Chapter Four

Leading Causes of Life: Pathology in its Place

Life is what it is about
I want no truck with death.
– *Pablo Neruda*
I have set before you life and death, blessings and cursings;
therefore, choose life, that both you and your descendants may live.
– *Deuteronomy 30:19*

In the US Civil War the battle of Shiloh, remarkable for its raw violence, the ignorance of its generals, and the age of its soldiers, turned the Tennessee River east of Memphis red with young blood. One general, leading a ten thousand strong Union division, took two days to find the road leading to the main battlefield, though the sound of distant gunfire was always present. Thick underbrush and the gentle roll of the terrain meant that thousands of men, many teenagers, lost their lives, dying without ever seeing their enemy. Most soldiers perished from lack of water or inadequate treatment of relatively minor wounds in desperate camps a few dozen miles removed from the battlefield while their generals dithered about what to do next. Others lived to fight again, but hundreds simply chose to walk away and keep walking, refusing to be party to such deadly meaninglessness.

In fact, any story of the American South ignores a narrative thread of meaningless violence only at risk of the truth, and that is still true today. Thousands of men the age of their Shiloh predecessors struggle now to find their way on urban streets, where meaningless violence and racial profiling remain mingled. About a third of young people in Memphis fail to finish high school, and many that do, have such low skills that employment is unlikely.

So we write this book in sharp awareness of multi-generational patterns of struggle, violence, and failure. But it is not about the all-too obvious pathologies. There is much left to say about such troubles, but where do we learn something new? We argue that the answer lies in focusing on the idea of life.

Life as a Language

Life has a language relevant to health, and the notion of "leading causes of life" helps illuminate its core structure. To highlight these causes is not to ignore the many threats to life that normally capture the mind of public health practitioners, but to give complementary attention toward human health and how it spreads. Viruses are opportunistic, unpredictable, persistent, and occasionally deadly to their human hosts; they seem to have all the high cards. But humans actually carry on quite a respectable fight, using a set of life strategies. For instance, we do not reproduce very often, but we do so in the context of complex bonds of nurture, dependency, and affection that persist "in sickness and in health," for which these bonds are directly relevant. We can learn from viruses, but we have different capacities that allow us as a species to thrive.

We need to think about life with the same precision and rigor we use to analyze and beat back or postpone death. Death is simple compared to life. A short walk across any hospital campus crosses paths with many different diseases and injuries in the lives of people and families. Although there are thousands of names for it, in death something basically stops working. The breaking is simple; that which is broken—life—is highly complex, with many facets that exist in exquisitely rich relationship with each other. We live in connections, thrive in webs of meaning that make reality coherent, flourish in working together on things that matter, bloom in our experience of giving and receiving blessing across generations, and prosper as we are drawn toward hope. You can see all that going on in the lives of patients and families, if you know to look. Not mere ideals, these causes of life are another approach to systematically pursuing population-scale strategies for health. They may offer a better logic for dealing with what Kreuter et al. call the "wicked problems" that seem to defy resolution.[1]

It turns out, for example, that the public health interventions that save the vast majority of lifespan years result from fairly simple, population-wide actions—clean water, sanitation, good food, shelter. These are better understood as life processes than anti-death processes. They reflect things that contribute to life of the whole community. And they suggest that the right strategic tool is one designed to look for life, that the right analytic logic is one based on causes of life.

Life logic is curious about the way new things emerge that prove to be better adapted—fit—for thriving. That living beings are able to generate adaptive novelty is the key to how life goes beyond merely slowing the entropic drift toward death. Every living thing finally dies, of course, even the writers and readers of this book, sad to say. But life finds a way to go on. Adaptation incorporates entropy and death, but it provides an over-arching frame within which to comprehend them better. Jonas Salk, similarly, thinks of the point of discontinuity or inflection when a living being—or a species—must find a new strategy fitting to its situation if it is to transcend conditions that threaten it.[2] It does not help very much to look first for that which is running down, but rather for that which is emerging, opening new possibilities, breaking through encroaching boundaries. Life always looks for what is next. And humans have more to work with in this regard than bacteria: imagination.

Pursuing an Epidemic of Life

The closer one moves toward any human system, the more one sees its organic and emergent qualities; the less it seems a construct to be managed, the more it is to be nurtured, or healed. Salk, a philosophical but not a religious man, observed that it may be possible for health to spread among humans somewhat like epidemics. One might, he thought, be able to provoke an epidemic of health.[3]

If health is multifaceted enough to escape mere management or technique, perhaps it may emerge in another way entirely, rather like a positive infection in the body politic. This demands giving up the pretense or possibility of instrumentally organizing, even beneficently, the complex dynamics that make for the health of the public. Heather Wood Ion, long a colleague and friend of Salk's, to explore whether this might be possible, convened a group of diverse thinkers, including virologist Nathan Wolfe, who, like Salk, is deeply moral if not very religious. Pressed to say what humans could learn from viruses, Wolfe suggested that the most direct connection is that both must continually adapt to a shifting array of challenges for their survival. And human life might be moving into a world fundamentally hostile to our survival owing to what Friedman calls "global weirding,"[4] a way of describing the complex environmental changes in the chemistry of our air and water. Viral life assumes change and is built entirely on constant adaptation: "It depends on generating novelty," says Wolfe. It generates adaptive novelty by sharing and blending its DNA, its essence, combining with another to produce a new virus that may be better adapted to its host, replicating and thriving. Analogously, a human community generous with its essence—knowledge more than DNA—may also generate novelty, adapt and thrive even in the face of entirely unprecedented challenges.

If an epidemic of health depends on communicative generosity, then a healthy political economy might be nurtured by the presence of religious, spiritual, faithful imagination. Perhaps the most relevant religious health assets are not clinics, hospitals, public health initiatives or thousands of places of worship, but the most intangible asset of all, imagination. What would it mean to combine our essences, what forms of relationship informed by what ways of knowing might nurture a healthy body politic?

Here we touch on another vital element in life logic, the role of the human imagination in envisioning the possible and giving form to it in actuality. No matter the circumstances, life seeks transformation, as we literally observe in those who face death but still come to terms with it, finding even there the strange presence of a life dynamic. In Christian thinking this is expressed in the seemingly contradictory claim that life ("resurrection") emerges from death ("cross"); it is also happens to be a principle of evolutionary theory governing the conditions of the emergence of new forms of life.

Moving the focus of public health toward the language of life is harder than it may seem. It is easily treated as merely "inspiring" when, in fact, it has concrete operational implications. What makes it harder is that we already have a great store of thinking and expensive facilities devoted to resisting death and dying. Seeking life seems slightly off the point, which is exactly

the point. Here, then, we sketch a model of the Leading Causes of Life (LCL) that offers a conceptual frame for understanding the logic of life.

The Generative Dynamic of Life: Antonovsky's Legacy

A century after Shiloh, sociologist David Williams, at a conference at the University of Wisconsin Medical School on racial disparity in infant mortality, reflected on the ways in which race and health in America produced very predictable outcomes generation after generation. Williams laid out ten things one needs to understand about the depth and durability of this pathology. There was little more to be said afterwards, no room for curiosity except for one question: how, then, is there any life at all? Gunderson, with the awkward task of following Williams to the microphone, for the first time introduced the phrase, "the leading causes of life."[5]

The moment called for a new paradigm of thought, but its beginning was not necessarily very impressive. The phrase named a nearly empty intellectual space, a question rather than an answer. The hypothesis that there *are* Leading Causes of Life, as clearly as there are leading causes of death, called for intellectual work, a moment of informed unknowing provoked by an obvious fact: life does find a way, it does emerge, it is sustained in places one would not predict it when reasoning simply on the basis of pathological models. It is at least as important to understand how life works, as how death tears it down. How do we describe this? What dynamic drives a process that is not entirely entropic?

Aaron Antonovsky, author of a fully elaborated theory of salutogenesis—that which generates healing and health—was one who began that search.[6] He held no romantic view of the human journey through travail and stress. Rather, his deep sense of pervasive chaos made him curious about the apparently contradictory fact that most people nevertheless find a life marked by health and meaning. Probing the health of a cohort of women who had survived the loss of families in Nazi death camps and who, as emigrants to Israel, had experienced three wars there, he was amazed when almost one-third (twenty-nine percent) reported themselves doing well.[7] Doing *well*? How is that possible? That, not why others were *not* doing well, was the surprise. If stress and struggle are normal, then the mystery worthy of attention lies not in pathology, but in health.

Antonovsky's theory of salutogenesis focused on a "sense of coherence" (SOC) as the primary variable that enables one to predict how a person would navigate their way through life in the face of significant stressors and difficulties. People with a high sense of coherence had a way of "seeing the world …as predictable and comprehensible,"[8] not chaotic or incoherent, however difficult. "The sense of coherence," he later wrote, "is a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that 1) the stimuli deriving from one's internal and external environments in the course of living are structured, predictable and explicable; 2) the resources are available to one to meet the demands posed by these stimuli; and 3) these demands are challenges worthy of

investment and engagement."[9] On this basis, he created his SOC scale, which he believed could predict health.

His theory remained in need of development, and he died young following a brief illness. He had published only two small books on salutogenesis, and a mere ten editions of a newsletter aimed at building a research network around the theory. But between 1992–2003, his curiosity generated an expanding body of literature, at least 450 articles and thirteen PhD dissertations, showing that "The SOC scale seems to be a reliable, valid, and cross culturally applicable instrument measuring how people manage stressful situations and stay well."[10]

Antonovsky clearly thought the most interesting and fruitful direction for health research lay in the unexplored end of the continuum of pathology and life. Just two years before his death, the Interfaith Health Program (IHP), as noted earlier,[11] had been launched at The Carter Center with a similar curiosity around faith and the health of communities, supported by Droege's seminal paper.[12] Public health had long had a sense for the complex ways that *suffering* was multi-factorial and developmental over time or through generations, and Droege's decisive insight was that *healing* was similarly interconnected. As we have noted, this influenced Foege, CEO of the Center and by then a major leader in a number of frame-breaking global public health efforts, including smallpox polio eradication, global immunization, and treating violence, injury and trauma as public health phenomena. Foege wondered what would happen if the IHP searched for unexpected outbreaks of positive phenomena, and understood the patterns that produced them by focusing on the obviously large resting assets of faith communities and their leaders that seemed to be relevant to the health of the public.[13]

This was radically opposite to the normal curiosity about how faith might apply to the manifold problems identified and prioritized by public health scholars and practitioners. Recognizing this dramatic gap, however, is not the same as having a strong theory on which to build programs to bridge it. Typically, most people think of a gap as something missing. The IHP thought of it as mountain people do—the low, safe way through a mountain range. IHP looked for the gaps between: 1) what was known in one field and where it was useful in another; 2) commitments already made, and further relevant implications of these; 3) a model that worked in one place that might be adapted to another; 4) people one already knew and those others relevant to the current challenge; and 5) current actions and their longer term implications.[14] IHP had no underpinning theory yet, but its curiosity was headed in a useful direction.

That led to twenty meetings with local leaders in faith and health activities across the United States, convened around two questions: 1) "What do you think is working that might be replicated elsewhere?"; 2) "What is *not* working for lack of a clear vision of what might be possible?" Like the later work of African Religious Health Assets Programme(ARHAP) in southern Africa, these gatherings brought together leaders involved in the practice of health, and not primarily researchers. The range of their activities could be mapped thus:

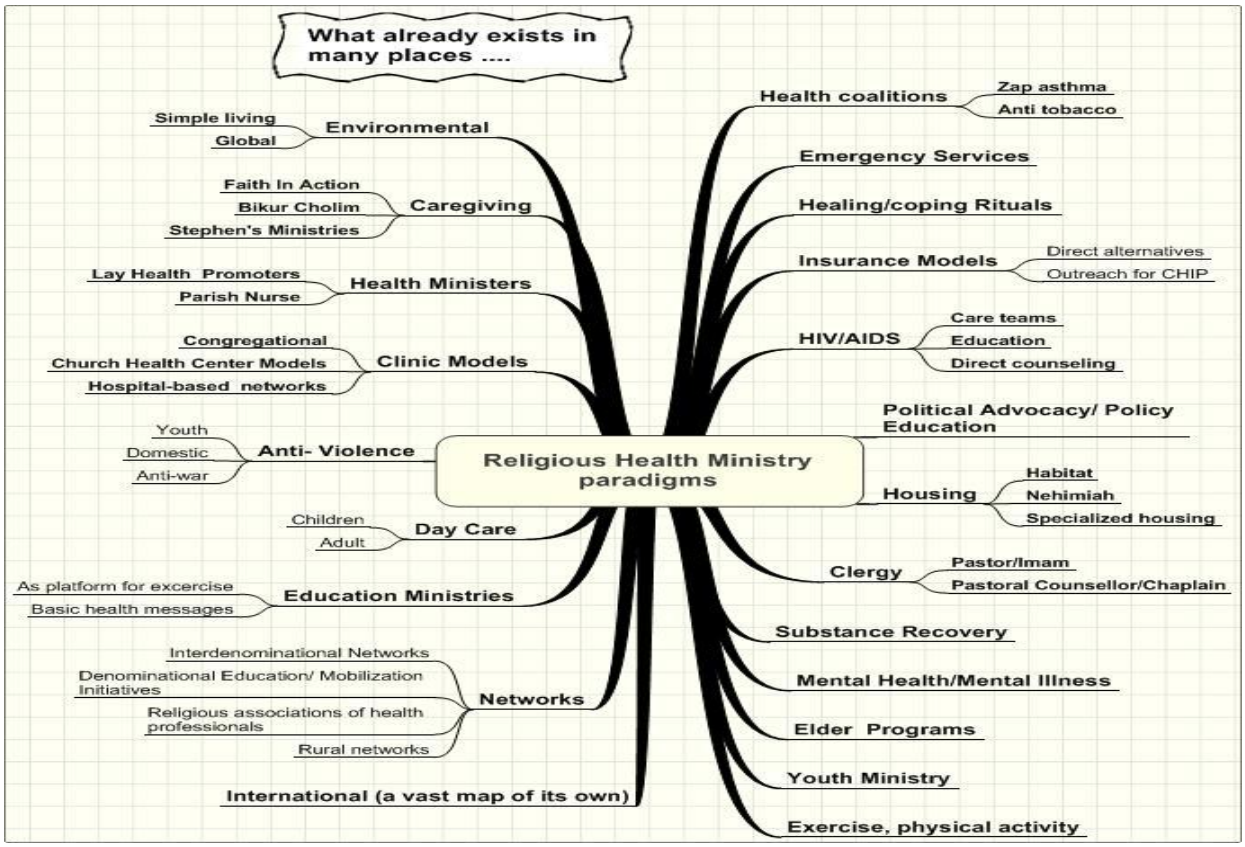


Figure 1: Mapping religious health activities

Almost anywhere one group of leaders raised a problem, another had already found an encouraging way forward. Few of the initiatives had been evaluated to scientific standards, but they had been able to attract sustained investment for their local community.[15] The map depicts their diversity, but it also indicates an ever-increasingly complex web of inter-related activities that not only proliferate, but evolve, morph and mingle, like memes and DNA. They represent a dynamic map of life.

Like Darwin, we may ask what unifying logic accounts for all the differentiated forms of changing life. If one exists, it cannot rest primarily on our growing ability to describe problems and pathologies. The increasing precision with which we can describe our fears—cancer, say—accounts for some of the ways we respond to threats to life, offering possibilities for combating those threats. But participation in any of the numerous public cancer walks that fill the calendar discloses a surprising fact, which is that they are lively, indeed, full of life. The soup kitchen or clinic for the poor may be drawn to hunger or disease, but the social phenomena that arise at the intersection between need and response are themselves marked by life through relationships that bring energy to all involved. They go beyond the personal. And rather than being entropic, they signal the opposite, an emergent and vital complexity.

To answer the question posed by Antonovsky and the IHP of what accounts for the life in the presence of struggle, one needs a theory not about the unsurprising nature of personal suffering, but about the surprising character of societal life. If public health, through a focus on pathology, tends to "see like a dying person," we want to see like a living one.

Causes of Life

The first step to an adequate theory of the causes of life is to see that life is generative and much more complex than death. Life works by adapting to a constantly shifting and unpredictable array of challenges and opportunities. The ending we call death is simpler to grasp because it *is* simpler than the decades of flexible adaptation that distinguishes the human response to life. Humans adapt—Antonovsky says "cope"—to ameliorate the challenges they experience, like loss of affection, disease, or cataclysmic war. Often doing so strengthens their capacity to live. Antonovsky thus observes that stresses, though disturbing at the time, are not always negative for lifespan health. For him the difference is a sense of coherence, or its lack.

In his last book, Antonovsky points to the possible future development of the field of salutogenesis, of which his theory is one stream.[16] He notes that a sense of coherence neither develops at an entirely individual level, nor is it a uniquely personal attribute. Yet, astonishingly for a Jewish sociologist working in Israel with survivors of the Holocaust, he misses that a sense of coherence is mostly something acquired and adapted from one's community or social network, an aspect poorly developed in his theory. Does the theory add up to anything more than a set of tools for assessing and encouraging adaptive personal life strategies? Could it have *public* significance?

A follow-on from the World Health Organization (WHO) Alma Ata meeting was the 1984 Ottawa Conference that marked the global launch of the "health promotion" movement. Antonovsky attended the regional pre-meeting in Scandinavia, but his thought was not yet sufficiently developed to have visible effect on that conference. As the IHP learned a few years later, having a clutter of promising practices may create a movement, but it cannot sustain one. A movement needs a theory.

Lindstrom and Eriksson suggest that the field of health promotion still lacks a sustaining, integrating theory, and that Antonovsky remains the best foundation on which to build one. Reflecting on this some twenty years after the Ottawa Charter, they argue that the contemporary evidence-base for the salutogenic framework supports the Charter's philosophical and practical intentions, especially regarding the maintenance and development of health and the quality of life.[17] Elsewhere, they note that the recent history of public health reflects an evolving, underlying concept of health that has moved from a relatively static opposition between health and disease toward a dynamic, emergent phenomenon of well-being. This includes a "shift from the biomedical paradigm towards social and psychological perspectives," a much broader use of "theories and strategies from other fields of science than medicine." And the introduction of theories focused "on health as a resource for everyday life and health promotion." All support "the realization of the Ottawa Charter in terms of salutogenesis and quality of life."[18]

Our premise is that instead of placing first importance on pathologies, notwithstanding the need to understand them, the primary issue to be addressed is that which is generative of health. We name it *life*.[19] There is a good bit of "found science" to support this approach, once one knows where to look. Many health promoting practices dealing with transitional conditions that

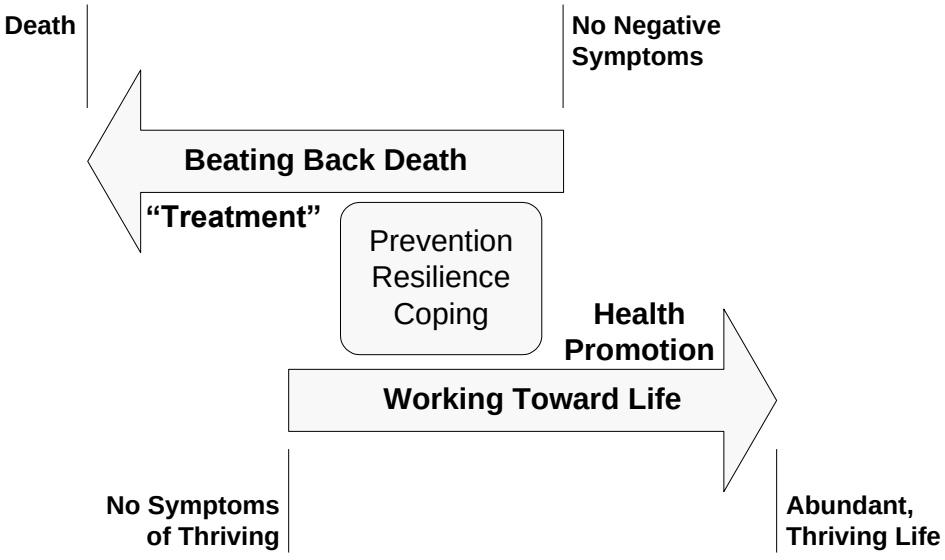
have been explained using a mechanical, silo'd and linear logic are more usefully explained using the organic, multi-factorial, and fractal logic of the Leading Causes of Life (LCL), especially when the intervention involves any form of human variable.

Even Antonovsky's advanced model of the sense of coherence is improved by moving it into the LCL approach. His three core concepts of comprehensibility, manageability and meaningfulness partially match the notions of coherence, agency, and connection in the LCL model, but the model adds at least two other critical concepts. The first is intergenerativity (originally named "blessing"),[20] and the second is hope, a concept able to articulate Antonovsky's untheorized awareness that anticipation and expectation fostered health. The LCL theory also allows us to consider the role of a further, rich aspect of human life with enormous practical value, that of imagination.

The Science of Positive Living

One well of "found science" from which LCL theory is able to draw comes from the deep water of positive psychology. Here we turn first to sociologist Corey Keyes, who has labored productively to develop the concept of "flourishing" in relation to mental health. Keyes and others such as Martin Seligman had by the early years of the twenty-first century pushed their ideas on positive psychology well into the mainstream of the American Psychological Association.[21] Keyes' model developed a way of measuring two transversal continua (not one, as in Antonovsky): one tracks pathology, running from "no negative symptoms" to terminal problems, the other a trajectory of thriving that runs from languishing (no positive signs) to full and abundant flourishing.[22]

We adapt and generalize the model to offer a similar view on the Leading Causes of Life.[23]



Death-Thriving Continua

The overlapping area of the two continua can be described in terms of countering pathological phenomena, using the language of coping, risk avoidance, resilience, resistance, and prevention. Pargament even connects this to the positive value of religion.[24] The LCL model goes further by noticing the generative life processes that are also at work. Thus, resilience or a capacity to cope may be seen as a by-product of a generative process that itself needs support.

Many activities regarded as public health successes, such as those that claim a health benefit by preventing something (smoking, obesity, drug abuse, unsafe sex, or bad driving), often achieve the effect by means that borrow heavily from the life-oriented phenomena commonly and naturally used in a faith group. Lowered risk behavior is best understood as resulting not from changing health risk choices, but from the positive choice to move toward life, a human drive to transcend the given pulled by aspirations for the more fulfilling. This is true not just of preventative public health interventions, but also of many that depend on a complex, long-term set of positive actions sustained over time.[25]

The challenge for any theory of health built on the dynamic of life, or for researchers trying to work with it, is considerably more complex than relatively simple, linear, entropic, pathological logic. Life finds its way; the task is to describe it appropriately so that it may be nurtured. There is no reason, in principle, why medicine, with the vast amounts of energy and money that it wields, should focus less on supporting life than it does working against death.

Here we call attention to another conceptual development Antonovsky anticipated but could not quite explain. At a meeting of scholars sharing their research in early SOC days, Antonovsky heard a physicist ask how "we can understand the emergence of order in systems, given the powerful, immanent and diverse forces constantly pressing toward chaos."[26] Antonovsky, stirred up, embraced the idea that "for every scientist, physical, biological, or social, no less than for the philosopher or theologian … the problem of chaos is omnipresent," linking this thought to Johann Georg Hamann's view that "Nature is no ordered whole: so-called sensible men are blinkered beings who walk with a firm tread because they are blind to the true and profoundly disturbing character of reality ….; if they glimpsed it as it is—a wild dance—they would go out of their minds."[27] Antonovsky thus rejected a brittle, rule-based, control-oriented model of human coping, in favor of the notion of developmental adaptivity. Whether dealing with differentiated social structures or with problems of system functioning, he argued that the capacity "to carve out a coherent pattern of interaction with reality, is the core problem at the frontier of all science."[28]

Antonovsky's body of thought is difficult to bring into the heart of public health precisely because he was brutally honest about the chaotic context in which it tries to carve out a coherent pattern of thought and practice. His perception of reality fits uncomfortably with expansive commitments to a fully rationalized, self-evident, and universally extended health science. One is not surprised, then, that this Jewish sociologist pondered whether God is best understood as a poet rather than a mechanic: "his works are full of allusion, puns, despair and love. Yet we can understand a poem. My own work has been devoted to studying the ways human beings cope with the reality of the poem that is social existence."[29]

The Leading Causes of Life theory embraces Antonovsky's clear view of the banal cruelty of chaos in human affairs, but equally, and with him, we see that humans do more than cope; they live lives rich in meaning and purpose, generation after generation. Emerging from within an African context, LCL theory is shaped partly by historical traumas and multiple pandemics where the compelling mystery is that life nevertheless finds a way. Our concern is better to understand that mystery, for the sake of medicine and for the health of the public. Not just poetry, the model is best seen as one version of the emerging sciences of complexity.

A Model of the Causes of Life

Tom Munnecke, software designer, philosopher and social entrepreneur, believes that "transformational ensembles" can change the world, or more precisely, that they are what change it.[30] This delightful term expresses the minimum set of factors capable of sustaining transformation. It is also a useful way of understanding the Leading Causes of Life, which we now describe. But first, what does it actually mean to describe them as causes?

No-one experiences causes directly, but only through their effects, to which we attribute a cause within some frame of thought. To suggest that there are causes of life, therefore, is to exercise a synthetic judgment. The phenomena are real enough, but to understand them we must add explanation and a theory. The causes of life are therefore not self-evident substances or essences, but are found in how we explain certain recurring functions and relations in the phenomena we observe.[31] This is as true of health or social life as it is of particle physics. The adequacy of these explanations is determined by the extent to which their framing theory does (or does not) grasp the rich complexity of experience in providing the simplest but most meaningful, comprehensive, and complete understanding of that experience.

We call them causes of life, then, because they appear, in varying contexts and conditions, to express adequately what people experience as generative of human life. Each cause is sufficiently discrete to cover a range of crucial experiences, and each, relative to the others, expands our understanding of those experiences.[32] There is more than one cause of life but not innumerable causes, and those we can discretely define are not isolated from each other but inter-related—they work as an ensemble. What then is the ensemble of the Leading Causes of Life?

First Cause: Meaningful Life – Coherence

Coherence enables us to make sense of life, to see it as comprehensible and not filled merely with wholly random events and inexplicable forces. Clearly, Antonovsky saw this as the vital element of salutogenesis. Another influential figure who thought along similar lines was Viktor Frankl, a Jewish psychiatrist who survived Auschwitz.[33] His theory of logotherapy expressed a positive view of what generates mental health, in contrast to the largely negative thrust of Freudian psychoanalysis. Frankl identified three psychological reactions to incarceration: shock first, often followed by apathy, and later, depersonalization, moral deformity, bitterness, and (if one survived) disillusionment. From within a situation of horrific suffering and death, he argued

that meaning was key, and that the meaning of life could be found in every moment of living. Convinced that this was the only way to "explain the apparent paradox that some prisoners of a less hardy make-up often seemed to survive camp life better than did those of a robust nature,"[34] he often cited Nietzsche's words: "He who has a *why* to live can bear with almost any *how*."[35]

Coherence is so vital to human beings that they rightly fear incoherence as a fundamental threat, one reason why religion (or anything that replaces it) is so commonly linked to violence. If the story holding a person's life together frays at the edges and starts to unravel, incoherence gains strength, and the threat to life is quickly felt. We could even think of a hospital in this way, a place that frequently feels utterly incoherent to those who enter it a disorienting condition of fear and vulnerability. Conversely, many indications suggest that a sense of coherence gives a people the capacity to be agents in their own healing: to have reasons to take their medicine, do their exercise, and generate their own life. Thus Pennebaker's work utilizing the art of self-disclosure or "storytelling" to build that sense of coherence in enhancing health shows that there is a clear positive impact on the human immune system even seven months later.[36] Coherence may not be enough, but it frequently tilts the balance, not least because it provides a way of seeing and trusting the connections across which life might flow via those who hold one up until one is healed, with the opportunity, later, to return the favor.

Second Cause: Supported Life – Connection

Walking down a particular block near Uptown Memphis, one comes across Roxie's, from one angle a dumpy, code-violating corner store and grill that any public health officer would think of as a risk vector, a likely pathway for disease or injury. But Roxie's is actually a life vector, a connecting point for many kinds of relationships across which sizzle vital stuff like food, hope, and intelligence. It is a multi-relevant place of connection, of just the kind that humans prefer. Such connections, which also exist in community centers or congregations and a host of other places, are often generative of life. Humans are social creatures. Capable of only brief episodes of solitude, human life thrives on our complex social connections to each other.

Healthy, generative human communities are connected in ways that enable them to adapt to changing threats and opportunities as a whole. The Roseto community study in the 1960-70's underlined how this supportive mechanism protected men from heart disease, by looking beyond the individual metrics and lives to "… a social structure that reflected remarkable cohesiveness … sense of unconditional support, strong family ties, respect for elders and one in which … no one was ever abandoned."[37] Unfortunately, this protective mechanism no longer held as traditional social networks frayed in Roseto, resulting in a typically unhealthy human community that found itself incapable of adapting to reality: its connections lost their generative and complex nature.

The Sesotho notion of *bophelo*, the ecology of relations that make up human connectivity in its full complexity, makes clear just how deep and extensive connection is in support of life as a whole. In this view, a person cannot be understood abstracted from family, community, nation, or land and creation.[38] Even to describe them as connected implies that they could be separated,

but they are more like a diamond with facets than a machine with parts. Any disconnection at any point represents a fissure in the whole; any particular violation of the whole, therefore, is as deadly as a malignant virus attacking other elements of the whole, including individual persons.

Language often hides this complexity by neatly sorting us into discrete categories: man, woman, husband, wife, brother, sister, cousins, uncle, aunt, neighbor, member, citizen. Yet, neurological evidence suggests that our minds are designed for the task of recognizing, initiating, managing, and responding to highly complex social relationships that define our life.[39] Indeed, scientists believe that the human brain can recognize the face of one person among thousands in less than a quarter of a second.[40] This is clearly an adaptive strategy in the evolutionary process, suggests Greg Fricchione, head of psychiatry at Women's and Children's Hospitals at Harvard University, in reading human experience as a tension between attachment (connection) and separation.[41] The importance of connection has also been conceptualized in the theory of social capital through the notion of ties to others,[42] which recognizes that connection is more than a nice thought. Seeing the world as a weave of thick or thin, strong or weak relationships has implications for understanding the health of the public.[43] Developing greater intelligence on how these relationships work is critical to understanding how people seek their own health and life, a point we will pursue in the next chapter.

Connection is also linked directly to two other elements of the transformational ensemble of the LCL model, intergenerativity (or memory) and hope (or anticipation). Psychoanalysis has taught us that memory and anticipation can be pathological, but primarily, memory helps us define those attachments that will enhance our capacity to thrive, while anticipation enables us to recognize a possible future with enough clarity to move toward it. And both rest strongly on the extent to which we are able to exercise our agency.

Third Cause: Active Life – Agency

One vital way of understanding human life is in terms of verbs: we go here or there, now or later, fast or slow; we lift, reach, touch, hold, dig, study, watch, fight, love, seek, build, invent, and make things. Our agency, or lack of it, is definitive of the quality of our lives, so much so that it allows a sociologist such as Zygmunt Baumann, in his Gifford Lectures, to define the new class divide in a globalized world as those who can exercise agency through mobility, and those who cannot and are thus readily marginalized from its centers of power and influence.[44]

We have already spoken of agency in relation to religious health assets, relating it to the dynamic idea of human capabilities,[45] and it requires no leap of imagination to see how a rich mix of human capabilities enhances life, just as their lack diminishes it. Agency is "the power to do" or to act, not unlike Bandura's concept of self-efficacy in relation to coping.[46]

As human beings we cannot not act. The clinical description of a "vegetative state" shows by contrast how important agency if for a view of human life. Conversely, the wise nurse on a cancer ward nurtures the agency of the patients, finding ways for them to express choice, even if only between cereal and oatmeal for breakfast. The physical therapist pulls the patients onto their feet after a shockingly brief period of passive rest because the human body is designed to grow

on its own capacity to do, or it atrophies. If this is true for muscles and bone, how much more for the spirit, the mind, and for life in general?

Conversely, to undermine human agency diminishes life. In *The Careless Society*, McKnight documents how professional helpers can undermine the agency of communities by creating relations of dependency, which then gives the helper greater agency than the helped.[47]The United Nations International Children's Emergency Fund (UNICEF) works hard to avoid making this deadly mistake, as do the best of clergy, the most successful of physicians and community organizers.

One can see agency clearly where the largest agencies did not expect it, amid the overwhelming swell of AIDS orphans in Africa. The obvious answer to this challenge—rapidly establish orphanages—is improbable amid already broken African economies. UNICEF and others launched a small study in six countries to evaluate what might be done.[48] They learned that small groups of village women had already moved quietly, on a large scale, to deal with the challenge. On average, in thousands of villages, each group of women (usually members of a small church) takes care of about a hundred children without any encouragement, training, or funding from donors or health agencies that were thought to be indispensable for such work. The carers might not be able to explain the etiology of the HIV virus or how it spreads, but they feed, shelter, and find ways to clothe and protect the kids. They give them a chance at life.

Such agency creates the possibility of more agency, generating space for the other causes of life too. But it takes both courage and art to foster the agency of those who otherwise are expected to be grateful for what is done for them. One might even say that agency is a sacred, generative well of life to be tended with reverence.

Fourth Cause: Anticipatory Life – Hope

Of all the Leading Causes of Life, hope most requires an adjective: "informed" hope. Hope is grounded in life itself, which led existential philosopher Gabriel Marcel to speak of children as the biological basis of hope.[49] But informed hope has to do with what philosopher Ernst Bloch called anticipatory consciousness.[50] Bloch linked the idea of hope to history and society,[51] and to the arts and music.[52] Hope is not wishful thinking, which cannot issue in action towards a healthy future.[53] A philosophy of hope, he said, "will have conscience of tomorrow, commitment to the future, knowledge of hope, or it will have no more knowledge."[54]

This is more than an abstract philosophical idea. Anticipatory consciousness can in fact be grounded in neurobiology. As Schachter et al discover, reviewing numerous scientific studies, "imagining the future depends on much of the same neural machinery that is needed for remembering the past"; the hope that energizes human beings is lodged, indeed, in what we might call our "prospective brain."[55] Of course, we need both past and future to live in the present, but the point is that humans live out of their expectations, and not just their histories. We anticipate, expect, weigh the likelihood, and then act as if that is what is unfolding. To the extent that our action is informed or reflective, rather than just instinctive, reactive, or impulsive,

human hope is about a "riskable" expectation. It might even be called a "memory of the future," a phrase coined by David Ingvar.[56]

The risks animated by hope are most viable when they are tested against the hopes of others to whom a person is connected, sometimes in ways that are not obvious. Embedded within the complex set of interconnections that make up the social life of persons, informed hope is not only a condition of being human. It is also an imperative, because any action we take in anticipation of a different future or possibility reverberates in the lives of others around us. This is what makes us responsible for our actions and accountable for their outcomes.[57]And this is pertinent to religion, as Ted Karpf says so pointedly: "The best of religion tells you stories of past that inform the present and inspire for the future. That is the social function of religion. It speaks deeply, to the bones across time. It inspires curiosity, inspiration, and responsibility."[58]

Hope is then linked to agency in a double manner: as anticipatory practice and as responsible action. "Against the idea that we are headed over the cliff into some abyss (collapse) or that we are about to run into a solid and immovable brick wall (limits)," says David Harvey, it is better that we "construe ourselves as embedded within an on-going flow of living processes that we can individually and collectively affect through our actions."[59] These living processes he calls the "web of life." Similarly, we speak of "webs of transformation"[60] as animated by hope.

All of these thoughts invoke the human imagination, as all the authors to whom we refer recognize. The immensely powerful capacity to imagine something new and to devise ways to bring it into being marks our lives as human and not merely biological. We add something to what we experience that was not there before. We invent, we make, we create what did not exist. We are able to transcend what is given to us, and this is a capacity we already begin to learn as children, when we call it play.[61] In one sense, then, imagination is a cause of life; but it also permeates every cause of life.

Of course, the power of imagination and human creativity can be turned to destructive ends, given human freedom. But then we are dealing with pathologies rather than causes of life, and they are of course two sides of the same coin. The key point, however, is that most health interventions still focus largely and shortsightedly on only one side, pathology. It is our view that where both sides of the coin have been embraced, we might expect better outcomes.

Fifth Cause: Adaptive Life – Intergenerativity

Every significant moment of life is part of a journey of constant adaptive movement by humans through various social spaces, frequently marked by discrete passages of life. Relevant science can be found that has carefully examined many of these passages, like transitions of age, circumstance, wellness or relationship. Here we probe one such passage, an archetypal one: life at the end of life in the passage towards imminent death. The question is whether the LCL theory offers some explanatory power for understanding this passage or illuminate ways of approaching it that could lead to better experiences and outcomes.

Methodist LeBonheur Healthcare in Memphis runs the largest hospice in the region, daily caring for about two hundred people faced with the last weeks of their lives. Hospice care,

whether in Africa or Memphis, is a rare time in the medical journey, when one can expect to see all the components of the system arrayed in relative respect for the patient and family. This is one time when the medical system behaves itself, listens to patients, creates space for shared roles with extended family, social networks, community, and volunteers, expects. It welcomes the presence of chaplains and other less-trained religious helpers, and includes symbols of all sorts to aid the passage to death and the process of re-gaining a sense of coherence at the end of life. One might wish that one did not have die to experience a well-behaved medical system, still, the end of life is a time when one can see a life whole—or, at least, how one life is part of a larger whole. It is here that the concept of intergenerativity becomes most obvious.

Intergenerativity, inherently, is not about one life, yet it can be highly relevant to one life. "As my mother approached her own death," Gunderson remembers, "she was blessed by a high level of mental and spiritual acuity even as her body broke down." He was able to talk directly to her about her funeral for which he, the youngest but only ordained member of the family, would be primarily responsible. She decided which grandchildren would read which scriptures. They both wept as he read the various passages aloud and the nature of the service emerged. When the day came, he preached his own mother's sermon, finally breaking down, shifting from preacher to grieving son, leaving the pulpit and joining his brothers, sister, wife and daughters as a family that would live on. His younger daughter, only seven, put her hand on his knee and whispered, "Daddy, you've been a good son today." He was in right relationship—a generative relationship—to his mother, to all she carried of her family with her, to those around him, and to those that will live beyond him. Had Gunderson's immune system been tested using PN1 measures at that point,[62] he would probably have scored optimally.

LCL theory adds nothing to the event itself, but it does introduce an understanding of the highly complex generativity of further life inherent in what otherwise is an oversimplified view of an ending of life. The end of one life is also a time when the family's sense of coherence is challenged. LCL theory sees life as inherently intergenerational, not just from the old to the young, but the other way, too; not just between generations that can see and touch each other, but across the span of those whose lives influence each other over time and space. It thus even offers a different view on some pathologies, such as what community psychologists refer to as "historical trauma" (Native Americans, the KhoiSan in southern Africa, or war generations of Germany).[63] And it can inform interventions beyond the individual person.

For example, ARHAP scholars have employed their participatory research model to help the Hospice Palliative Care Association of South Africa extend their services by aligning them with community health assets, many embedded in the religious networks of those communities.[64] This has become necessary because the HIV pandemic and AIDS sufferers place extraordinary new demands upon hospices. AIDS is no longer necessarily terminal; but people do die and, all too often, the hospice ends up with their children. Both realities go far beyond the traditional capacity of hospices. The driving need is to identify community assets to support palliative care and get them into alignment with the hospice, quickly and sustainably. From one angle, this merely extends the medical system one "service line" further than before, nothing unusual in the

world of health. But from another perspective, the participatory action process itself draws the local community to its own life by systematically bringing into view its unconnected connections across generations, its opportunities for a broader expression of agency inspired by both the living and the dead, its active engagement in supporting and blessing crucial life passages, and thus, its capacities for exercising decency even in the face of overwhelming need.

To call this, as Antonovsky might, a community finding its sense of coherence is a great advance from the extended service line language of the medical system. But more than coherence, it brings intergenerativity into view as an animated expression of the agency of a much larger part of the community relevant to end of life. And it challenges the model of services delivery as the determining criteria by which to understand the health system.

Disorder fights back

The logic of the Leading Causes of Life stumbles over the lived reality vividly evident in many villages and townships of Africa or on the streets and in the hospitals of Memphis. Like religion, it holds together not only the story of life or creation in ritual and narrative, but also the mystery of death, loss, and suffering that evokes only lament. There may be, as David Bohm argues, an unfolding order implicit in the very fabric of reality.[65] But how does one explain the inexplicable, ongoing unfolding of disorder? One cannot illuminate the scale and interwoven constrictions of suffering simply by saying that life has not yet fully emerged. Disorder, felt and named in the language of disease, injury, and disability, is not just a lack of health; it appears to fight back against the implicate order, often winning. Dr. Martin Luther King, Jr. did not simply fall short of full maturity; he was shot down on his way to dinner with friends before leading another march. He expected the new order he saw and announced but, like Moses, he sensed that he himself would not get there. Disorder is part of every human system with effects that are unpredictable and turbulent. We have to deal with the interplay between emergent new order and the reality of disorder.

Religions nearly all have some way of naming the disorder that fights back. Sometimes it is seen as animate with intentionality, purpose, and power, named as demons, Satan, fallen angels, or malevolent forces. Many African religions speak of dangerous spirits and displeased ancestors. Indeed, one could sort various religions according to the different ways they name and explain the relationship between order and disorder.

The Leading Causes of Life paradigm does not directly address the frequent failure of life to order human experience at personal, family, social and even political scale. One need not stand on the battlefields of Shiloh, before Rwandan churches filled with skulls, or in the killing fields of Cambodia to realize that positive, adaptive causal theory falls short of a fully adequate explanation for human experience, any more than disease theory adequately explains everything. It is not enough simply to hold the two stories in tension, one of healing and life, generative imagination or emergent order, the other of disease and death, formless void or active disorder.

If causal complexity rests, as Kant following Hume insisted, on the fact that we can only name effects and not causes, then our naming of its parts must always be open-ended. Bohm called this "participatory" knowing, which does not collapse the unlimited into a limited and inherently partial, thus inaccurate, knowing.[66] Such rigorous methodological humility is required if we are to acknowledge the continued presence of turbulent disorder as an inherent part of what we call life. The two things are not complementary but entangled. Martin Luther King, who saw this clearly, spoke of history arcing toward justice slowly, over many life spans. He was probably not surprised at the bullet, nor believed the arc was broken by it, as he fell to floor on the balcony of the Lorraine Hotel.

Rethinking Sickle Cell Anemia: Life Logic at Work

Disorder and order are visible not just in the contemplation of realities of obvious awe, but also in the patterns of life found amid diseases of troubling etiology, travelling mysteriously complex and painful journeys. Sickle cell anemia is certainly one of those diseases, so embedded in African, thus African American, experience that it has names that lead us to the edge of mystery. To grasp some of the implications of the LCL model, then, to see how it might lead to action that is more adequate, let us consider what sickle cell looks like in Memphis.

Sickle cell anemia is not infectious. Transmitted genetically, it is unaffected by behavior or choice. Named after the sickle shape that red blood corpuscles assume as the condition advances, it originates in Africa where it is thought to have evolved by conferring some resistance to endemic malaria. With its pattern of episodic, variable and unpredictable but wrenching pain, and limited to people of African descent, it was not even universally considered a real disease until midway through the twentieth century. It gained global attention as one of the archetypal molecular diseases only when new tools of molecular research found sickle cell to be a perfect candidate for scientific investigation.

The first sickle cell clinic in the United States was opened in 1958 at the public hospital in Memphis, now known as the Regional Medical Center at Memphis (the Med).[67] This made sense for reasons that are not pretty: a lack of alternative sources of medical care ensured that researchers would have access to an effectively endless supply of African American patients who could be diagnosed early in their life and kept in treatment throughout their life, as they "graduated" from children's care at LeBonheur and St. Jude's hospitals to the adult wards. World-class molecular researchers came to Memphis to conduct extensive research on sickle cell anemia and associated medical conditions. The research engine that ran on the fuel of available patients expanded throughout the medical center of Memphis, lifting the University of Tennessee with it.

That story belongs to another book. For our purposes, it is enough to note that Memphis has a long history of engagement with people living with the excruciating pain of sickle cell. A new chapter in that engagement was the acceptance by Methodist LeBonheur Healthcare of responsibility for adult treatment. While the roughly 2,000 adult sickle patients now come to a

faith-based university hospital instead of The Med, for the most part this is simply a change in destination, not in paradigm.

Using a simple outline of best treatment practice, we ask if the LCL theory could add anything to what is already known about how to care for those experiencing a sickle cell crisis. If we treat the engagement between a patient and a medical delivery system as part of a process, not just an event, what would advance life and, simultaneously, improve treatment outcomes?

Sickle cell is a curious and oddly brutal disease. The life of someone living with sickle cell is marked by unpredictable cycles or "crises" of extreme pain coursing throughout the body. The best evidence-based practice in treating a sickle patient, largely limited to pain management, usually involves a combination of powerful medications. Any adult sickle cell patient knows which medicines, in what combination, are most effective in controlling their crisis events.

But the emergency room clinician, faced with an adult complaining of severe pain and wanting narcotics, showing no broken bones or obvious medical condition, has a problem figuring out whether this is just a drug-seeker, someone living with sickle cell, or something else. Any sickle patient has stories of being treated as a drug-seeker, at best given an unhelpfully low dosage painkiller and then being put into observation: even the LeBonheur hospital finance committee chair's son was treated this way in a university hospital emergency room in California where he was attending a conference on sickle cell. Many adults living in the unpredictable chaos of sickle cell are also unable to hold down a good job with insurance. This adds sizeable negative economic implications to treating someone who might inappropriately be abusing the limited resources of the hospital.

The decision to treat or wait also has big consequences for all concerned. If appropriately treated and controlled within two hours of onset, the painful crisis can be limited to eight or twelve hours per episode as an outpatient. If not controlled within that period, it will likely end up being a three to five day inpatient admission. As many adult sickle patients lack insurance (if male, even under government programs), their care will be unreimbursed, a loss for the hospital.

LCL theory notices that more than medicine determines the likelihood of getting that two hour window right. Many decisions are involved, and the most important ones are not necessarily made by an overworked emergency room clinician in a hurry, but by those making daily life decisions rather than medical ones. What affects the decision to come to the emergency room at the early onset of the crisis?

The decision to navigate to the emergency room is a choice to expend one's agency, knowing it may well end with a demeaning, incoherent, and ineffective result given one's profoundly disruptive dependency on a hospital that regards one as a financial burden. Other burdens rest on family or friends who inevitably need to be involved by providing transportation and attending to the details of one's life while in a hospital for a few days. As every crisis event is unpredictable, the sensible thing to do is usually to wait until the visit to the emergency room simply cannot be avoided—exactly the opposite of what "evidence-based medicine" recommends. Then emergency room (ER) staff may have only minutes to get the diagnosis right

before the two-hour window passes, making more likely the five-day inpatient stay which everyone dreads.

LCL theory suggests many opportunities for dramatically improved management of this situation, beginning with noticing that sickle cell sufferers—who are, after all, alive—have many mediating connections beyond the emergency room. They are just patients, but members of one or another social association. Probably at least seventy percent of the 2,000 people living with sickle cell in range of Memphis are known and cared for by somebody in one of Methodist LeBonheur's hundreds of Congregational Health Network (CHN) congregations. Those congregations are connected with many other mediating networks that penetrate every neighborhood and social network, reaching far beyond those who show up to weekly worship.

The link of a sickle cell person to any CHN congregation can be registered in the hospital computer, enabling those at the admissions desk to connect the two meaningfully. This simple act changes an unknown person who may look like a drug seeker into a human being who is part of an existing, covenantal relationship with the hospital through the CHN. It allows one to trigger an automatic visit from a chaplain and, if desired, a request to the congregation to come alongside and share in the care. Or the sickle cell person may remember to call their congregational liaison, trained to either accompany them to the ER or arrange for someone else from the congregation to meet them there.

An experience that is normally fraught with appropriate fear and embarrassment, besides great pain, can now be expected to take place with some assurance of respect, understanding, and community. The pain will not be less, but since a decision to come quickly is much easier and a diagnosis will not be confused by suspicion, that two hour window is likely to be more successfully navigated, with the person returning home later the same day. Correct diagnosis within the window can mean the difference between giving away eight hours of outpatient care (roughly $1,500) or five days of inpatient care (roughly $20,000). Naturally, the chief financial officer enjoys the fact the hospital has avoided $18,500 of unreimbursed expenses, but that is by far the crudest measurement of what has actually happened.

Antonovsky would also quickly note the dramatic improvement in the patient's sense of coherence, which draws from an encounter that is indeed more coherent for everyone involved—the congregation, ER staff, hospital administration, spiritual care staff, friends, and family. All experience themselves as participants in the event, with an opportunity to share in the successful passage through a crisis of one they care about, in a way that reinforces everyone's sense of coherence, connection, and agency. Rather than diminishing the life force, as Antonovsky predicted, the stressful passage actually builds the consciousness that a person has of her or his extended social networks, and of the resources necessary to deal with a circumstance that cannot be predicted or avoided.

Health as Life Event

LCL theory shows that life is not just a useful tool to enhance what is really a medical event, but that the medical exchange of services is really a life event. Many events poorly understood merely as medical transactions also offer opportunities to medicine if understood as life processes. Quality, efficacy, and even efficiency may indeed be improved by recognizing the life processes that enfold medical processes, as we see clearly in the case of sickle cell anemia.

The Leading Causes of Life enhance each other as they swirl in a living ensemble among and between persons and social bodies. Making the life process visible feeds another powerful component, the human and social imagination that sees beyond what is to what might be. Images of what might be emerge naturally from gaining a clearer image of what is already underway.

The Leading Causes of Life is a theory, but it is also visible in practices that arise out of the confluence of faith and health. Better viewed as a potent set of questions rather than of self-contained answers, LCL theory gives leaders operating in the context of complex, fluid, turbulent community challenges a way envisage the life of the whole. Part of a larger suite of ideas emerging at the intersection of faith and health at public scale, it is also part of a larger scientific curiosity about how order emerges, is sustained, and moves toward higher order in complex systems.

As Bohm argued, reality is only properly understood in terms of the assumption of total connectedness. Reality is a single phenomenon and must be engaged more as a song than a construction project.[68] In this, Bohm sees no distinction between physical and life sciences: "It may indeed be said that life is enfolded in the totality and that, even when it is not manifest, it is somehow "implicit" in what we generally call a situation in which there is no life."[69] Reflecting on change as a kind of movement through the passage of life, he suggests that "movement is comprehended in terms of a series of inter-penetrating and intermingling elements in different degrees of enfoldment all present together. The activity of this movement then presents no difficulty, because it is an outcome of this whole enfolded order, and is determined by relationships of co-present elements …."[70]

The LCL model looks at the scale of human communities seen within the horizon of generations; it sees the wholeness and not the pieces, the passages and the journey. Understanding and engaging living phenomena through the logic of life keeps one's view on what counts for health, and enables leaders and social networks to enhance it.

---

[1] Marshall Kreuter et al., "Understanding Wicked Problems: A Key to Advancing Environmental Health Promotion," *Health Education & Behavior* 31, no. 4 (2004).

[2] Jonas Salk, *The Survival of the Wisest* (New York: Harper & Row, 1973).

[3] See Heather Wood Ion, "Creating an Epidemic of Health" (Presentation, the Epidemic of Health Meeting, Center of Excellence in Faith and Health, Methodist LeBonheur Healthcare, Memphis, TN, 2011)); also, Bill Moyers, *A World of Ideas II* (New York: Doubleday, 1990), 238-9.

[4] Thomas L. Friedman, "Global Weirding Is Here," *New York Times*, February 17, 2010.

[5] Nov 5th, 2003.

[6] The term is derived from the Latin *salus* (health) and the Greek *genesis* (origin), and describes an approach focusing on factors that support human health and well-being, rather than on factors that cause disease.

[7] Aaron Antonovsky, *Unraveling the Mystery of Health: How People Manage Stress and Stay Well* (San Francisco: Jossey-Bass Publishers, 1987), preface xi.

[8] ———, *Health, Stress and Coping* (San Francisco: Jossey-Bass Publishers, 1979), 123.

[9] Antonovsky, *Unraveling the Mystery of Health*, 19.

[10] Monica Eriksson and Bengt Lindström, "Validity of Antonovsky's Sense of Coherence Scale: A Systematic Review," *Journal of Epidemiology and Community Health* 59 (2005): 460.

[11] See Chapter Two.

[12] Thomas A. Droege, "Congregations as Communities of Health and Healing," *Interpretation* 69, no. 2 (1995).

[13] Personal communication with author Gunderson, Lake Burton, Fall of 1992.

[14] The Carter Center Report, Closing the Gap, 1994.

[15] Ibid.

[16] Antonovsky, *Unraveling the Mystery of Health*, 12-14.

[17] Monica Eriksson and Bengt Lindström, "A Salutogenic Interpretation of the Ottawa Charter," *Health Promotion International* 23, no. 2 (2008): 198.

[18] Bengt Lindström and Monica Eriksson, "Contextualizing Salutogenesis and Antonovsky in Public Health Development," *Health Promotion International* 21, no. 3 (2006): 239.

[19] Such language of life allows one to take into account other epistemologies of health, as seen in such ideas as *seriti* (energy, Sesotho) in relation to *bophelo* (comprehensive well-being), or *Qi* (energy, Chinese) in relation to *yangsheng* (life); see, for example, Judith Farquhar and Qicheng Zhang, *Ten Thousand Things: Nurturing Life in Contemporary Beijing* (Forthcoming, ?2010); ———, "Biopolitical Beijing: Pleasure, Sovereignty, and Self-Cultivation in China's Capital," *Cultural Anthropology* 20, no. 3 (2005); Giorgio Agamben, *Homo Sacer: Sovereign Power and Bare Life* (Stanford, California: Stanford University Press, 1998).

[20] Gary R. Gunderson and Larry Pray, *Leading Causes of Life* (Memphis, TN: The Center of Excellence in Faith and Health, Methodist Le Bonheur Healthcare, 2006).

[21] Corey L. M. Keyes, "Complete Mental Health: An Agenda for the 21st Century," in *Flourishing: Positive Psychology and the Life Well-Lived*, ed. Corey L. M. Keyes and Jonathan Haidt (Washington D.C.: American Psychological Association, 2003); Martin E .P. Seligman, *Learned Optimism: How to Change Your Mind and Your Life* (New York: Knopf; Penguin

Books, 1991, 1998); Martin E. P. Seligman, *Flourish: A Visionary New Understanding of Happiness and Well-Being* (New York: Free Press, 2011).

[22] Corey L. M. Keyes, "The Mental Health Continuum: From Languishing to Flourishing in Life," *Journal of Health and Social Behavior* 43(2002).

[23] The original adaptation was done by Gunderson.

[24] Kenneth I. Pargament, *The Psychology of Religion and Coping: Theory, Research, Practice* (The Guilford Press, 2001).

[25] Such as the Stop Asthma program in Atlanta, Georgia, which approaches the lives of its participants as a whole in understanding and responding to their condition; personal communication, Joyce Essien, M.D., February 22, 2010.

[26] Antonovsky, *Unraveling the Mystery of Health*, 164.

[27] Ibid., 165.

[28] Ibid., 170.

[29] Ibid.

[30] Tom Munnecke, "Ensembles and Transformations," (San Diego, CA: Science Applications International Corporation, 2000).

[31] Precisely this view of causation grounds Einsteinian science against Newtonian physics, even if it remains hard to grasp for the lay person who experiences both space and time as substantial, whereas they are representational constructions of the human mind, as the theory of relativity insists. Heisenberg's principle of indeterminacy, and quantum mechanics in general, further erode any idea that we can grasp essences or substances in themselves.

[32] One could name the causes of life differently, but this would change little if, as we argue, the phenomena we claim as causal are relatively adequately grasped in our model.

[33] Viktor E. Frankl, *The Doctor and the Soul, from Psychotherapy to Logotherapy*, trans. Richard Winston and Clara Winston (New York: Bantam, 1971).

[34] ———, *Man's Search for Meaning*, Revised & Updated ed. (New York: Washington Square Press, 1997 [1946]), Harold Kushner, Foreword, ix.

[35] Gordon Allport, Preface, Ibid., 11.

[36] James Pennebaker, *Opening Up: The Healing Power of Expressing Emotions* (New York: Guilford Press, 1997).

[37] Stewart Wolf and John S. Bruhn, *The Power of Clan: The Influence of Human Relationships to Reduce Heart Disease* (New Brunswick, NJ: Transaction, 1993).

[38] Paul Germond and Sepetla Molapo, "In Search of *Bophelo* in a Time of Aids: Seeking a Coherence of Economies of Health and Economies of Salvation," *Journal of Theology for Southern Africa* 126(2006); see also Paul Germond and James R. Cochrane, "Healthworlds: Conceptualizing Landscapes of Health and Healing," *Sociology* 44, no. 2 (2010).

[39] Frans de Waal, *The Age of Empathy: Nature's Lessons for a Kinder Society* (New York: Harmony Books, 2009).

[40] E. Eger et al., "Familiarity Enhances Invariance of Face Representations in Human Ventral Visual Cortex: Fmri Evidence," *Neuroimage* 26, no. 4 (2005).

[41] Gregory L. Fricchionne, "Separation, Attachment and Altruistic Love: The Evolutionary Basis for Medical Caring," in *Altruism and Altruistic Love*, ed. Stephen G. Post and Lynn G. Underwood. (Oxford: Oxford University Press, 2002), 346-61.

[42] Pierre Bourdieu, *The Logic of Practice* (Cambridge, MA: Polity Press, 1990); James S. Coleman, *Foundations of Social Theory* (Cambridge, MA: Harvard University Press, 1990); Nan Lin, Karen Cook, and Ronald S. Burt, *Social Capital: Theory and Research* (New York: Aldine de Gruyter, 2001); Corwin Smidt, ed. *Religion as Social Capital: Producing the Common Good* (Waco, Texas: Baylor University Press,2003).

[43] Sarah Ferlander, "The Importance of Different Forms of Social Capital for Health," *Acta Sociologica* 50, no. 2 (2007); Jonathan Lomas, "Social Capital and Health: Implications for Public Health and Epidemiology," *Social Science and Medicine* 47, no. 9 (1998); Catherine Scott and Anne Hofmeyer, "Networks and Social Capital: A Relational Approach to Primary Healthcare Reform," *Health Research Policy and Systems* 5, no. 9 (2007); Marshall W. Kreuter et al., eds., *Social Capital: Evaluation Implications for Health Promotion*, Evaluation in Health Promotion: Principles and Perspectives (Copenhagen,: World Health Organization (EURO), 2000).

[44] Zygmunt Bauman, *Globalization: The Human Consequences* (Cambridge: Polity Press, 1998).

[45] See Chapter Three.

[46] Albert Bandura, "Self Efficacy Mechanism in Human Agency," *American Psychologist* 37, no. 2 (1982).

[47] John L. McKnight, *The Careless Society: Community and Its Counterfeits* (New York: Basic Books, 1996).

[48] Geoff Foster, "Study of the Response by Faith-Based Organizations to Orphans and Vulnerable Children: Preliminary Summary Report," (World Conference of Religions for Peace; United Nations Children Fund - UNICEF, 2003).

[49] Gabriel Marcel, *Homo Viator: Introduction to a Metaphysics of Hope*, trans. Martha Crauford (New York: Harper and Row <imprint: Harper Torchbooks/Cathedral Library>, 1962).

[50] He was also the major influence in Jürgen Moltmann's famous theological formulations of hope; see Jürgen Moltmann, *Theology of Hope: On the Ground and the Implications of a Christian Eschatology* (New York: Harper and Row, 1967).

[51] Ernst Bloch, *The Principle of Hope*, trans. Neville Plaice, Stephen Plaice, and Paul Knight, vol. 2 (Cambridge, Massachusetts: M.I.T Press, 1986).

[52] ———, *The Utopian Function of Art and Literature: Selected Essays*, trans. Jack Zipes and Frank Mecklenburg, Studies in Contemporary German Social Thought (Cambridge, Massachusetts: MIT Press, 1988).

[53]Barbara Adam, "Memory of Futures,"(2004), http://www.cardiff.ac.uk/socsi/futures/memoryofthefuture.pdf.

[54] Bloch, *The Principle of Hope*, Vol. 1, 7.

[55] Daniel L. Schacter, Donna Rose Addis, and Randy L. Buckner, "Remembering the Past to Imagine the Future: The Prospective Brain," *Nature Reviews Neuroscience* 8 (2007): 657.

[56] David H. Ingvar, "Memory of the Future: An Essay on the Temporal Organization of Conscious Awareness," *Human Neurobiology* 4, no. 3 (1985); see also ———, "Motor Memory – a Memory of the Future," *Behavioral and Brain Sciences* 17(1994).

[57] Barbara Adam, "Futurity from a Complexity Perspective,"(2005), http://www.cardiff.ac.uk/socsi/futures/Web%20Complexity%20Futures.pdf.

[58] Katherine Marshall, "A Discussion with Reverend Canon Ted Karpf," Berkley Center for Religion, Peace and World Affairs, Georgetown University, Washington DC. Interview Conducted on November 13, 2010. Accessed 27 July 2011, http://berkleycenter.georgetown.edu/interviews/a-discussion-with-reverend-canon-ted-karpf.

[59] David Harvey, *Spaces of Hope* (Berkeley: University of California Press, 2000), 218.

[60] See also Chapter Eight.

[61] See, inter alia, Erik H. Erikson, *Childhood and Society*, 2nd ed. (New York: W. W. Norton & Company, 1963 [1950]); Jean Piaget, *Play, Dreams and Imitation in Childhood* (New York: Norton, 1962); Catherine Garvey, *Play* (Cambridge, MA: Harvard University Press, 1977); Lev Vygotsky, *Mind in Society*, trans. M. Cole (Cambridge, MA: Harvard University Press, 1978).

[62] PN1 is tool for researching psychoneuroimmunology, the interaction between nervous and immune system processes and how they are impacted by thoughts and emotions, a field that offers a potent body of research to be explored in terms of the effects of blessing or intergenerativity; see Michael Irwin and Kavita Vedhara, *Human Psychoneuroimmunology* (New York: Oxford University Press, 2005).

[63] See, for example, Norman O. Brown, *Life against Death: The Psychoanalytical Meaning of History* (Middletown, Conneticut: Wesleyan University Press, 1959); Robert Jay Lifton, *The Broken Connection: On Death and the Continuity of Life* (Washington, DC: American Psychiatric Press, 1979). Also, A. R. Denham, "Rethinking Historical Trauma: Narratives of Resilience," *Transcultural Psychiatry* 45, no. 3 (2008); M. S Micale and P. Lerner, *Traumatic Pasts: History, Psychiatry, and Trauma in the Modern Age, 1870-1930* (Cambridge, UK: Cambridge University Press, 2001); D. S. Schechter, "Intergenerational Communication of Violent Traumatic Experience within and by the Dyad: The Case of a Mother and Her Toddler," *Journal of Infant, Child, and Adolescent Psychotherapy* 3, no. 2 (2004); Michelle Sotero, "A Conceptual Model of Historical Trauma: Implications for Public Health Practice and Research," *Journal of Health Disparities Research and Practice* 1, no. 1 (2006); Cynthia C. Wesley-Esquimaux and Magdalena Smolewski, "Historic Trauma and Aboriginal Healing," (Ottawa, Ontario: The Aboriginal Healing Foundation, 2004).

[64] See ARHAP, "CHAMP/PC**:** *Community Health Assets Mapping for Partnerships in Palliative Care – **F**acilitator's **G**uide*,**"** October 2009, African Religious Health Assets Programme, University of Cape Town.

[65] David Bohm, *Wholeness and the Implicate Order*, Routledge Classics (London ; New York: Routledge, 2002).

[66] ———, *On Dialogue* (London; New York: Routledge, 1996), 98-9.

[67] Kenneth Wailoo, *Dying in the City of the Blues: Sickle Cell Anemia and the Politics of Race* (Chapel Hill: University of North Carolina Press, 2001).

[68] Bohm, *Wholeness and the Implicate Order*, 198.

[69] Ibid., 194.

[70] Ibid., 203.