

Developing Constructive and Creative Attitudes and Behaviors about the Future:
Part Two – Thinking and Imagination

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*"Progress, far from consisting in change, depends on retentiveness...
when experience is not retained, as among savages, infancy is perpetual.
Those who cannot remember the past are condemned to repeat it...
this is the condition of children and barbarians,
in whom instinct has learned nothing from experience."*

George Santayana

This article is the second in a series of papers dealing with the nature of future consciousness and ways to enhance it. The series draws from my book *The Evolution of Future Consciousness*¹ and aligns with a set of workshops on future consciousness I am presently offering at Rio Salado College in Tempe, Arizona. The first article addressed emotion and motivation; this paper deals with cognitive processes relevant to future consciousness, such as memory, thinking, imagination, foresight, planning, problem solving, insight, and wisdom. (The term "cognitive" is used to refer to psychological processes involved in the acquisition and use of knowledge.) All of these cognitive processes impact future consciousness and although they are normal human capacities every one of them can be further developed and enhanced.

Taking my cue from the above quote by the American philosopher George Santayana, learning and memory are the foundation of knowledge upon which future consciousness is built. Strange as it may sound, our capacity for future consciousness derives from our understanding of the past. Learning and memory are cognitive processes that involve the acquisition of knowledge through experience and interaction with the world. Learning and memory provide the informational content upon which mental representations of the world are created. Although what a human has learned and remembers derives from the past, mental representations based upon learning and memory provide the knowledge we use to make predictions about the future. Through learning and memory, we acquire an understanding of the patterns and regularities of change in the world and apply this understanding to anticipating the future. The psychological connection between past and future is supported by the fact that the capacity for recall emerges at approximately the same time in human development as the capacity to predict the future; moreover, the area of the brain

(the prefrontal cortex) involved in recall is the same area involved in making predictions about the future.² Further, as Leonard Shlain argues, bringing evolutionary thought into the picture, "...the entire history of life on this planet could be conceived as a striving by life-forms to attain an ever-greater appreciation of the vectors of space and time."³ Consciousness of the past and the future expand together in both evolutionary history and human development – they are intimately connected and increasing one's understanding of the past benefits one's ability to anticipate the future. The opposite of future consciousness is not focusing one's mind on the past, but rather focusing one's mind on the present. The reciprocal capacities for past and future consciousness embody an expansiveness of temporal horizons in the human mind; presentism is a narrowing of temporal horizons.

Mental representations and learned habits derived from the past can be either negative or positive in their emotional color and adaptive power. What we have learned from the past can both empower us or inhibit us; traumatic experiences, personal failures and frustrations, and mistakes and mishaps can generate fear and avoidance in people, interfering with the capacities to imagine new possibilities in life or try new things; positive experiences from the past involving success, happiness, and joy can motivate people to approach the future with optimism and imagination.

Though the past can serve as a constructive foundation for the present, as the psychologists Karniol and Ross point out, sometimes it is necessary to abandon, reject, or ignore the past in forging a new pathway in life; social revolutions often have this quality of opposition and abandonment of tradition and the past.⁴

One thing we learn from history is that there is always novelty and change; history does not entirely repeat itself. To believe that the future will be exactly like the past is to remain stuck in the past. Although we have the capacity to create mental representations that derive from past experiences, we can transcend the past. Imagination is the ability to create "perceptual like" conscious images and hypothetical realities in our mind without the appropriate physical stimuli being present. Imagination transcends our present physical or perceptual reality and the relative immediate here and now. Although the raw material of imagination involves perceptual experiences and memories, imagination can go beyond what we have experienced. This capacity is highly significant regarding future consciousness. When we imagine the future, we are creating perceptual like representations of events that, at least in some respects, we have never encountered.

I will refer to this ability to imagine the future as "foresight." All adult humans possess the capacity of foresight. We could not intentionally act on conscious future goals unless we possessed some minimal ability to envision the future – seeing in our "mind's eye" our goals and aspirations and extending our consciousness beyond the here and now. Although foresight is a normal psychological capacity, it varies significantly among individuals. We may envision only very short-term goals or we may routinely direct our lives with habitual goals that are rarely questioned or altered. We may put little effort into imagining

alternative goals from those we have followed in the past. We may not think much about changing our goals. The psychiatrist Anthony Reading refers to such habitual goal setting as “passive expectation” and contends that it is motivated by security needs.⁵ If we simply imagine the same goals over and over again and act on them, we could say that our lives are stuck in the past. In general, some people have trouble thinking of what might happen tomorrow, let alone years or decades down the line; some people can imagine only one possible future; other people, and I want to highlight science fiction writers as a case in point, can imagine all kinds of richly defined alternative futures often extending centuries, if not thousands or millions of years, into the future.

There are various benefits associated with developing our capacity for foresight. We nourish our imaginative powers. We expand the universe of our mind. We deal with multiple and alternative possibilities, rather than singular, definite facts. By enriching our minds with new possibilities and expanding the psychological space in which we think, we increase our mental and behavioral freedom. Imagining possible futures is not completely bounded by the perceived constraints of the past and present. What is possible and impossible in the future? Imagining possible futures means breaking out of mental sets. Foresight, which is only limited by the extent of our creative imagination, facilitates open-mindedness and mental flexibility. In fact, it has been argued that foresight and the capacity to predict or anticipate the future is the defining characteristic of human intelligence.⁶ As Friedrich von Hayek states, “It is not the fruits of past success but the living in and for the future in which human intelligence proves itself.”

As Socrates reputedly said, “The unexamined life is not worth living.” And to examine life is to think about it. Future consciousness is intimately tied to the human capacity to think. We not only imagine the future, we think about it as well. Thinking appears to be an internal or mental process involving sequences of images, symbolic representations and, most generally, ideas. Thinking has been described as an internal dialogue and a form of information processing that goes on in the mind. Thinking seems to involve the use of abstractions and concepts. Through thinking we attempt to understand, to solve problems, to make decisions, and to plan.

Critical thinking is the principled evaluation of ideas and beliefs based on standards of reason. Logic, analysis, criticism, and self-reflection are all aspects of critical thinking. Critical thinking is a necessary component in the thoughtful and rational consideration of the future. Everyone engages in critical thinking – we all scrutinize and assess the validity and credibility of our ideas and the ideas of others, but there is great variability in how well the skill is practiced. Critical thinking is a cognitive skill that can be improved⁷ and improving critical thinking skills clearly facilitates the development of future consciousness. Improving critical thinking as it applies to the future enhances the rationality and realism of future consciousness.

When we think about different goals, to various degrees we assess the realistic probabilities of reaching these goals. We assess the pros and cons of the goals and the risks involved in realizing them. To whatever degree we

evaluate and compare different possibilities for the future, we are engaging in critical thinking. When we analyze and clarify our ideas on the future, when we self-critique, and when we consider the logic of our speculations – these are all examples of the role of critical thinking in future consciousness. Within futurist thinking, the distinction is often made between “possible, probable, and preferable futures.”⁸ After imagining possible futures, futurists would argue that we should evaluate and compare these different possibilities, considering which ones are most probable and which are most preferable. Such cognitive activities are examples of critical thinking.

Open-mindedness is a relative quality of thinking and is another significant cognitive dimension of future consciousness. Critical thinking and open-mindedness are connected processes and mutually support each other within future consciousness. Open-mindedness, in fact, is an essential element of critical thinking. Conversely, critical thinking has been defined as the opposite of being closed-minded. Closed-mindedness is authoritarian, dogmatic, and egocentric – highly protective of any perceived threats to the legitimacy of a professed belief system.⁹ Critical thinking necessarily involves comparing different points of view in order to judge their relative validity and consequently supports open-mindedness and works against closed-mindedness. One cannot engage in critical thinking if one entertains only a single point of view, and one cannot fully engage in critical thinking about the future if one entertains only one possible future.

Critical thinking also involves certain intellectual virtues relevant to future consciousness. Richard Paul and Linda Elder list humility (versus arrogance), courage (versus cowardice), autonomy (versus conformity), perseverance (versus laziness), and confidence in reason (versus distrust of reason) as key virtues practiced in critical thinking, all of which are very important in enhancing one’s future consciousness. This point suggests that there is an ethical dimension to heightened future consciousness that shows up in how we think about and approach the future.

Paul and Elder list humility and confidence in reason as two intellectual virtues connected with critical thinking, but these two virtues perhaps on the surface seem contradictory. Yet it is important to see how they are connected, especially as they pertain to future consciousness. Relevant to this point, Patricia King and Karen Kitchener have researched and developed a three-stage developmental model of judgment and thinking.¹⁰ According to them, human thinking begins at an absolutist level, where beliefs about life are firmly and unquestionably held based upon absolute authority figures such as parents or religious leaders. Humans move from this stage into relativism, where based on the growing discovery that different people believe different things, a sense of tolerance emerges and all views are seen as potentially equal in validity and value – truth is in the eyes of the beholder. In some ways relativism is as thoughtless a position as absolutism. From the second stage, humans may progress to a third stage that King and Kitchener call reflective. Reflective thinking acknowledges that there are no absolute guarantees in life, but instead of opting for relativism and tolerance of all points of view, reflective thinking

weighs the pros and cons of different points of view and makes decisions regarding beliefs and actions based upon reason, evidence, and other important considerations. Reflective thinking involves choice and commitment. Reflective thinking therefore shows both an element of humility (I could be wrong), but also an element of thoughtful and considered (rather than dogmatic) confidence.

It seems to me that future consciousness needs to be based on reflective thinking. The future is multiple possibilities and hence inherently uncertain. Absolutist thinking about the future seems naïve and foolhardy. But not all possibilities are equally probable and some possibilities are more desirable than others; the view that anything might happen in the future and, further, that there is no way to judge the right or wrong of these different possibilities, is counter-productive to thinking. We should consider which possibilities seem more probable (based on reason and evidence) and we also should consider which possibilities seem more desirable.

As George Santayana said, "Life is not a spectacle or a feast; it is a predicament." When we turn our minds to the future, either at the personal level or the global level, we are confronted with a set of problems in need of solutions. The arena of future consciousness is populated with problems, puzzles, and questions. Problem solving is therefore an integral part of future consciousness because the future is filled with problems and challenges.

Problem solving is a form of thinking where some challenge, puzzle, question, or difficulty presents itself and a solution or answer needs to be identified. We can become paralyzed and overpowered by the problems facing us, and thus mentally retreat from attempting to understand and solve these myriad problems, or we may attempt to tackle them, hoping to find reasonable solutions.

If we face the future realistically, we confront problems, and if we attempt to develop a constructive attitude toward the future we need to work at the successful solution to innumerable problems. Expanding our problem solving abilities facilitates the development of a realistic and constructive mode of future consciousness.

Decision making is also an essential component of future consciousness. When we make decisions, we are making choices among various alternative goals and courses of action. As noted above, future consciousness opens up various possibilities for tomorrow, but we do not act on all these possibilities. Decision making is the process of selecting among different possibilities. Making decisions and acting on these choices, is clearly a future oriented skill. Conversely, the inability to make decisions – to stand immobile in the face of different opportunities and choices – is a deficiency in future consciousness. If I cannot make choices and act on these choices, I cannot move into the future. People who suffer from depression often can neither make decisions nor act on them.

Planning is another major feature of thinking about the future. Planning is the constructing of a hypothetical series of connected actions that lead to the achievement of a goal. Planning involves linear thinking, the process of thinking through a series of ideas where one idea follows from the previous idea.

Planning involves identifying a sequence of steps and anticipating the consequences of each step along the way. The execution of a plan is also a linear process, where actions proceed in a series of steps. Planning and the execution of plans give human consciousness and behavior a focused and linear direction.

The capacity to plan is a cognitive skill which varies in strength among individuals but some level of planning is necessary in order for us to function in a complex world – most of the important goals of life require some degree of planning. Most behaviors in human life require sequences of actions with multiple steps and short and long-term goals. Imagine an individual who couldn't plan – his sphere of consciousness and action would appear reduced to the immediate present – to simple reactions to present stimuli.¹¹

Planning can vary in degree of rigidity versus flexibility. If the situation warrants it, plans can be very precise and definite in the formulation of steps and goals. Yet the uncertainty and surprises of life imply that rigid plans may often fail. Rigid planning can be seen as reflecting habitual modes of thinking, a need to excessively control life, or as indicative of a simple lack of creative imagination. Because there is uncertainty in life, staying open and flexible in planning is often critical to success. Creative imagination and thinking in planning and re-planning open possibilities to the mind and support the flexibility necessary in life. Flexible planning acknowledges the adventure of the future. Yet the value of articulating some level of specificity in planning should not be minimized. As the futurist Wendell Bell argues "Failing to plan is planning to fail."¹² Planning provides a cognitive sense of focus, direction, and impetus. Planning for the future is proactive and purposeful, rather than reactive or passive. Plans turn a person into a creator of the future rather than a victim of it.

An important distinction regarding cognitive processes in future consciousness is holistic insight versus logical or linear reasoning. When we plan we articulate a series of steps in our mind – we engage in linear reasoning. When we imagine a future, often we have a holistic vision. Linear thinking is analytic – a distinctive series of steps is identified. When we have a vision, we often have the vision all at once – we have a holistic insight. Some would argue that holistic visioning is actually more powerful and effective than linear analytical planning in approaching the future.¹³ But reasoning and imagination often support and enrich each other – we think about our images and intuitions, attempting to evaluate and clarify them and we often work out a plan that is inspired by a vision. The two processes of analytic reasoning and holistic visioning have distinctive features and distinctive strengths. Both cognitive processes are essential elements of futurist thinking; both processes contribute to the mental representations of the future that we create. When people engage in problem solving and decision making about the future, they often use intuition and insight as much as critical and logical thinking.

Finally, in reviewing cognitive processes associated with future consciousness, the general capacity of wisdom should be included for it pulls together many of the capacities discussed above. Wisdom integrates and utilizes critical thinking, creativity, problem solving, and decision making and is

connected with the virtues of courage and humility. Wisdom is the ability to apply general knowledge gained in the past to challenging and novel situations in the present and the future. It is clearly a skill; in fact, more broadly, it is a general character virtue that can be enhanced and developed in life. Wisdom can also be defined as being able to grasp the big picture of reality and use this knowledge for the betterment of life – wisdom has an ethical dimension. Further, wisdom acknowledges the uncertainties of life, balancing conviction with openness and humility; wisdom is not arrogant, but dynamic and growing.¹⁴ The significance of wisdom regarding future consciousness is that “wisdom connects the heritage and lessons of the past with the thoughtfulness, openness, and creativity needed for the future. Wisdom involves an expansive synthesis of temporal consciousness and combats the excessive narrow presentism of today.”¹⁵

At the close of the workshop on thinking and imagination, participants are given a set of questions to consider. Among the questions are:

- Identify both positive and negative memories that influence how you think about and approach the future.
- Self-Assess your intellectual virtues. Where are you strong? Where are you weak? How might you strengthen your weak points?
- How would you enhance your capacity for wisdom?

¹ Lombardo, Thomas *The Evolution of Future Consciousness*. Bloomington, IN: Author House, 2006. See Pages 27 – 44 which includes a table of definitions for all the cognitive processes discussed in this article.

² Reading, Anthony *Hope and Despair: How Perceptions of the Future Shape Human Behavior*. Baltimore, Maryland: The John Hopkins University Press, 2004, Pages 50-58.

³ Shlain, Leonard *Sex, Time, and Power: How Women's Sexuality Shaped Human Evolution*. New York: Viking, 2003.

⁴ Karniol, Rachel and Ross, Michael “The Motivational Impact of Temporal Focus: Thinking About the Future and the Past” *Annual Review of Psychology*, Vol. 47, 1996.

⁵ Reading, Anthony, 2004, Page 2.

⁶ Hawkins, Jeff *On Intelligence*. New York: Times Books, 2004.

⁷ Paul, Richard *Critical Thinking: What Every Person Needs to Survive in a Rapidly Changing World*. Rohnert Park, CA: Foundation for Critical Thinking, 1993; The Critical Thinking Community - <http://www.criticalthinking.org/>.

⁸ Bell, Wendell “Making People Responsible: The Possible, the Probable, and the Preferable”, *American Behavioral Scientist*, Vol. 42, No.3, November-December, 1998.

⁹ Critical Thinking Community - Taking Charge of the Human Mind - <http://www.criticalthinking.org/resources/tgs/taking-charge-of-the-human-mind.shtml>.

¹⁰ King, Patricia and Kitchener, Karen *Developing Reflective Judgment: Understanding and Promoting Intellectual Growth and Critical Thinking in Adolescents and Adults*. San Francisco: Jossey-Bass, 1994.

¹¹ Damasio, Antonio *The Feeling of What Happens: Body and Emotion in the Making of Consciousness*. New York: Harcourt Brace, 1999.

¹² Bell, Wendell *Foundations of Future Studies: Human Science for a New Era*. Vol. I New Brunswick: Transactions Publishers, 1997.

¹³ Quinn, Daniel *Beyond Civilization: Humanity's Next Great Adventure*. New York: Three Rivers Press, 1999.

¹⁴ Sternberg, Robert (Ed.) *Wisdom: Its Nature, Origins, and Development*. New York: Cambridge University Press, 1990; The Wisdom Page - <http://www.isn.net/info/wisdompg.html>.

¹⁵ Lombardo, Thomas and Richter, Jonathon "Evolving Future Consciousness through the Pursuit of Virtue" in *Thinking Creatively in Turbulent Times*. Didsbury, Howard (Ed.) World Future

Society, Bethesda, Maryland, 2004; Lombardo, Thomas “The Pursuit of Wisdom and the Future of Education” *Creating Global Strategies for Humanity's Future*. Mack, Timothy C. (Ed.) World Future Society, Bethesda, Maryland, 2006.