before they are in the shoes of the boomers and Generation Z are in the shoes of the millennials.

Similar to situations in other Industrialized countries, Canada's demographic dependency ratio illustrates a trend of depopulation or a decline in birth rates. Canada's deaths are expected to start outnumbering births by 2030, making immigra-

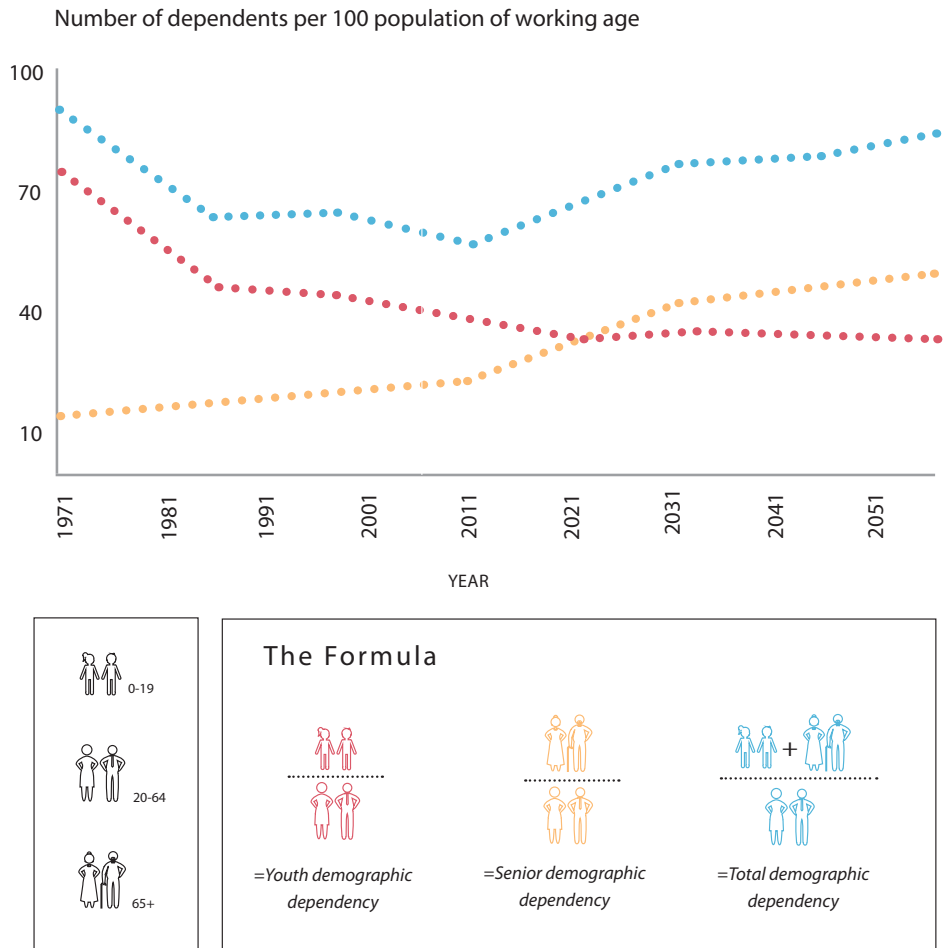


Figure 5- Canada's Demographic Dependency Ratio
 [Source: Statistics Canada, CANSIM Tables 051-0001 [1971 to 2008] and 052-0004 [2009 to 2056]]

tion the only potential growth factor for the Canadian population [StatCan, 2011].

The System-

Age Segregated Social Structure

Nevertheless, it's important to note that the demographic dependency ratio does not include young people or seniors who are active in the workforce, nor working-age people who are inactive [StatCan, 2011]. Therefore, it is based on age rather than employment status reflecting a population age structure. This population structure is described as "age segregated" organizing life stages into generic units and following a linear chronology of: a) Education, b) Work, c)

Leisure.

While this age structure appears to be natural at the surface, it has only become common practice with the growth of bureaucratic and industrial systems [Riley and Riley, 2000; Kohli, 2007; Uhlenberg, 2000]. This evolution is part of a capitalist model which focuses on individuals as separate units and chronologizes life course stages [Kohli, 2007].

The Worldview-

Monochronic Time, Individualism, Materialism

The "chronolization" of the life course [Kohli,

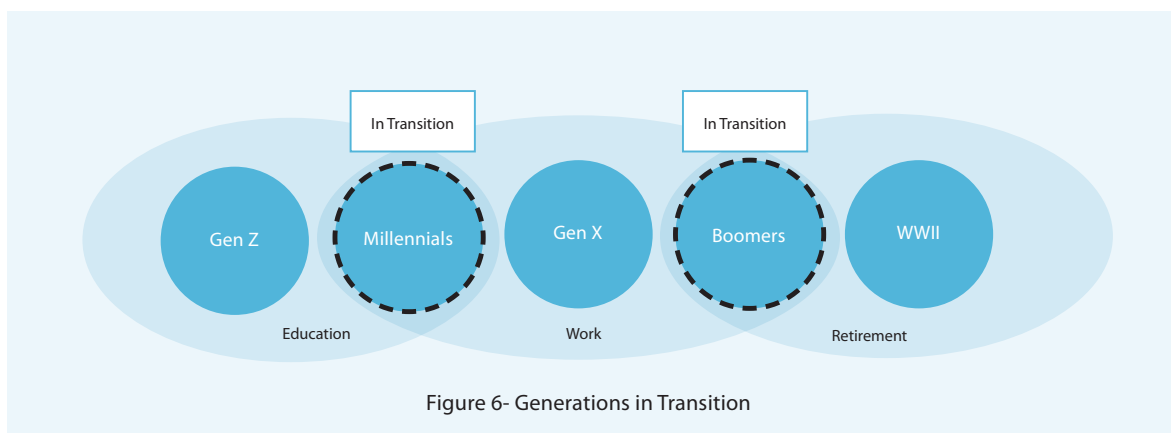


Figure 6- Generations in Transition

Monochronic Time

Linear
 Experienced as a Road
 Masculine
 Extrinsic
 Tangible
 Bureaucratic
 Quantitative
 Individual
 Fast
 Objective

Table 2- Monochronic Time Characteristics [Hall, 1983]

2007] represents a cultural model of time which is hugely influenced by intellectual and religious thought in the Western world for many centuries. The anthropologist Edward T. Hall [1983] described this form of time as “monochronic”:

Monochronic time—measured by clocks and watches—is a form of external order that originates outside the individual, and which is imposed upon the chaotic lives of humanity. Thus ‘time is organization’, which is essential for the smooth functioning of a complex industrial society in which the actions of large groups of people need to be coordinated, so that factories, shops, businesses, offices, railways, airlines and traffic flow can all operate on an identical time schedule [Helman, 2005, p. s54].

In this view, time considered as linear and tan-

gible, dividing the life course into three chronological periods of pre-work, work and post-work [Helman, 2005]. Table 2 summarizes the characteristics associated with monochronic time. This is linked to the overall aim of an industrial culture which is greater productivity in a shorter time frame and at a cheaper cost [Helman, 2005]. Furthermore, as time and work became more connected, watches and calendars became more commonly owned:

He that idly loses five shillings’ worth of time loses five shillings, and might as prudently throw five shillings into the sea. He that loses five shillings, not only loses that sum, but all the advantages that might be made by turning it in dealing, which by the time that a young man

becomes old, will amount to a considerable sum of money [Benjamin Franklin, 1736].

This relationship between time and money can be quantified, in this regard, time is also seen as a “form of currency or commodity, which can be spent, wasted, saved or given [Helman, 2005, p. 554].” Furthermore, a Medical Anthropologist, Helman [2005] raises questions about the relationship between cultural concepts of time and human longevity by recognizing how the experience and meaning given to old age is different across cultures. In contemporary society, an emphasis is placed on youth, beauty and independence as well as on the ability to be productive [Helman, 2005]. Therefore, the elder’s role is changing as youth more readily access knowledge freely and absorb technology at a quicker rate:

An inversion of the traditional pattern, it is now the young who often have greater skills and knowledge in certain areas of life than their parents or grandparents. They are more able to absorb and understand the latest technological innovations, and at a much quicker rate, and they also have access to many more outside sources of knowledge than their forebears—via education, books, the media and the internet [Helman, 2005, p.556].

Similarly, Harrison [2015] argues that After World War I, the developed world has seen a “protraction in youthfulness” with people acting younger as they continue to age. In his book titled “Juvenescence: a Cultural History of our Age” he discusses how in contemporary society, novelty is valued over tradition, and growth over preservation creating cultures of “intergenerational discontinuity”.

The Metaphor-

The Assembly Line of Aging

Similar to watches, factories represent important symbols of industrialization, emerging with modern economic and social systems based on standardized mass production and consumption. In the manufacturing process, assembly lines are used to increase production and efficiency. Ford & Crowther [1922] describe the principles of assembly as follows:

- (1) Place the tools and the individual in the sequence of the operation so that each component part shall travel the least possible distance while in the process of finishing.
- (2) Use work-slides or some other form of carrier so that when a workman completes his operation, he drops

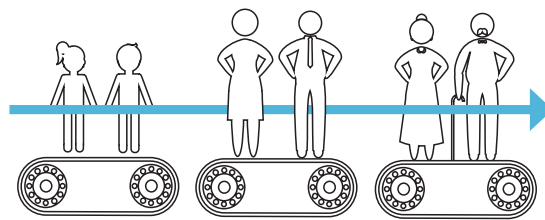


Figure 7- The Assembly Line of Aging

the part always in the same place—which place must always be the most convenient place to his hand—and if possible have gravity carry the part to the next workman for his own. (3) Use sliding assembling lines by which the parts to be assembled are delivered at convenient distances. [Ford & Crowther, 1922, p.45]

So what does all this have to do with the experience of aging? May the assembly line serve as a metaphor for the experience of an age segre-

gated structure? For the purposes of exploring this metaphor, let us consider the assembly of a car. Assume that the assembly steps are to install the engine, install the hood, and install the wheels and only one of these steps can be done at a time.

Moving in a linear fashion similar to a factory's

assembly line, what if we are to replace the assembly of a car with the assembly of the life course? The steps in the assembly line are to install education, install work, and install leisure and only one of these steps can be done at a time. Therefore, an age segregated structure mass produces age specific roles and activities [ex. education, work, leisure] within quantified durations [ex 0-19, 19-64, 65+] ready for consumption by individuals in society.

To take the assembly line of aging metaphor further one may compare between what is happening to the car industry today as a way to understand what is happening to the life course. An industry that is experiencing extreme disruption with the emergence of Uber, a biking culture, driverless cars and heightened awareness of climate change?

Similarly, the life course is, too, experiencing disruption, as work becomes more autonomous, care becomes more distributed, and technology creates new forms of interaction. This does not mean that the assembly line of aging does not serve a purpose, in the same way that a car

today does not serve a purpose. It does however mean that this purpose must change and evolve with the needs of people and environment.

So what if the assembly line of aging fails to adapt to the needs of the future? The following is discussed more deeply in the form of a speculative scenario, that depicts the implications of signals that are reinforcing the status quo.

Speculative Scenario

What if we are to consider that Generation Z is growing up in a time of resource scarcity and even more rapid change than their parents -the millennials. By the time they come of age, the work force will have dramatically shifted with the majority of human work becoming automated. As institutional care becomes more community based, Generation Z are likely to grow up to see their parents juggle contract work, failures and successes of entrepreneurial practices while making time to care for aging parents.

Witnessing these challenges first hand, Generation Z are likely to endorse the proliferation

of age independent technology as it becomes an attractive solution for relieving the aging burden; successfully overcoming the biological failures of aging dubbed 'barriers to personal care and security'.

As is currently taking place in countries like Japan, the success of such technology has allowed elders to more readily care for themselves as automated systems allow caregivers to monitor from a distance. Furthermore, if scientific breakthroughs led by Google and pharmaceuticals are successful in decreasing biological failures, we may see the rise of an elite who can afford the costs of such life extension technology.

In the case a rigid system of age segregation does not evolve with the needs of people and environment, the burden on the working age will rise to support the pensions and health care of both a growing number of older age strata.

Life extension technology and age independent technology are likely to become cheaper, more accessible and mainstream over time. Although such technologies come with many opportuni-

Signposts

Geographic age segregation may lead to increased competition for resources between age groups.

Civil groups divided by age may form leading to what many anticipate as 'Age Wars' to take place.

Decrease in young voters may overlook their needs in policy considerations leading to favoring of an older demographic.

Scientific breakthroughs in life extension allow individuals not only live longer but also live younger.

A more age diverse workforce may lead to increased workplace conflict where ageism persists.

ties, among the challenges they introduce is a decrease in face to face interaction and the learnings that come with relying on family and community members for care. Furthermore, the growth of the robotics industry coupled with concerns over the ethics of longevity may pose environmental challenges.

In the case contact between generations decreases and inequity rises, society may become increasingly split by age. Rivalry and competition over resources may at an extreme lead to the succession of generations from one another. After multiple years of debate and constitutional failures to resolve conflicts, one can imagine a referendum is launched by Generation Z following an influential campaign claiming “we are a gen-nation, and you are a gen-nation”.

As age groups continue to become more geographically and virtually polarized, they may begin to formalize such borders.

At an extreme, we may see identifications similar to ‘passports’ issued to regulate entry and exit into generation states.

Summary

The Assembly Line of Aging describes an image of the future where an industrial model of aging fails to adapt to the needs of people and environment. Viewing age groups as objective numbers, it is driven by the standardization of activities across life course stages and values materialism over time for self, family and friends.

II. The Meandering River of Aging

Overview

The Meandering River of Aging describes an image of the future where an emerging model of aging challenges the assembly line. More subjective, the process of aging is customizable and activities between age groups are more likely to become shared. Driven by a need to embrace both life and death, it values free time for self, family and friends over the desire for materialism. This section first begins by describing the metaphor then moves up the CLA ladder to discuss the world views, systems and litany. Table 3 summarizes this process.

The Metaphor-

The Meandering River of Aging

In their book *Social identities Across the Life Course*, Hockey and James [2003] describe the Life course to be “Less as the mechanical turning of a wheel and more as the unpredictable flow of a river [Hockey J. and James A., 2003, p. 5-6].” The mechanic turning of a wheel provides another reference to the assembly line metaphor while an unpredictable river provides an alternative metaphor to explore further. In contrast to an assembly line, rivers meander:

A meander forms when moving water in a stream erodes the outer banks and widens its valley, and the inner part of the river has less energy and deposits silt. The result is a snaking pattern as the stream meanders back and forth across its down-valley axis.

Litany	Emerging Weak Signals of Age Interdependency
System	Age Integrated Social Structure
Worldview	Polychronic time, Collectivism, Human Centered
Metaphor	The Meandering River of Aging

Table 3- The Meandering River of Aging CLA Findings

Polychronic Time

Cyclical
Experienced as a point
Feminine
Intrinsic
Intangible
Dynamic
Qualitative
Collective
Slowly advancing
Subjective

Table 4 -Polychronic Time Characteristics [Hall, 1983]

Therefore, rivers almost never flow in a linear fashion, instead they twist and turn along paths, moving unpredictably as they obtain nutrients by changing their course -called meandering it is how rivers renew themselves.

The Worldview-

Polychronic Time, Collectivism, Human Centered

In contrast to how life is experienced in more monochronic societies, in more polychronic societies life is experienced as continuous, often wandering like the flow of a river [Helman, 2005]. Polychronic time is characterized as cycli-

cal, intangible, and experienced as a “point” at which life activities converge [Hall, 1983]. Table 4 summaries characteristics that are associated with polychronic time.

Polychronic societies tend to emphasize the importance of people and the “completion of tasks only when the time is right” [Helman, 2005, p.s55]. This cyclical view of human experience is often expressed through concepts such as reincarnation in Asian religions [Helman, 2005]. In Buddhism, for example, “time springs from the self, and is not imposed” experienced as both

slow and repetitive [Helman, 2005 p.s54-55].

The System-

Age Integrated Social Structure

In agricultural or craft based communities, generations predominantly lived and learned together under one roof -in some parts of the world they still do. In these more traditional societies elders played an import role of care giving and children were expected to work in the field or to care for their younger siblings as “time devoted to work was considered as intrinsic to childhood as it is to adulthood [Helman, 2005, p.s55]”. In these more traditional societies, the death of an elder is similar to the burning down of a library as “knowledge, skills, wisdom and mastery of local technology accumulate in later years of life making elders the repositories of inherited wisdom [Helman, 2005, p.s56]”.

In contrast to how knowledge and experience is acquired today, in these societies experience is orally transferred from one generation to the next and elders are considered to be the “repositories of wisdom [Helman, 2005, p.s56]”.

However, although there are lessons to be learned from the past, moving forward in to the future, its important to recognize that knowledge and wisdom exists in different ways across age and that establishing grounds for which older and younger generations may equally learn from one another in a contemporary context is key. This is also made more complex, as ones choice of vocation is liberated from ancestry and families have become more heterogeneous in nature. The following reflects a significant intersection between private and public spheres of intergenerational relations.

The Litany-

Emerging Weak Signals of Demographic Interdependency

The process of environmental scanning revealed weak signals indicating that age integration and opportunities for converging activities between old and young are slowly emerging [Refer to Appendix A]. Weak signals included senior homes opening up in universities and schools opening up in senior homes, social media used for purposes of intergenerational engagement, the integration of economically active seniors into

entrepreneurial practices as well as the rights of future generations being discussed in contexts of climate change.

For example, in late November 2015, the Inaugural Indigenous Innovation Summit Led by the National Association of Friendship Centres [NAFC] and in partnership with the JW McConnell Family Foundation, brought together a group of about 300 indigenous and non-indigenous social innovators in Winnipeg, Manitoba.

Among the emerging themes in the summit was a rejection that innovation only meant “new” but that it should also emerge from tradition, with a suggestion that we should “look back before we look forward”. This was reflected in one of the panel discussions where a group of three young women joined two elders on the stage to discuss “Intergenerational Innovation”.

Elder Maria Campbell who is a Metis author, playwright, broadcaster and filmmaker stressed the importance of “knowing where you are from and of knowing your language and your culture but that home is in fact where we are – and that

place is important.” She urged the youth to “find a grandmother” and to keep connected to the land [Campbell, 2015].

The European Union’s Entrepreneurship 2020 action plan which aimed to address this phenomena by making seniors a ‘new horizon’ for innovation in order to better engage them in both “business creation and in supporting new and existing entrepreneurs, cultivate intergenerational learning and ensure knowledge transfer [EU, 2012]”.

An emergent example of an initiative which has put this strategy into action is United at Work, a social experiment working to foster intergenerational entrepreneurship based in Portugal. Supported by the EU’s Programme for Employment and Social Solidarity, the initiative unites young graduates looking for their first job [up to 30 years of age] and unemployed or professionally active seniors (over 55 years of age) to develop solutions for: a) social action and care as well as b) culture and heritage.

The following weak signals suggest that age

integration is slowly emerging into the mainstream. So what if society continues to become more integrated and more sustained relationships evolve between generations? The following scenario draws from weak signals to speculate the continued emergence of a growing demographic interdependency, and potentially challenging the rigidity of an assembly line paradigm.

Speculative Scenario

What if millennials began their migration to the suburbs exhausted from the pace of cities and as intergenerational housing proliferates. Generation Z –the children of millennials are likely to grow up watching their parents take care of family and community members as an aging population drives an increased need for family and community care giving to reduce the pressure on institutions.

In parallel, the silver economy is likely to continue to grow as fast as the population continued to age with many who are retired becoming rehired or joining co-working spaces and pursuing entrepreneurship. Therefore, contrary to projec-

Signposts

As millennials age a shift to settling down in the suburbs may take place.

More elderly online will create intergenerational online communities.

Cognitive proximity between younger and older generations may increase as more mental data is shared online.

Mechanisms for building empathy between younger and older generations are developed to connect digital natives designing for digital immigrants.

A more age diverse workforce brings opportunities for resource sharing between younger and older generations

Intrapreneurship transforms organizations as employees gain more autonomy in the workplace.

tions being made today, the work force doesn't shrink as it retains many alternative age groups.

In the case barriers to entry and exit into activities becomes less defined by age, and more defined by knowledge and capability, we may soon see at least five generations including the participation of adolescents working side by side in activities which have no longer become fixed to a 'workplace'.

A gap for technologies that addresses the needs of cross age communication is likely to drive businesses to shift their focus from 'age independent' to 'age interdependent' technology. Intergenerational teams may become more common and new frameworks and methodologies that mediate cross age collaboration are likely to proliferate.

Over time, research and data will showcase whether mediating interaction between age groups leads to better resource allocation and sustainable development. In the case enough evidence presents itself, the intergenerational economy is likely to become a central part of

Canada's economic revival strategy.

Vulnerable populations are more readily perceived as active populations, however, within the limits of biology. Children and adolescents may be granted the right to have political representation, while older persons are actively providing guidance and care to the young. At an extreme, intergenerational collectives may begin to form advocating the need to discipline those who fail to meet their responsibilities towards past and future generations.

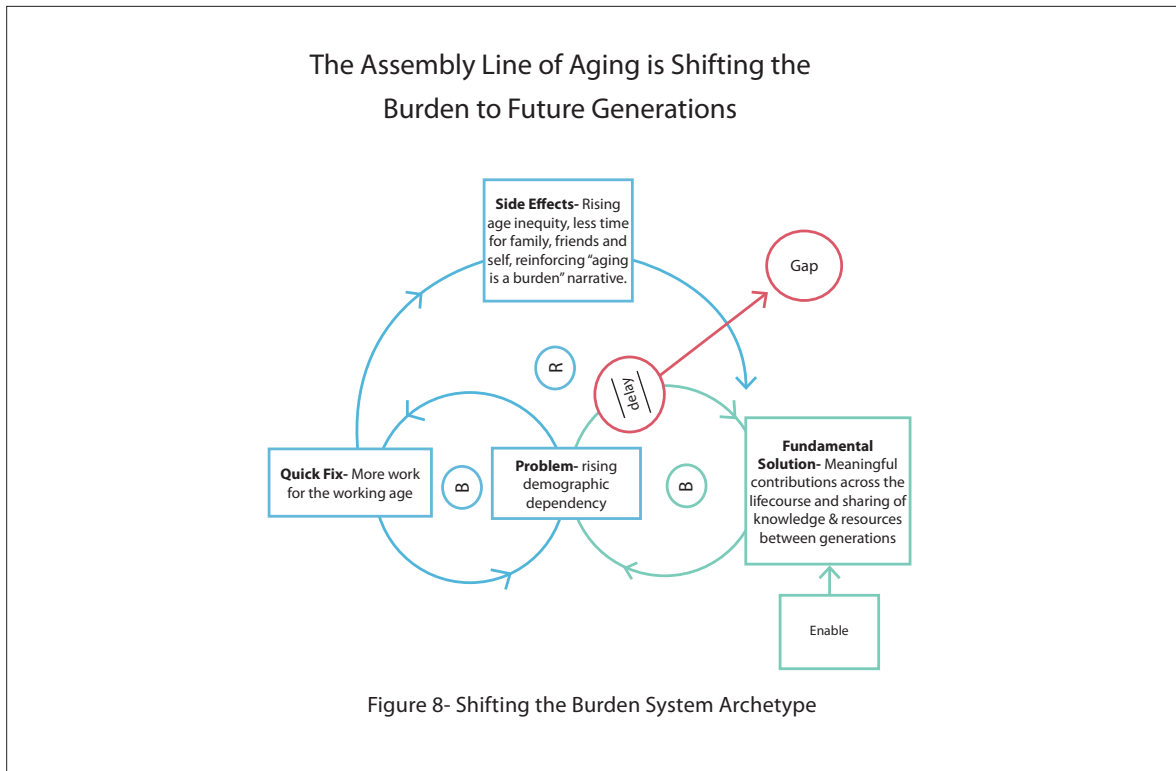
Summary

More subjective, an age integrated structure challenges a rigid system of age specialization creating opportunities for age groups to pursue alternative roles and activities throughout the life course. However, it also raises questions as to how this may preserve and secure different needs across the age spectrum.

Implications

Figure 8 describes a “shifting the burden” system archetype showcasing how as quick fix solutions are used to correct a problem it delays the use of more fundamental long-term solutions [Senge, 2002]. As rising demographic dependency increases economic pressure on the working age, it compromises work life balance and reinforces negative connotations such as “aging is a

burden”. As the quick fix is used more and more, it delays the capability of the fundamental long term solution. This delay represents a gap that needs to be enabled through challenging the assembly line narrative. As changes in life course, lifestyle and lifespan continue to transform needs and aspirations, the current assembly line model of aging is too rigid to adapt to the



diverse needs of future generations. Bearing in mind that future generations are both younger and older, there is a need to consider their challenges relationally and break between generational silos in order to develop more systemic and holistic solutions that balance between the needs of both.

The meandering river of aging presents an opportunity to open up a rigid system through recognizing age diversity and challenging stereotypes and cultural clichés. In order to do so, the following enablers and key actors are highlighted to address the issue more systemically and to represent opportunities for agency and action at the individual, community, organizational and policy making level. Table 5 summarizes the enablers and stakeholders that are elaborated more deeply below.

I. Key Enablers

a) Celebrate Age Diversity

As aging becomes more heterogeneous, there is a need to challenge age stereotypes that are abundantly found in the media -especially as

new media and data today plays a significant role in how we acquire information. Moving beyond negative narratives that describe aging as a 'burden' is key by embracing the purpose and value of the life course as a whole.

b) Nurture Intergenerational Empathy

Empathy is the ability to view the world from another person's perspective and may be nurtured through environments that encourage the sharing of activities between age groups and that allow relationships to grow. The development of shared spaces through intergenerational place-making provides an opportunity for doing so.

c) Collaborate Towards Sustainable Futures

As the pace of change continues to increase today and wicked problems challenge communities and organizations, recognizing the role of cross age collaboration in resolving issues of mutual concern to age groups is critical to overcoming age bureaucracies.

Enablers	Policy Makers	Organizational Leaders	Community Leaders	Individuals
Celebrate Age Diversity	National events and activities that celebrate age diversity and build solidarity.	Challenge ageism in the workplace and stereotypes through celebrating achievements regardless of age.	Develop community events that celebrate intergenerational civic engagement.	Challenge and question personal assumptions and stereotypes about aging.
Nurture Intergenerational Empathy	Reduce formal and regulatory barriers to entry and exit in activities based on chronological age.	Reduce bureaucracies in organizations to encourage face to face interaction and knowledge sharing.	Create partnerships between schools, senior homes and workplaces through “intergenerational place-making.”	Remember that we were all once younger and we will all one day become older.
Collaborate Towards Sustainable Futures	Utilize intergenerational innovation to address social policy challenges of mutual concern to age groups.	Create open spaces where diverse age groups can work on long term projects of mutual concern.	Utilize public spaces as a way for communities to come together and envision preferred futures.	Recognize what’s shared and not only what’s different between generations.

Table 5 -Enablers and Stakeholders

II. Key Stakeholders

a) *Individuals*

We all have younger and older persons in our lives. As individuals, its important to question and challenge personal assumptions and to focus on what’s shared and not just what’s different between generations. Recognizing what we

can learn from older and younger generations in our own lives be it family members, colleagues or neighbors opens opportunities for questions, stories and activities to become shared.

b) *Community Leaders*

Mediating systems of intergenerational family

and community care is essential for the preservation of social security and wellbeing. The convergence of spaces and activities such as the integration of schools in workplaces, senior homes in schools, or workplaces in senior homes provide an opportunity to build and sustain relationships through long term partnerships -a form of “intergenerational place-making”. Figure 9 on the following page, visualizes these intergenerational networks and their potential for integration and partnership.

The utilization of public spaces that encourage age inclusive civic engagement by creating platforms for communities to come together and envision preferred futures is another opportunity to leverage further.

c) Organizational Leaders

Its not just society that’s aging, organizations are aging too. Succession planning remains a challenge in organizations, with a high proportion of workers set to retire or rethink their participation in the workforce. Therefore, knowledge transfer programs are essential for organizations vulnerable to ‘organizational amnesia’ or a significant

loss of knowledge as baby boomers continue to exit the workforce and millennials continue to enter. Ageist attitudes may be overcome by reducing age bureaucracies in organizations and creating open spaces and programs where generations can share knowledge as well as celebrate their achievements.

While most programs that address intergenerational knowledge transfer focus on a one way exchange of explicit and tacit knowledge from older to younger generations, there is an opportunity to consider programs that allow age groups to work on long term projects of mutual concern and interest and for latent knowledge and ideas to flourish. This is especially relevant as organizations strive for resiliency in a rapidly changing environment.

An emergent example of this, is United at Work which creates a space for intergenerational innovation and where older and younger can develop projects of mutual concern to them. As intrapreneurship proliferates this may become a potential model for knowledge creation programs within organizations.

c) Policy Makers

A shrinking workforce today implies that radical change is needed for how health care is distributed as well as how it is financed. Reducing formal barriers to entry and exit based on chronological age provides more choices for citizens to decide how their needs are best met, and creates more opportunities for cross age interaction. Furthermore, Utilizing intergenerational innovation is one way to address these social policy challenges of mutual concern to age groups, by bringing together diverse perspectives across age and generations.

Connecting Time with Place

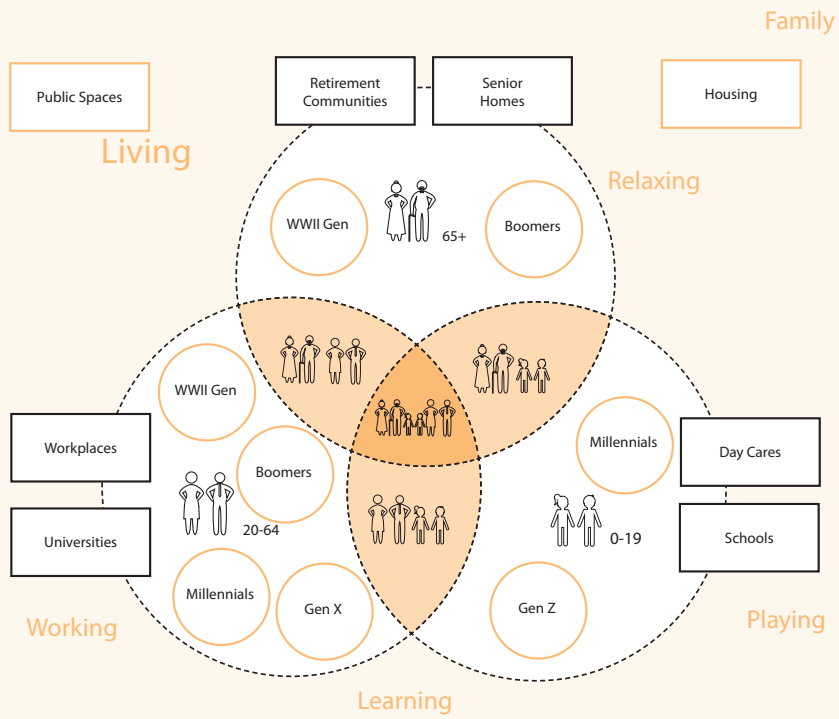


Figure 9- Intergenerational Networks Ven Diagram

Conclusion

The following research project aimed to address the following question: How might we enable futures of intergenerational knowledge creation? In order to do so literature that discusses 'Generations' was gathered from the domains of Sociology and Social Gerontology and an environmental scan captured trends and emerging issues from a variety of sources and applied it to a critical futures methodology.

Developed by Richard A. Slaughter, it is part of an emerging field in Social Foresight. Critical futures is not only a way to critique the future, but a basis for "social innovations and creativity for cultural renewal [Ramos, 2003, p. 18]." Using

Suhair Inayatullah's Causal Layered Analysis [CLA] as a framework, this project uncovered the dominant narratives or 'status quo' and its deeper systems, world views and metaphors.

The assembly line of aging described an image of the future where an industrial model fails to adapt to the needs of its people. Viewing age groups as objective numbers, it is driven by the standardization of activities across life course stages. In contrast to this, more subjective, the meandering river of aging opens up the system creating opportunities for more choices to pursue alternative roles throughout the life course, however, it raises questions as to how this may

CLA	Status Quo	Emerging Paradigm
Litany	Projected Growth of Demographic Dependency	Weak Signals of Demographic Interdependency
System	Age Segregated Structure	Age Integrated Structure
World view	Monochronic Time, Individualism, Materialism	Polychronic Time, Collectivism, Human-Centered
Metaphor	The Assembly Line of Aging	The Meandering River of Aging

Table 6- Summary of CLA Findings

preserve and secure different needs across the age spectrum. Both metaphors represent a tension between how we perceive and identify with aging internally or 'subjective aging' as opposed to how society imposes an externally constructed view of what aging implies for our lives or 'objective aging'.

As changes in life course, lifestyle and lifespan continue to transform needs and aspirations, the current assembly line model of aging is proving too rigid to adapt to the diverse needs of future generations. Bearing in mind that future generations are both younger and older, there is an opportunity to consider their challenges relationally and break between generational silos in order to develop more systemic and holistic solutions that balance between the needs of both.

Creating opportunities for more meaningful contributions across the life course may lead to a pro-active aging narrative as well as increase knowledge sharing between generations. The meandering river introduces an alternative narrative that has the potential to work with and balance a rigid system through recognizing age

diversity and challenging stereotypical life stages and cultural clichés. In order to do so, enablers and key actors were highlighted to address the issue more holistically and to represent opportunities for agency and action at the individual, community, organizational, and policy level.

Ultimately, if we are to think of generations as networks dispersed across place and time, then we may better understand the possibilities of how to connect between them and create opportunities for shared narratives to emerge.

Next Steps

Moving forward, the author hopes to connect between her emerging interest in social foresight and intergenerational collaboration with her initial interest in creative ecosystems and knowledge economies. Furthermore, in order to challenge research assumptions, test and develop research findings, more rigorous field research is required within situated communities and organizations.

The development of programs that focus not only on intergenerational knowledge transfer but also intergenerational knowledge creation in pursuit of common goals or interests is important to consider. This may be done independently, in partnership with other organizations or through another post secondary degree.

A research agenda is proposed that aims to guide the process and probe intersections between social foresight, intergenerational collaboration, and creative ecosystems:

- a) What is the relationship between intergenerational collaboration and long-term thinking?*
- b) How may intergenerational collaboration consider future generations?*
- c) How may we enable futures of intergenerational collaboration through shared place?*

Having reached the end of this exploration, it only makes sense to reflect on the beginning. As was mentioned earlier, the journey of my research process was full of pivots and discoveries.

Initially, my research plan sought to explore creative and entrepreneurial ecosystems with a focus on youth and to contribute to the understanding of today's knowledge economy. However, through the process, I recognized that as the knowledge economy grows parallel to an aging population in Canada, integrating knowledge and ideas between older and younger generations is an emerging opportunity area yet there is a significant research gap to address it. I was driven by a curiosity to understand what the purpose of age diversity may be in creating culture, in navigating the future, and in promoting sustainability.

I was reminded of how my grandmother's home functioned as a guest house and how she played a pro-active role in taking care of family members and resolving any conflicts. These memories were juxtaposed with my experiences throughout the process of my research. In my discussions with family, friends, colleagues and mentors, my perception of what it means to be 'old' and what it means to be 'young' was constantly challenged.

Furthermore, in order to engage more directly with my topic, on April 23rd, 2016, I attended a workshop called Leading Full Circle which brought together women from diverse age groups to explore their personal leadership. Participants were as young as 25 and as old as 63.

Regardless of age everyone was expressing a state of transition and regardless of age everyone had wisdom to impart. In a conversation with one of the participants about my project, she expressed how she is part of a group of women all approaching an age of retirement who meet to discuss the role and meaning of being 'old' today. Another participant, who had just left a 40 year career as a dietician expressed how she would like to pursue something more 'creative' while in conversation with a young student who expressed she was making plans to turn her parents ceiling fan factory into a learning space about health and nutrition.

Moving forward, I hope that this exploration can continue to become a basis for engaging participants in a dialogue about the value of an intergenerational lens to social impact and to

provide a platform for an age inclusive audience to share and create their own stories, myths and metaphors for the future.

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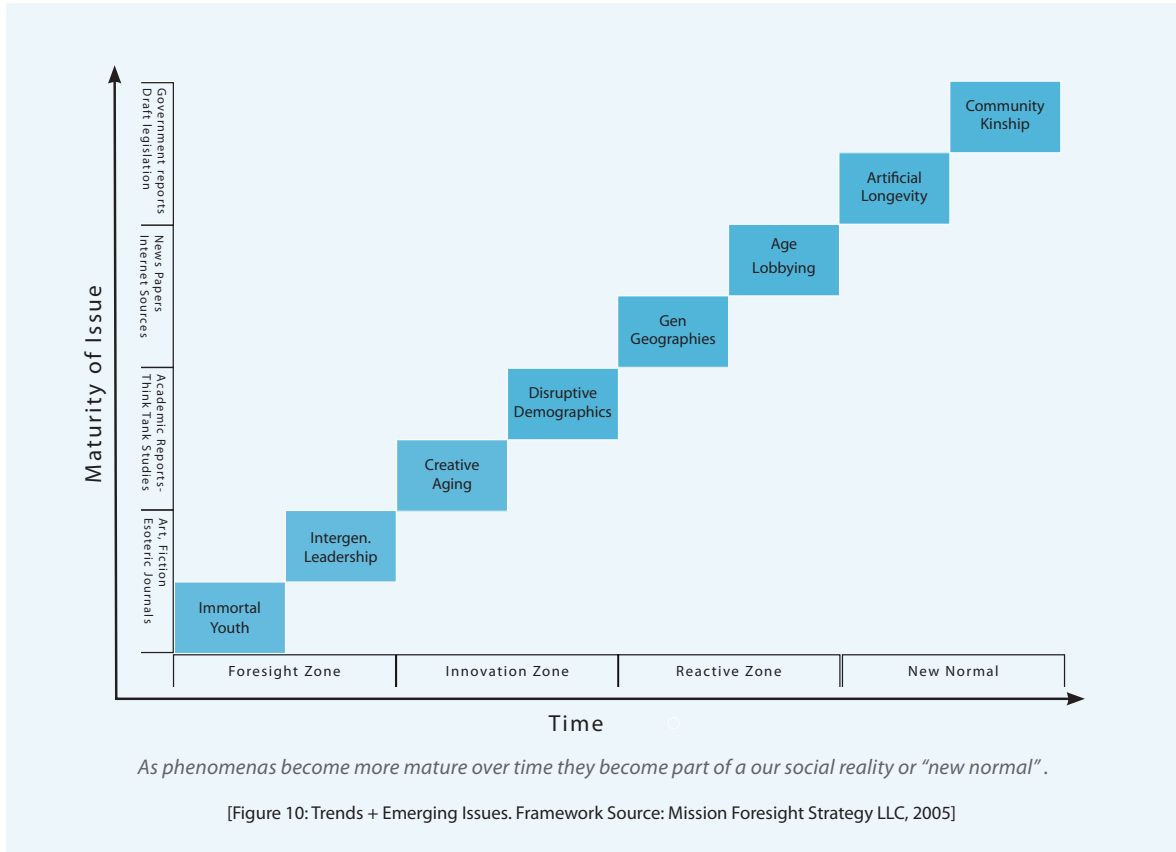
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Appendix



Appendix A:

Environmental Scan of Trends & Emerging Issues



[Scientific] Longevity-

The longer we live, the longer we live

The United Nations estimates that 72% of those above the age of 60 will be living in industrialized countries by 2025. If the current research on extending longevity is successful, then this proportion may well increase even further [Helman,

2005]. For instance, a research study at Newcastle University claimed that as every 24 hours pass, on average we add an extra five hours to our lives or about two years more per decade. The following reflects both

Trends	Signals
[Social] Community Kinship	"Fictive" kin in the rising numbers of ethnic communities.
	Step-kin, in-laws of many kinds, adopted children, older people adopted as foster parents, god-parents.
	Surrogate kin outside the traditional family.
[Scientific] Artificial Longevity-	Data suggests that as every 24 hours pass, on average we add an extra five hours to our lives.
[Political] Age Lobbying-	CARP is an organization that lobbies for the needs and rights of those above the age of 55.
	Gen Squeeze is an organization founded in 2013 lobbying for those below the age of 45.
[Geographic] Generated Geographies-	Metropolitan Cities adopting creative strategies to attract talented youth.
	Study reveals geographical segregation of youth from older demographic.
	1.5 homes coming into the market every year from senior households selling off.

a growth in age heterogeneity as well as in biological functioning.

[Social] Community Kinship-

Kin networks beyond blood ties

Family structures are becoming more heterogeneous as new forms of kinship continue to emerge. This means that the elderly of the future

may have more stepchildren and grandchildren to rely on (Riley, 1998). This is important as family and community care giving is likely to continue to reduce the need for institutional care.

Emerging Issues	Weak Signals
[Technology] Disruptive Demographics-	Anthropomorphic robot nicknamed Celia, is equipped with a video screen allowing grandmothers to connect with their grand daughters via video chat.
	Intergenerational English Learning exchange is a platform for Brazilian youth to interact with seniors living in retirement communities in the United States
	Age Now Empathy System [AGNES] is a suit developed by the MIT AgeLab and worn by young innovators to better understand the physical barriers of aging.
[Economic] Creative Aging-	Prototype for a co-working space that bring those above 55 and those below 15.
	United at Work fosters intergenerational entrepreneurship in Portugal.
	The Age of No Retirement is a movement in the UK aiming to promote an age neutral, multi-generational World to change the aging narrative through work.
[Values] Immortal Youth-	Google partners with pharmaceutical giant to form Calico, a research lab aiming to cure death
	Harrison writes about a protraction in youthfulness with older adults acting youthful.
	Aubrey de Grey states it's reasonable that one could oscillate between being biologically 20 and biologically 25 indefinitely.
	A drug called rapamycin, extended the life of mice by up to 14% with scientists claiming that they may have an effective anti-ageing drug fit for human consumption in 10 years.
[Values] Intergenerational Leadership-	Annette Mees who is a UK based artists aimed to create a space for those at the edges of the working age to exchange wishes for global progress.
	Intergenerational Innovation discussed at the Indigenous Innovation Summit.

[Environmental] Generationed Geographies-

Forever young cities, forever old suburbs

A study at the University of Waterloo revealed how neighborhoods are not only split by class or race, but also increasingly split by age. Highlighting how many contemporary strategies to city planning continue to attract younger adults through arts and cultural scenes, a more pronounced geographical segregation is taking form as cities become increasingly youthified [Moos, 2012].

[Political] Age Lobbying-

Rising concern for intergenerational equity

The Conference Board of Canada (2012) recently reported that the income gap between older and younger workers has significantly expanded since the 1980s, leaving today's youth worse off than their parents and potentially provoking social tension. The rise of generational activism reflects concerns for intergenerational equity, with individuals and organizations lobbying for the interests of older or younger. For instance, while the Canadian Association for Retired Persons (CARP) advocates and lobbies for

the needs of older adults, Generation Squeeze is an organization that aims to do the same for those under the age of 45.

[Tech] Disruptive Demographics-

Opportunities for age independent technology

Marc Prensky (2001) uses an analogy of native speakers and immigrants to describe the generation gap separating today's students or "digital natives" from their teachers or "digital immigrants". He discusses the digital natives as receptive to fast information, preferring visuals to text and thriving on instant gratification and play, in contrast to those less exposed to digital technologies. Professor Coughli, a longevity-focused researcher and author of the blog 'Disruptive Demographics' claimed that among the obstacles for developing age independent technology is apathy between generations. AGNES which stands for "Age Gain New Empathy System" is a suit developed by the MIT AgeLab to mitigate the challenges of youth designing for elders (AgeLab, 2011).

[Economic] Creative Aging-

Alternative work for younger and older

When the age of retirement was set at 65, life expectancy was under 50, yet for many longevity has created more opportunities to take on new roles at various life stages as well as to interact with people born in different historical periods [Riley and Riley, 2000]. The European Union's Entrepreneurship 2020 action plan aimed to address this phenomena by making seniors a 'new horizon' for innovation in order to better engage them in both "business creation and in supporting new and existing entrepreneurs, cultivate intergenerational learning and ensure knowledge transfer". A prototype of a co-working space in the UK as well as the launch of an intergenerational entrepreneurship program in Portugal in 2015 address this emerging need.

[Values] Immortal Youth-

The longer we live, the younger we live

The elder's role has changed as youth more readily access knowledge freely and absorb technology at a quicker rate. This is also due to an emphasis on youth, beauty, autonomy and self control as well as an ability to be productive

and reproductive (Helman, 2005). This strong desire for youthfulness coupled with a fear of mortality may be said to drive the quest to reverse the aging clock. This quest has led to claims that in as little as 25 years we may become "biologically 20 and biologically 25 indefinitely".

[Political] Intergenerational Leadership-

Who is making our future?

Annette Mees who is a UK based artists aimed to create a space for those at the edges of the working age to exchange wishes for global progress. Called the Almanac of the Future (1956-2056), her initiative brings together 15 year olds and 65 year olds along with activists and artists to document the last 50 years of change as well as map wishes, goals and predictions for the next 50 years. By bringing together the past and future through "intergenerational human ingenuity and curiosity", Anette Hopes to investigate new forms of creativity and progress.

