

# The Psychology and Value of Future Consciousness

*“It is not the fruits of past success  
but the living in and for the future  
in which human intelligence proves itself.”*

*Friedrich von Hayek*

## Introduction

What are the main psychological processes involved in our awareness of the future? And what are the values associated with these mental capacities? In this opening chapter I describe the fundamental components and features and the functions and the benefits of future consciousness. I conclude the chapter with a discussion of why humans need to expand further their ability to imagine and think about the future.

As a starting point, let me provide a general definition and description of future consciousness. **Future consciousness** is part of our general awareness of time, our temporal consciousness of past, present, and future. Future consciousness includes the normal human capacities to anticipate, predict, and imagine the future, to have hopes and dreams about the future, and to set future goals and plans for the future. Future consciousness includes thinking about the future, evaluating different possibilities and choices, and having feelings, motives, and attitudes about tomorrow. Future consciousness includes the total set of ideas, visions, theories, and beliefs humans have about the future – the mental content of future consciousness. I define “future consciousness” as the total integrative set of psychological abilities, processes, and experiences humans use in understanding and dealing with the future.

Given this description of future consciousness, it should be evident that future consciousness is absolutely necessary for normal human psychological functioning. We would not be able to perform essential human tasks without an awareness of the future. Without the psychological capacities of anticipation, hope, goal setting, and planning we would be aimless, lost, mentally deficient, passive, and reactive.<sup>1</sup> We would not seem intelligent or for that matter even human without future consciousness.

The capacities of future consciousness, though, come in degrees. As we mature in life our awareness of both time and the future grows; our sense of time is very narrow in infancy and childhood. Even mature adults demonstrate great variability in being able to imagine possible futures, to set goals and plan, and to live with an “eye on tomorrow.” Some people are more oriented to the present or immediate future; others are more “future oriented.” Also our attitudes, modes of thinking, and frames of mind regarding the future can vary from the negative,

counter-productive, or apathetic to the optimistic, positive, and active. Finally, there seems to be significant cultural variability in future consciousness. Some cultures are more future focused while others are more present or past focused.<sup>2</sup> In describing the main components of future consciousness and their importance in normal psychological functioning, I will also identify ways to improve these capacities and attitudes and demonstrate how enhancing our future consciousness benefits us in innumerable ways.

### **The Perceptual Awareness of Time**

*“The past is consumed in the present and the present is living only because it brings forth the future.”*

*James Joyce*

Future consciousness is built upon the most fundamental of psychological processes; it is built upon the perceptual awareness of time. Though it is frequently stated or assumed that perceptual awareness has no sense of past or future or the passage of time, our sense of time is actually grounded in perception. Perceptual consciousness provides the beginnings of consciousness of time, of past, present, and future. Through perception we are aware of duration, stability, and change; of becoming and passing away; of patterns, rhythms, and forms of change; and of an experiential direction to time.

Basing my argument on the ideas of James J. Gibson, one of the most significant figures in the history of the psychology of perception, the perception of time is based upon the perception of events in the environment. We do not perceive empty or abstract time as such; rather we perceive dynamic events and the temporal relationships between events. We perceive motions and changes in the motion of objects; interactions and collisions between objects; changes in shapes and surfaces; sounds and sequences of sound; patterns of behavior in nature and animals; and natural and periodic rhythms. Further, the perception of time is relative rather than absolute. Just as the perception of space is relative, where the location and motion of objects are seen within the context of a spatial framework of the ground and surrounding objects, the perception of time is relative to a framework of temporal events. We perceive events and temporal relationships between events; shorter events are experienced in the context of longer events; before and after, longer and shorter durations, slower and faster, persistence and change, and the pattern and structure of changes in the environment are all relative qualities within our perception of time. As everyone can attest, the subjective experience of time clearly seems to depend on what is happening and how much is happening within our lives. Contrary to Kantian philosophy and the Newtonian idea of absolute objective time, Gibson argued that perceptual time is not some independent reality that flows within consciousness – there is no perceptual experience of empty time.<sup>3</sup> If nothing happened (or changed) in the environment, there would be no perception of time.

The perception of time is grounded in the perception of events – of things happening and the relationships among these events.

Based on this idea that our fundamental mode of awareness of time is anchored to concrete events and the relationships among these events, I would propose that the entirety of our experience and understanding of time, even including higher forms of knowledge and thinking such as memory and anticipation, is relative to a framework of real, recollected, and imagined events. We have no sense of, nor can we imagine empty time. Psychological time is structured, filled, and delineated by events, real and imagined. Hence, expanding and enriching our consciousness of time requires building up our mental framework of experiences, ideas, and principles through which we understand and experience time. We can't just simply expand our consciousness of time without anchoring it to a mental framework of events and patterns in time. Learning history, reflecting on events in our own personal lives, studying contemporary trends and patterns of change, and exploring different possible futures, both personal and general, provide the substance and psychological framework required for developing our temporal consciousness. Our understanding and consciousness of time is contextual and relational and grows through adding detail and content and organizing the pieces into ever expanding and intricate maps of time in our minds.

For Gibson, the most fundamental distinction made in the perception of events is between relative persistence and relative change. The most basic experiences of time are seeing things change and seeing things stay the same. In fact, persistence and change are reciprocally distinguished in perception. Perceptual persistence and change are relative, rather than absolute. Things are experienced as changing relative to things experienced as staying the same and things are experienced as persisting relative to things changing. Hence, at the most basic level, perception provides our mental anchor and framework for the reciprocal experiences of continuity and change.<sup>4</sup> Without the reciprocal experiences of persistence and change, there would be no sense of past or future, or the sense of a connection of past, present, and future.

If awareness of time is built on the perception of persistence and change, then there is always a sense of temporal duration within the perception of time – an experience of continuance. The experiences of persistence and change can only occur across a duration of time; neither persistence nor change can be defined at any one instant of time. Something persisting means continuing across some extent of time, and change means some transformation across some duration of time. Without the perception of persistence and change, and consequently duration, consciousness would be a set of disconnected and momentary experiences. But because the perception of time is built upon the relative experiences of persistence and change, it is not reducible to a set of disconnected instances.

Animals and humans perceive persisting objects, surfaces, and spatial forms as relatively stable. Without this fundamental sense of stability within the environment, adaptive and coordinated behavior would be impossible. Perception also reveals certain regular patterns of change, such as characteristic

and repeatable forms of action in same species behavior and natural phenomena critical for survival. This overall awareness of a relatively stable world provides a sense of order to the flow of awareness and a framework in which to act. There is an order, pattern, and stability inherent in perceptual time that is necessary for ordered and patterned behavior.

Humans and animals also see dynamical transformations, such as objects breaking, moving, growing, or shrinking. In particular, regarding the perception of change, there is a clear awareness of things ending and new things beginning – of “becoming” and “passing away.” The experience of change, of becoming and passing away, brings life and animation to our consciousness and provides the foundation for our awareness of the past and the future. Without experienced change – of becoming and passing away - there would be no discriminative sense to the notions of past and future and no sense of a passage of time. And also, to reinforce an earlier point, the sense of passage of time – of things retreating into the past and things emerging in the future – is relative and anchored to experienced events. The passage or flow of time is not an empty or content-less experience.

One popular theory of the perceptual awareness of time is that perception is limited to the immediate present. This theory assumes that there exists a conscious present which is an instant – a line, edge, or a point in conscious time. Within this theory the present has no duration. The futurist, Edward Cornish, for one, has argued for this theory of “duration-less present.”<sup>5</sup> Anthony Reading, in his book *Hope and Despair*, also strongly argues that perception, in and of itself, does not yield an awareness of time, but only produces a series of “snapshots” of the present.<sup>6</sup> This presumed reality of an absolute immediate now separates what was - the past - from what will (may) be – the future. Within this model, perception is reducible to a set of disconnected conscious instances.

Yet as I have argued above, since perceptual time is built upon persistence and change, this view of perceptual time can not be correct. Persistence and change are temporal relationships and can not be defined within a single instant. Moreover, how could a state of consciousness possess no duration? Can the fundamental units of our consciousness of time possess no time? As Richard Morris argues, whatever the conscious “now” is, it is not an instant.<sup>7</sup> Further, as a critical source of evidence, the sensory organs and perceptual systems of both animals and humans do not react to instantaneous stimulus values, but rather relationships, temporal and spatial, between stimuli. In fact, the most critical dimension within physical stimuli for sensory receptors is change, and temporal change, obviously, is a property that can only exist across durations of time.<sup>8</sup>

Introspecting on human consciousness, as clearly evinced in perceptual awareness, we do not experience some momentary frozen “snapshot” of time or a sequence of such frozen instants; we experience flow, continuance, and duration. We experience temporal events or patterns that have duration and interconnect with each other in a nested framework of shorter and longer temporal events.<sup>9</sup>

The theory that perceptual awareness is limited to a hypothetical instantaneous present assumes that the conscious present can be clearly separated from our awareness of the past and the future, but there is no clear conscious dividing line between past, present, and future. Attempt to distinguish the present from the immediate past or the unfolding future. The present flows into the past in one direction and the future in the other.<sup>10</sup> Perceptual consciousness extends both into the past and into the future because we perceive change and persistence across time. Conscious time is durational and relational. We see "becoming" and "passing away" – the perceptual support for our consciousness of the future and the past. We also see objects and structures persisting – providing a sense of continuity of past, present, and future. The experience of time within perceptual consciousness is not of an instantaneous present, but rather of continuation and transformation across time.

It has been argued that human infant consciousness, presumably uncontaminated by memory or anticipation, appears limited to the immediate present. Infant consciousness is pure perception.<sup>11</sup> But the counter-argument is that infant consciousness is simply limited and restricted regarding the perception of persistence and change, rather than being totally devoid of any sense of duration and connection of events. The infant does not live in an instantaneous present or a chaos of disconnected moments. Once the sense-organs and perceptual systems mature and develop sufficient neuronal-synaptic connections, the human infant clearly shows the capacities to attend to change and interesting stable objects.

Another significant feature of our perceptual awareness of time is that we experience time as asymmetrical with a direction. Time metaphorically flows. We experience relative persistence, but we also experience succession, and the experience of succession goes in a direction. If one were to envision time as a line or sequence of events, then our experience of time moves in one direction across this line. It is sometimes said that we experience time always moving forward into the future and never backwards into the past. Time is always experienced as moving forward into what we call the future. This direction to temporal consciousness is often referred to as the **subjective arrow of time**.<sup>12</sup>

Without an experienced direction to time, there would be no way to distinguish between becoming and passing away, or more generally between past and future. The past is what "has been" relative to the present and the future is what "will be" relative to the present. What "will be" lies ahead on the arrow of time, and what "has been" lies behind. Past and future are a relative distinction defined by the direction of the experienced arrow of time, or stated in the converse past and future define the direction. Thus if one were to lose the sense of the past, one would necessarily lose the sense of the future, for the sense and experienced direction in time would disappear.

There are, of course, cyclical and persistent features to our experience of time, but there is an overall sense of linearity and directional flow. The future is to a degree different from the past. This asymmetry within perceptual experience clearly undercuts the notion that temporal consciousness is built upon momentary instants for there is no meaning that can be given to this experience

of direction within the confines of an instant. A sense of direction or passage implies an experience of duration and an experienced change across this duration.

The temporal extent of perceptual consciousness may not be that extended in scope, but it is the experiential beginning and foundation upon which higher and more complex levels of temporal awareness, involving thinking and imagination, are built. As I have noted, it is a common belief that animals, human infants, and even many carefree adults live primarily in the “immediate here and now,” but at best this is a relative distinction, for perceptual awareness, a capacity shared by animals, infants, and all adult humans, provides a window into extended time, of past, present, and future.

### **Emotion, Motivation, and Future Consciousness**

Emotion, along with perception, is a second basic form of awareness that contributes to future consciousness. Emotion is a relatively constant feature of all human consciousness. Even though the intensity of experienced emotion varies across time, we are always feeling some emotion or set of emotions. All mammals, including humans, possess a clearly defined area of the brain, specifically what is referred to as the limbic system, which is responsible for producing a wide variety of emotions and basic motivational states, such as sexual arousal, fear, pleasure, aggression, and anxiety. This emotional area of the brain exists in rats, cats, rabbits, and humans and all other mammal species.<sup>13</sup> Long before the emergence of humans and the capacity for abstract and hypothetical thinking, animals exhibited emotional responses, such as fear and excitement to anticipated negative and positive events in the environment. The emotional life of animals is probably not as rich as that of humans,<sup>14</sup> but animals do have emotions, and often these emotions make reference to events beyond the present. Emotions, such as fear, hope, and anxiety clearly have a future focus – such emotions are anticipatory and are not simply reactions to the “here and now.”<sup>15</sup>

Reading and other psychologists distinguish between emotions that have a present-focus and emotions that are “prospective” or anticipatory. Happiness and sadness, presumably, have more of a present focus, as emotional reactions to what is happening right now. Hope, as a positive prospective emotion, and fear, as a negative defensive prospective emotion, are future focused.<sup>16</sup>

One could argue that there is always an emotional dimension to future consciousness. When we anticipate what is to come, we have feelings as well as thoughts and images. Feelings or emotions provide the positive and negative color of future consciousness. The future is felt as bright or dark, exciting or depressing. Emotions fall into two general categories - pleasurable and painful. Pleasurable emotions about the future draw us; painful emotions about the future repel us. Reading goes so far as to argue that emotions provide the basis for assessing the value of different imagined futures and evaluating different goals. Without emotion, one future would be as good or bad as the next. It is through

our emotional feelings about different possible futures that we determine what is desirable or preferable.<sup>17</sup> Hence, any comprehensive approach to the future and the development of future consciousness must address this dimension of the human mind. We feel the future as much as think it.

In his study of future consciousness, Reading highlights hope and despair (or depression), two of the primary prospective emotions. He defines hope as the energizing and pleasurable emotion connected with the anticipation of future goals and events that will enhance our well-being. Conversely, depression or despair is the painful and debilitating emotion connected with the loss of anticipation of positive future events or the anticipation of destructive future events.<sup>18</sup> Furthermore, hope also entails a positive realistic appraisal that one can achieve envisioned goals in the future, whereas depression or despair is associated with a sense of impotence about creating a better future. Hope, as an emotion, motivates people into action; despair de-motivates. Hope and despair come in degrees of intensity, with mania being the extreme form of hope and clinical severe depression with suicidal impulses being the extreme form of despair. Suicide is the abandonment of the future.

Based on these definitions of hope and despair, a couple important points should be highlighted. Although hope and despair are emotions, there is a cognitive dimension to both feelings. This cognitive dimension is thought. There are thoughts concerning one's capacity or lack thereof to realize future goals that are an integral part of the resulting emotions. Thoughts influence emotion. Conversely, emotion impacts cognition. For example, both depression and apathy (the lack of feelings about the future) depress thinking and imagination. In contrast, it is hope, an emotion, which energizes and stimulates higher levels of future consciousness; our capacity to imagine and think about future possibilities is severely hindered without the feeling of hope. Finally, we should note that hope motivates. As an emotion, it energizes people into planning and taking action to realize their goals. For Reading, hope is the engine and the mechanism that has driven the human species to progressively create the world that we live in. It is the foundation of the growth of civilization.

From the above discussion, we see that emotion and motivation overlap and interconnect. To use two other examples, fear and lust are emotions, but also motives. Motives are the causes of and reasons for behavior, and sometimes motives are emotions. When we are afraid, we run, freeze or even attack; when we feel lust, we approach and attempt to entice the object of desire toward us.

Motivation is another basic component of future consciousness. Motives make reference to the future in that motivated behavior, such as approach or avoidance, is directed either toward some desirable end in the future or the avoidance of some undesirable end in the future. Most human behavior is motivated, and generally we describe such motivated behavior as purposeful. Acting with purpose involves intentional behavior to achieve some anticipated end in the future, even if it is only the short-term future of the next few moments. Hence all purposeful or motivated action involves a form of future consciousness.

This general capacity to act with purpose and regard to the future is a normal feature of all adult human minds.<sup>19</sup>

Motives often take the form of explicit conscious goals. Goals are psychological realities and involve mental images and thoughts (“cognitive representations”), invariably enriched with emotional color, about intended or desired states in the future. Action motivated by goals is referred to as goal-directed behavior. Goals can be either short-term or long-term. As the psychologists Karniol and Ross note, there is significant variability across individuals in setting long term versus short term goals. Some people limit themselves to setting mostly short term goals, while other people have the capacity to identify and pursue more long term goals as well. Goals can be either negative or positive; we could envision something desirable that we want to attain, or something aversive that we want to escape from or avoid. There is individual variability on this parameter as well; some people conceptualize the future more in terms of positive things to approach or realize; other people conceptualize future goals primarily in terms of things to avoid or escape from.<sup>20</sup> Although humans seem to show significant differences in the number, type, and intensity of goals in life, at the very least everyone demonstrates momentary goal-directed behaviors throughout the day.

Given the pervasiveness of goals and purpose in most of human behavior, the argument has been made in psychology that a person’s conceptualization of the future is a fundamental determinant in explaining human action. Many psychologists, such as Freud and Skinner, have focused on how the past determines present human behavior (and there is clearly some truth in this position for goals do reflect past learning), but at a conscious level, when people act they are usually acting with the future in mind. Hence, one can argue that most human behavior is in fact determined by future consciousness – the sense of desired goals for the future.<sup>21</sup>

Goals reflect the influence of the environment, learning, social upbringing, inner biological needs and desires, emotions, and active and creative thought processes. Karniol and Ross emphasize that goals are a result of values; the goals that a person pursues depend upon that person’s values, such as wealth, love, truth, or professional success. The sociologist and historian of the future, Frederick Polak, makes a related point regarding images of the future; according to him, the images of the future that a society creates (which in essence are envisioned ideals or goal states) strongly reflect the values of that society. Within the history of both psychology and philosophy there has been ongoing debate regarding the source of values (and in particular, moral values). Some argue that biological inheritance determines values, others argue that culture creates values. Still others, such as Reading, suggest that it is emotion and feelings of pain and pleasure that are the basis of values, while some contend that reason, at least, should be the foundation of values. Later, in this chapter I will examine the connection of ethics and future consciousness, but for the moment we should at least note that values and value driven motivation (including ethics and morals) play a central role in determining the goal content of future consciousness.<sup>22</sup>

As one measure of the development of future consciousness, we can ascertain the degree to which a person has identified, nurtured, and acted upon goals for the future, and in particular long term or novel, creative goals. One can enhance the development of goals and goal-directed behavior, and consequently future consciousness, through educational and therapeutic efforts (environmental influences) and self-directed introspective efforts to formulate, clarify, and expand an individual's personal goals. I will expand on this topic further throughout this chapter.

There is an interesting reciprocal connection between present psychological states and anticipated goals for the future. Positive and negative emotional states in the present influence the creation, development, and sustainability of goals for the future; happiness in the present amplifies and strengthens future goals; sadness weakens goals. Reciprocally, cultivating and maintaining positive goals for the future enhances present well-being, whereas the anticipation of disaster and misery in the future brings a person emotionally down in the present.<sup>23</sup>

Just as emotion has an impact on thinking and imagination, so does human motivation. In fact, the argument has been made that it is goals that set thinking in motion. Without motivation, we would not think – there would be no reason to.<sup>24</sup> As many philosophers and psychologists have argued throughout history, all thinking has an agenda – there is a goal behind all acts of thinking. To whatever degree this theory of thinking is correct, all human thinking has an inherent future focus – thinking serves the realization of goals.

In the next section I focus on human cognition and thinking, but in describing how emotion and motivation are important features of future consciousness, it has become clear that thinking and imagination are intimately connected with emotion and motivation. Regarding human emotions, as we have seen, hope and depression contain a cognitive component. Other emotions such as happiness, sadness, anxiety, and fear do so as well. Regarding human motivation, although goals are connected with basic biological needs and feelings of pleasure and pain, goals are also strongly influenced by thinking. We feel our goals but we also think out our goals. We articulate and rationalize our goals; we formulate our goals using concepts, beliefs, reasoning, and language. Reading, for one, strongly emphasizes the role of “cognitive representations” in the formation of goals.

Within the psychological study of motivation and emotion, one central finding over the last few decades is how strongly thinking affects both motivation and emotion. The cognitive theory of emotions states that thought and emotion are not totally distinct states of mind, and what we think, to a great degree, determines how we feel. Events in the world trigger interpretations, which in turn trigger emotions. If a person interprets an event using negative concepts, such as “awful,” “disastrous,” or “dangerous,” the person will feel negative emotions such as anxiety, fear, or depression.<sup>25</sup> Another important factor is whether a person believes that he or she can do anything to influence the anticipated situation. If a person believes that he or she can influence the future and perhaps prevent some possible misfortune (which is a thought), then the person does not

feel as depressed or fearful as a person who believes that he or she is powerless (which is also a thought).<sup>26</sup> (Recall that hope includes the thought or belief in individual power over the future, whereas depression includes that belief in powerless over the future.) So the emotions we have, which make reference to the future, are influenced by thoughts we have of these anticipated events and our beliefs about our own capacities to deal with these anticipated events.

Further, thoughts about the future and one's capacity to influence the future don't simply affect emotions; such thoughts also affect motivation and goal directed behavior. How we think and what we think about the world around us strongly influences what we desire and consequently what goals we strive for. As noted above thoughts create negative and positive interpretations of objects, events, and our goals for the future. In turn, our evaluative thoughts set certain behaviors in motion, determining what we avoid and what we seek.<sup>27</sup> Positive and uplifting interpretations of future goals and our abilities to realize these goals produce enthusiastic and tenacious action. On the other hand, depressed people, who have hopeless and helpless thoughts about themselves and the future, do not simply feel bad; they have marginal or negative goals, they do not act except to avoid, and often they have no desire to act in any constructive way. They are behaviorally frozen in the face of a fearful and hopeless future.

Hence positive and negative thoughts impact the fundamental emotional-motivational dimension of hope versus depression and fear. **Hopefulness** can be defined as having positive images, thoughts, and feelings of the future and one's abilities. Positive dreams for the future bring passion, enthusiasm, and excitement to life – they fuel and direct our motivational energy. Hope is essential for happiness and psychological health. Conversely, depression can be defined as a sense of **hopelessness**,<sup>28</sup> and is generated when individuals have negative images, thoughts, and feelings about their future, or no images at all, and feel helpless to change anything.

Depression, in fact, could be seen as a disorder of future consciousness – a state where future consciousness has collapsed into nihilism and negativity. Depression can be brought on through fear of anticipated negative events in the future. Just as significantly, apathy can arise when the future looks empty of promise. If people fail to imagine something, negative or positive, the energy goes out of life. When people have nothing to look forward to, they psychologically and physically wither and die.

Negativity and apathy about the future are often connected psychologically. A loss of mental imagery and energy often occurs because of fear of the future, either because of its perceived uncertainty or because the images have become too negative, anxiety producing, or even terrifying. We suppress, repress, or ignore what frightens us. Our conscious minds go blank. We become apathetic because we are negative and scared.

Just as thinking influences emotion, as I noted earlier, emotion influences thinking. Positive emotions, such as joy and happiness, enhance creative and opportunistic thinking and promote a win-win mindset and openness to others and the world. Negative emotions, such as anxiety and depression, produce more defensive and critical thinking, a win-lose mindset, and increased self-

absorption in thoughts and images.<sup>29</sup> Negative emotionality seems to prime the human mind to seeing what can go wrong in the future, whereas positive emotionality does the reverse, facilitating thinking of what can go right and how to achieve it.

The futurist Michael Zey is especially concerned about the loss of positive images of the future in modern times, and the replacement of the positive with either negative visions or the total lack of any images. We have moved from hope to depression and apathy. Zey is not alone in this assessment of our contemporary depressive and apathetic mindsets regarding the future.<sup>30</sup> As Best and Kellner point out in their in-depth study of Postmodernism, the positive and hopeful images of the future generated in the period of the Enlightenment and the Industrial Revolution have come under critical attack over the last century, often being replaced by disappointment, despair, and nihilism regarding the promises and prospects of modern civilization.<sup>31</sup> The historian Robert Nisbet, in a similar vein, argues that in the last century, Westerners have lost faith in the positive image of progress.<sup>32</sup> Zey believes, as do many other futurists, that modern society should find new positive images of the future to create a renewed sense of hopefulness and counteract the prevalent sense of negativity and nihilism in our world.<sup>33</sup> In the last section of this chapter, I will discuss this issue further.

We should keep in mind though that negative images of the future per se do not necessarily cause apathy or depression. If we believe we are incapable of doing anything to alter these future negative events then we get depressed and exhibit a sense of **helplessness**.<sup>34</sup> Negative images could stimulate us into action in order to influence the future in a different, more positive direction. But, just as likely, negative images of the future may generate immobility or avoidance. A sense of helplessness, which is a state of mental and behavioral paralysis, is an essential feature of depression and nihilism.

Within the psychology of motivation, a common distinction is made between **approach** and **avoidance motivation**. Approach motivation produces behaviors that move toward a perceived positive object, whereas avoidance motivation produces behaviors that move away from a perceived negative object. People exhibiting positively motivated behaviors are approaching desirable objects; people exhibiting negatively motivated behaviors are avoiding aversive objects. Positive approach behaviors are associated with feelings of hope, enthusiasm, and elation; negative avoidance behaviors are associated with fear, anxiety, and depression. Even if negative imagery of the future can stimulate individuals into action, the behaviors are avoidance motivated. A life of attempting to avert or avoid disasters is a life governed by fear and anxiety. It makes much more sense from a psychological point of view to create and identify positive or desirable objects to move toward than to continually expend time and energy avoiding or escaping from perceived negative realities.<sup>35</sup> Mental health, in fact, can be defined as the degree to which one's behavior and personality centers around approach motivation and hope, and conversely mental illness can be defined as the degree to which a person's life revolves around fear, avoidance, and escape.<sup>36</sup> Mental health can therefore be described as a positive,

approach-oriented mode of future consciousness, and mental illness can be described as a negative, avoidance-oriented mode of future consciousness.

Noelle Nelson and Wallace Wilkins are two psychologist/counselors who have looked at the emotional and motivational effects of beliefs about the future. Wilkins argues that the future is possibilities rather than certainties. We should focus on the positive future possibilities; such positive anticipations will increase the quality of life now. Wilkins argues that these positive anticipations, which need to be acted upon and not simply imagined, do not even need to be accurate. A positive mindset about where we are heading and the future consequences of our actions makes us feel better today.<sup>37</sup> Basically Wilkins is stating that an approach-motivational mindset about the future generates psychological well-being and mental health in the present. Reading makes a similar point regarding how hope creates a positive and pleasurable emotional state in the present.

Nelson distinguishes different types of beliefs about the future and their effects on mental health and personal success. According to Nelson, fear of the future produces negative emotional states and inaction. (A negative mindset about the future produces an emotionally unpleasant state of consciousness in the present.) But for Nelson, to uncritically think the future will be wonderful is unrealistic and will invariably lead to frustration and disappointment. Nelson, instead, argues for what she terms a “Winner” mindset about the future. A “Winner” mindset about the future involves acknowledging both the negative and positive possibilities of tomorrow, and believing that we have some power and choice in determining which possibilities are realized. Hence, perceiving the risks, but also seeing that one has some control over what will come to pass, generates good mental health and emotional well-being. As I previously noted, a sense of personal empowerment over the future positively affects one’s emotional state. Conversely Nelson argues that believing that external forces beyond our control determine the future, or that the future is set, generates apathy and other negative emotional states. Thoughts, and particularly helpless thoughts about the future, instigate negative feelings about the future.<sup>38</sup>

In general, the particular ideas and beliefs individuals have about the future affect their emotional and motivational states. Zey and others are concerned about positive and negative beliefs about the future, but another important distinction noted in the above discussion is between realistic and unrealistic beliefs about the future. For Nelson, unrealistic beliefs lead to frustration and other negative emotional states. (Reading too includes in his definition of hope the factor of realistic beliefs regarding the achievement of goals.) Of course, given the uncertainty of the future, the issue of what is realistic and what is unrealistic is often debatable. Still, considered and thoughtful beliefs about the future stand a better chance of generating happiness and fulfillment in life.<sup>39</sup>

Despair and depression versus hope and enthusiasm about the future leads us into another important feature of motivation that impacts future consciousness. The famous personality psychologist, Abraham Maslow, separates all human motivation into the two general classes of security needs

versus growth needs.<sup>40</sup> I would state that people exhibit the complementary or oppositional motives for security and adventure. Security motivation includes the needs for stability, certainty, and safety. The desire for adventure includes the needs for change, surprise, and risk. All people possess both sets of motives, yet it appears that there is considerable variation among people in the relative strength of each set of motives.<sup>41</sup> This variability in motivation impacts people's feelings, attitudes, and approaches to the future.

First, let us look at stability versus change. People psychologically require a degree of stability in their lives, as well as some degree of change. Too much stability and people become bored; too much change and people become anxious and confused. Stability provides mental order and identity in our lives; change provides excitement and a sense of growth and learning. Yet, some individuals appear highly inflexible and entrenched in old habits - they may revere tradition and the past. They are hooked on stability. Other individuals seem to embrace what is new and different, forever changing the wardrobes of their mind and their lifestyle. Cultures can show variability on this trait, as well. At an ideological level, one main area of disagreement in contemporary approaches to the future is over stability versus change. The popular contemporary writer Virginia Postrel refers to this ideological clash as between "stasis and dynamism."<sup>42</sup> Many people want the future to be like the past; many people want the future to be different.

Connected to the needs for stability and change, are the needs for both a level of certainty about life as well as a need for surprise, openness, and unpredictability. Again there are individual and collective differences in these two motives and this variability shows up in another fundamental clash in attitudes to the future. Some approaches to the future highlight certainty and commitment while other views acknowledge and even revel in the unpredictability of life. For example, the most popular position espoused in the World Future Society is that the future is possibilities and that this uncertainty about the future is a positive thing. Because the future is open, we have some choice, and consequently, self-empowerment over what will occur in the future. In contrast, fundamentalist religious views emphasize the certainty of the future. There are many religious systems which describe in considerable detail what the future will bring and followers of these belief systems are absolutely convinced that these prophecies are unequivocally correct and will come to pass. Although all humans require some degree of certainty, from an epistemological perspective we are probably not justified in believing that we are certain about anything in the world, in particular the future, and from a psychological point of view the excessive need for certainty reflects insecurity, closed-mindedness, and a lack of critical thought.

People often refuse to anticipate or plan for the future much because the future is to some degree unpredictable, and where there is uncertainty, there is the possibility of frustration and disappointment. Because of the uncertainty of the future, for many people, to different degrees, the future is something to fear. People often retreat to the past or hold on to the present because it is more tangible, certain, and determinate. Peter Russell argues in *The White Hole in Time* that people have a psychological attachment to time, viewing their personal

identity as bound up with what happens in time. Therefore, people fear time because they fear for their very survival. The future may change them or even terminate their existence.<sup>43</sup>

Finally, let us consider the polarity of safety versus risk. If the future is to a degree uncertain, to open one's mind toward the future, acknowledging the uncertainties, and yet set goals, plan, and act, involves realistic risk and consequently courage. We realize that what we hope for, what we plan for, what we attempt to accomplish may not come to pass. But, of course, where there is the possibility of failure, there is also the possibility of growth and success. Certainty provides mental safety as well as security, and people of course desire some level of safety or else they would feel excessively fearful and anxious. Yet, too great a concern for safety breeds defensiveness and withdrawal. In fact, a strong need for safety both reflects and further magnifies feelings of insecurity. When people avoid risk, it is because they are insecure. If they rigidly and desperately protect and try to preserve their stable and certain realities they further exacerbate their own insecurities.<sup>44</sup>

Howard Bloom takes a very interesting perspective on risk-taking. According to Bloom, humans, as well as various animals, form pecking orders or hierarchies of dominance. Further, humans and animals alike compete with each other to topple those individuals higher on the pecking order and move up in the social hierarchy. As a result, pecking orders are frequently in a state of change and the reshuffling of relative positions. Bloom contends that individuals or groups that are moving up in a pecking order are greater risk takers, while individuals or groups who are losing status and position are conservative and take few risks. Hence, the degree of risk taking is a sign of ongoing success or failure in one's movement within a pecking order. Bloom's argument would seem to connect with the idea that avoidance of risk reflects insecurity; those individuals or groups who are moving upward feel less insecure than those individuals or groups who are falling within a dominance hierarchy. Yet, if Bloom is correct in his general theory that life necessarily involves competition, then to become increasingly conservative and less risk-taking amplifies one's insecurity and decreases the chances of future success.<sup>45</sup>

In summary, our consciousness of the future and our ability to formulate and act on goals for the future is strongly influenced by our needs for security and adventure. Both sets of needs exist in all of us, but if our security needs become too powerful, we limit, if not totally repress, our openness to the future. Curling into a ball or burying one's head in the sand in the face of *the* unavoidable elements of risk, uncertainty, and change in life produces phobias, fears, paranoia, and depression. Of course, one shouldn't be foolhardy, Pollyannaish, impulsive, and thoughtless in life. The key is some sense of balance between security and adventure.

So, in summary, emotion and motivation frequently make reference to an anticipated future, a future that is colored and charged with human feelings, positive and negative images and goals, and cognitive interpretations of reality and the self that determine how we act and what, if anything, we strive for in the future. Further, our emotional states influence the type of thinking and motivation

we engage in regarding the future. Positive emotional states are associated with approach motivation and constructive hopeful thinking; negative emotional states are associated with avoidance motivation and defensive thinking.

### **The Cognitive Dimension of Future Consciousness**

The term “cognition” refers to all those psychological processes involved in the acquisition, storage, use, and creation of knowledge – cognition is knowing. Cognitive processes include perception, learning, memory, imagination, conceptual and abstract understanding, thinking, and language. Psychologists often distinguish between “lower” and “higher” cognitive abilities. Animals seem to clearly possess certain lower order cognitive abilities such as perception, learning, and rudimentary memory, but it is only the most advanced mammals, and in particular, humans, who demonstrate the higher cognitive abilities to think and use language.

Although since the beginnings of the study of psychology there has been ongoing debate and controversy over to what degree even higher mammals are able to think, to abstract, or to use language, it seems clear that relative to the rest of the animal kingdom, these capacities are greatly amplified in humans. It is a common argument that these significantly evolved higher cognitive abilities in humans have vastly expanded our capacity for both past and future consciousness.<sup>46</sup> Through thinking, imagination, and symbolic language humans can transcend the confines of perception and consider abstract, hypothetical, and imaginary realities; we can mentally represent to ourselves and communicate to others events distant in time, conceptualize and describe the grand panorama of history, and formulate plans of action that extend far into the future. Future consciousness, as well as historical consciousness, is immensely enriched through thought, imagination, and language.

Reading is one writer who emphasizes the importance of higher cognitive capacities in future consciousness. Within his theory, awareness of the future requires the capacity to create symbolic mental representations of the world. According to Reading, only humans can achieve this. (Humans only begin to show this capacity around two years of age.) Symbolic mental representations require the emergence of both the capacity for recall and the rudiments of human language. Both future and past consciousness begin to appear and expand when children apply their internal mental representations to organizing and making sense of the world. Future consciousness, in particular, is the ability to use internal mental representations to predict and understand the future.<sup>47</sup>

One important point that Reading highlights is the significant connection between learning and memory and the capacity for future awareness. Learning and memory are cognitive processes that involve the acquisition of knowledge through experience and interaction with the world. For Reading, learning and memory provide the foundation – 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. Reading notes that recall emerges at approximately the same time as the capacity to predict the future, and that the area of the brain (the prefrontal cortex) involved in recall is the same area involved in making predictions.<sup>48</sup> Hence, to return to a couple of points made earlier, consciousness of the past and the future are intimately tied together, and increasing one's understanding of the past benefits one's ability to anticipate the future.

Although I believe that Reading draws too sharp a distinction between the capacities of perception (which he sees highly limited to the here and now) and higher forms of cognition involving thinking, language, and abstraction, I think that he is correct in emphasizing the importance of mental representations based upon memory in greatly expanding the human capacity for future consciousness. Reading, in fact, believes that the essence of human knowledge lies in the related capacities to form mental representations based on learning and being able to apply these representations to interacting and adapting to the world. Other writers on human psychology have also presented similar arguments, contending that human intelligence basically consists of the capacity to make predictions of the future based on the past.<sup>49</sup>

There is one important cautionary note that should be mentioned regarding the connection between memory and future consciousness. Although memory (and ideas of the past) may serve as a foundation for anticipating the future, future consciousness often extends beyond memory and the past. In fact, to believe that the future will be like the past is to remain stuck in the past. Experiences from the past, such as traumas and frustrations, can inhibit any new thinking about the future. Yet, one thing we learn from history is that there is always novelty and change; history does not entirely repeat itself. The future will not be the same as the past. As Karniol and Ross note, individuals at times will abandon, reject, or ignore the past in attempting to create a new and different reality for themselves in the future.<sup>50</sup> As I will discuss below, creativity is an essential component of future consciousness. Humans can create mental representations that include novel features that are not entirely simple reflections of memory and learning.

Putting the pieces together, the cognitive dimension of future consciousness, which begins with perception, is greatly amplified through learning and memory. Of special note, mental representations of reality and patterns of change begin to emerge as we observe and interact with the world around us. These mental representations go beyond perception since we can mentally recall and represent within our minds realities that presently do not exist. We can represent events, real and hypothetical, in the near and distant past and in the near and distant future. And although these mental representations may derive from learning and memory, we have the ability to create novel representations that transcend the past.

One key dimension of mental representations is imagination. Imagination is the capacity to create "perceptual like" conscious images and hypothetical

realities in our mind without the appropriate physical stimuli being present. We can imagine colors, shapes, sounds, tactual sensations, and more complex perceptual realities sitting in the dark and in the silence without our senses being stimulated at all. Imagination transcends our present physical or perceptual reality and the relative immediate here and now.<sup>51</sup> Although the raw material of imagination involves perceptual experiences and memories of these experiences, imagination can go beyond what we have experienced. We can imagine realities we have never experienced, and 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.

Although imagination need not pertain to the future – we may engage in pure fantasy or we may have images of the past – we often do create images of the future. I will refer to this ability to visually imagine the future as “**visual foresight**” or simply “visioning.” All adult humans possess the capacity of visual 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 the ability to imagine goals is a normal psychological capacity, it varies significantly among individuals. We may not engage and evolve this capacity as much as we can and should. For one thing, 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 attempting to imagine alternative goals from those we have followed in the past. We may not think much about changing our goals. Reading refers to such habitual goal setting as “passive expectation” and contends that it is motivated by security needs.<sup>52</sup> 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.

Also, independent of goal-setting, the capacities of imagination and in particular, imagining different scenarios for the future varies greatly among people. 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. In imagining the future, we are asked to think hypothetically, to visualize possibilities, to repeatedly pose the question “What if?” Developing our visual foresight amplifies our powers to envision new and more complex goals - goals that reach further out into the future. Even if we simply engage in speculative visioning about the future, with no thought as to what practical or personal relevance such visioning entails, we nourish our imaginative powers. We expand the universe of our mind. Further, by enriching our minds with new possibilities and expanding the psychological space in which we think, we increase our mental and potential behavioral freedom. Exercising foresight builds

the power of imagination and enhancing the power of imagination expands the human mind.

In using our imagination to envision and consider future possibilities, creativity often comes into play. Human creativity is the production of novel ideas, inventions, and behaviors. Although imagination is built upon memories of real perceptual experiences, imagination can be creative. We can combine together various elements of experience into novel images and scenarios. There are many ways to nourish creativity in people;<sup>53</sup> but exercising and developing foresight is definitely one of the best. 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.

Another feature of future consciousness that is connected with imagination and creativity is **possibility thinking**. As noted above, envisioning the future is not limited to one possible reality. Although many people envision only one possibility when they imagine the future, perhaps because they believe in fate or fatalistic determinism, or have a great need for security, one can with minimal effort entertain all different types of possible futures. Are we headed toward an amazing new world or are we headed toward disaster? Will computers dehumanize us, or will they bring us together? Will we travel into space? Will we colonize the stars? Or will we remain earthbound? Will life disappoint us, or will we realize our dreams? We may be limited to one definite present reality or past, but when we turn our mind to the future, the universe unfurls into many possible trajectories. We deal with multiple and alternative possibilities, rather than singular, definite facts. Possibility thinking, which is only limited by our creative imagination, facilitates open-mindedness and mental flexibility.

In contemporary future studies literature possibility thinking is often referred to as **scenario building**. Through brainstorming and various collaborative activities, futurists attempt to create different detailed scenarios for the future and consider the implications of each scenario, good and bad.<sup>54</sup> Also, as noted above, science fiction provides a rich array of alternative possibilities for the future, and science fiction writers, like futurists, consider the positive and negative aspects of these different visions.

In considering possibility thinking and scenario building, it is important to note that other higher cognitive processes come into play besides imagination. As Reading points out, a key element behind the cognitive power of mental representations in humans is symbolic consciousness. Through the learning of language we develop a symbolic system for representing and thinking about the world. This system allows us to form abstractions and conceptualize various complex relationships about reality. When we think about the future using mental representations we not only create images but we also formulate hypothetical descriptions and interpretations of the future using this symbolic system of language. We engage in internal dialogue and symbolically think about what we are envisioning in the future. We use abstractions, represented through symbolic language, in organizing and making sense out of the future.<sup>55</sup> Thinking about the

future therefore involves, at the very least, a combination of imagination and symbolic consciousness.

The capacity for thinking is one of the key capacities of the human mind. Throughout history various definitions have been proposed regarding the nature of thinking. 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. Our thinking processes can be either relatively creative or relatively habitual. There are different types of thinking, for example: Analysis, where we mentally divide something into its component parts; synthesis, where we combine together and organize a set of ideas; and reasoning, where we draw conclusions from premises and assumptions. Having looked at imagination, foresight, and symbolic consciousness, let us examine some other key dimensions of thinking that are involved in future consciousness.

**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. Although critical thinking can be applied to almost all aspects of human life, and is therefore not exclusively linked to future consciousness, it 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 as with other cognitive skills, there is great variability in how well the skill is practiced. Critical thinking is cognitive skill that can be improved<sup>56</sup> 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 and options, to various degrees we assess the realistic probabilities of reaching different goals. We assess the pro's and con's of different goals and the risks involved in realizing our various objectives. 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.”<sup>57</sup> 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. From a critical thinking perspective, nothing is taken for granted. Ideas are not simply accepted as unequivocally true or dismissed as

unequivocally false. Critical thinking, in fact, 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.<sup>58</sup> Critical thinking necessarily involves comparing different points of view in order to judge their relative validity and consequently supports open-mindedness and works against close-mindedness. One cannot engage in critical thinking if one entertains only a single point of view.

Two other higher cognitive skills and forms of thinking that are components of future consciousness are **problem solving** and **decision making**. Again, although each of these thinking skills can be applied to areas of life that do not directly pertain to the future, both skills are often invoked in thinking about the future. Further, both skills can be improved, thus facilitating the development of future consciousness.

Humans engage in problem solving all the time. 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. Problem solving has been studied extensively by psychologists, and although people often rely on critical thinking to solve problems, there are also strong components of insight and intuition that come into play in human problem solving. People show various degrees of creativity as well as closed-mindedness, bias, and habitual thinking in solving problems.<sup>59</sup>

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. How do we save enough money for retirement? How do we fulfill our life dreams and personal aspirations? How do we learn to live together peacefully without war and violence? How do we control and manage our resources and our environment in order to provide for everyone, yet without destroying and depleting nature? The arena of future consciousness is populated with problems, puzzles, and questions. 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.

Problem solving is therefore an integral part of future consciousness because the future is filled with problems and challenges. 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. As noted above, people apply, to various degrees, critical thinking in evaluating these different possibilities. But people also use intuition, hunches, and gut

feelings in making decisions. Regardless of what methods are used, 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 can not 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.

Both problem solving and decision making are selection processes. We are faced with different possibilities and need to identify the best solution – the best course of action. Imagine what the human mind would be like if we did not possess the abilities to solve problems or make decisions. We would stay stuck in previous habits of behavior and instinctual responses – a clear impoverishment of future consciousness, as well as a lack of self-initiative and creativity. Problem solving and decision making probably evolved in humans as ways to more intelligently and constructively deal with the future.<sup>60</sup> They are cognitive processes that address the conscious universe of possibilities.

Another major component in thinking about the future is **planning**. Goal setting often leads to planning – the identification of actions and steps needed to reach a goal. Planning is a higher cognitive skill involving conditional and hypothetical thinking. Conditional thinking involves “if...then” sequences of thought – if I do X, then what do I believe will follow? Hypothetical thinking involves considering possibilities rather than actual realities. In planning, possible actions and anticipated results are imagined and considered. Consequently, planning also 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. A plan may involve only one step and its anticipated result, or many steps, with many sub-goals along the way. Planning and the execution of plans give human consciousness and human behavior a focused and linear direction.

Although planning and the execution of plans are both linear processes, people may develop plans by working forwards in their minds from their present state to the desired end state, working backwards from the desired state to their present state, or some combination of the two. Also, in the execution of plans, people may initiate a series of steps and at any place along the way, based on feedback from the environment, revise their plan, and go back to the beginning and modify their actions.<sup>61</sup>

As with goal setting and foresight, planning how to reach a goal is a cognitive skill that by definition is a form of thinking about the future. It involves the identification of steps necessary to achieve a desired end in the future. The identified steps in a plan all refer to future events. As with all the other cognitive processes identified above, people demonstrate various levels of competency at planning, but this ability can also be enhanced through practice, learning, and education. Clearly it is a skill that develops in people as they mature from infancy to adulthood – infants seem incapable of planning. Over the last few decades

numerous educational programs have been developed to teach individuals and organizations “strategic planning.”<sup>62</sup>

In general, the capacity to plan is a cognitive skill that 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.<sup>63</sup> There would be innumerable types of behaviors closed off to him or her. Hence, learning to plan is necessary in order to function and survive in our world – without this capacity we would not quite seem human.

Planning is a form of future consciousness that is of obvious value to human life, but the capacities for creativity and cognitive flexibility need to be brought into the picture to get a more balanced and accurate view of the nature and benefits of planning. Planning and the implementation of plans can vary in degree of rigidity versus flexibility.

Plans can be very precise and definite in the formulation of steps and goals. Sometimes it is important to tenaciously stick to a plan, where exactitude of implementation is critical or where personal tendencies to waver or give up need to be countered.

Yet a fundamental problem with rigid planning and implementation is that it does not acknowledge the unpredictability of the future. If everything goes as anticipated and is entirely predictable, there is no problem, but reality rarely behaves in a totally predictable fashion. There are often unintended or unanticipated consequences to the actions we take.

The uncertainty and surprises of life imply that rigid plans will often fail. Further, rigid planning and implementation can be seen as reflecting a need to excessively control life, or as indicative of a simple lack of creative imagination. Rigid planning and inflexible action often reflect habitual modes of thinking and behavior as a way to preserve the past rather than to create a future.<sup>64</sup>

At the opposite end, plans can be general and flexible. One can sketch out some main steps in the plan and avoid getting too specific. One can revise plans based on the contingencies of life. In fact, flexibility is often an essential part of planning - to consider various possible challenges and to be prepared for them with alternative strategies if the situation warrants it. 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.

The value of articulating some level of specificity in planning should not be minimized or discounted though. Even if plans get repeatedly revised along the way, if plans aren't formulated, usually nothing much happens. Of course, there is chance and luck in life, but "chance favors the prepared mind." As the futurist Wendell Bell argues "Failing to plan is planning to fail."<sup>65</sup> Planning provides a cognitive sense of focus, direction, and emotional 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.

The philosophical study of knowledge will help to further clarify this point regarding flexibility versus specificity in the nature of planning. Within philosophical epistemology the two main theories of knowledge in Western intellectual history are **empiricism** and **rationalism**. Empiricism is the view that knowledge comes through observation, experience, or sense perception. Rationalism is the view that knowledge comes through reason and logic.<sup>66</sup> If one followed a rationalist approach to planning, one would think out all the steps ahead of time and then act. If one followed an empiricist approach, one would experiment and try out different possibilities, and through a process of trial and error move toward one's goal. Everyday human knowledge invariably involves some combination of the two – of reasoning and trial and error observation. When we engage in planning and goal directed behavior, we also show varying degrees of both reasoning and observation. If we were to think plans out, without any testing of our ideas, and then attempt to follow through on our plans regardless of consequences, we would be demonstrating extreme rigidity and the need to control. If we did not think out any plan of action and simply felt our way through life, we would be totally passive and reactive. Empiricism and rationalism need to be combined in planning and acting.

On one hand, life seems to be a combination of reasoning, valid foresight, and personal control, and on the other hand, accidental occurrences, trial and error, and surprises, both good and bad. Hence the future involves the dual elements of adventure and risk, and determinism and personal control. Because of this combination of uncertainty and control, planning for the future should involve a balance of focused and determined action and openness and flexibility. We are neither pawns to a capricious fate nor gods totally in control; we are somewhere in between. The key is a cognitive balance.

The concept of cognitive balance also applies to the dual processes of imagination and reasoning in thinking about the future. When we plan we articulate a series of steps in our mind – we engage in linear reasoning. When we imagine a future, we have a 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 visioning is actually more powerful and effective than linear analytical planning in approaching the future.<sup>67</sup> One of the powers shared by both religious mythology and science fiction is the creation of vivid and compelling visions of the future. 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. As mentioned above, 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. Wisdom is the capacity to apply general knowledge gained in the past to challenging and novel situations in the present. 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 is connected with numerous other psychological abilities. It integrates and utilizes the capacities for critical thinking, creativity, problem solving, and decision making and is connected with the virtues of courage and humility. 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.”<sup>68</sup>

As can be seen, future consciousness in humans is intimately connected with a variety of higher cognitive processes and skills. The power, complexity, and expansiveness of future consciousness are greatly amplified through the higher cognitive capacities of thinking, language, creativity, insight, planning, and wisdom. Although all these cognitive capacities are normal abilities in the mature adult mind, people show great variability in the execution of these skills and consequently variability in the level of development of future consciousness. We can enhance our capacity for future consciousness by developing these general cognitive skills, or working in the reciprocal direction, by consciously focusing on the future, through imagining multiple possibilities, thinking out new goals, critically evaluating probabilities, or planning courses of action, we can strengthen all these general cognitive capacities of the human mind.

### **Summary: Cognitive Processes of Future Consciousness**

Empirical Observation and Perception	The ability to perceive the environment and understand observable facts or patterns of facts.
Memory and Learning	The acquisition of knowledge and development of mental representations based upon perception and interaction with the environment.
Imagination	The ability to create mental images and hypothetical “perceptual like” realities in our minds.
Foresight	The ability to imagine or envision the future.
Goal Setting	The ability to identify and conceptualize goals of action.
Possibility Thinking	The ability to imagine and conceptualize multiple or alternative hypothetical future realities.
Scenario Building	The activity of imagining and describing detailed, complex, and realistic hypothetical future realities.
Language and Symbolism	The ability to represent reality and communicate through a symbolic system of abstractions.
Thinking	A conscious mental activity of information processing and the creation and manipulation of ideas, often involving an internal

	dialogue.
Critical Thinking	The ability to apply principles of sound and valid reasoning to logical inference, the comparison and evaluation of different points of view, and the development and expression of theories and hypotheses; thinking about thinking—the opposite of egocentric thinking.
Open-Mindedness and Creativity	The ability to be flexible, to evaluate with fairness other points of view besides one’s own view, and to be receptive to ideas that are different from standard beliefs. The production of novel ideas, inventions, and behaviors.
Problem Solving	A form of thinking where some solution or answer to a question, problem, or challenge is identified and successfully enacted.
Decision Making Planning	The ability to make a choice among alternative goals and courses of action and follow through on the choice. The ability to construct a hypothetical series of connected actions that lead to the realization of an identified goal.
Hypothetical Thinking	The ability to imagine, think about, and evaluate possibilities.
Holistic Insight	The ability to understand the “big picture”—to see how the details of a situation fit together—frequently experienced in a rather sudden flash of comprehension.
Wisdom	Integrative and expansive temporal consciousness applied to present and future challenges and problems

### **The Holistic Nature of Future Consciousness**

Perception, emotion, motivation, purposeful behavior, learning, and higher cognitive abilities all contribute to future consciousness. Our consciousness of the future is multi-dimensional. Further, these psychological processes interact in creating and supporting future consciousness. The components of future consciousness form an interdependent and interactive whole. As one important example of interaction among different psychological processes *involved in future consciousness*, I have already described some of the ways that thinking in general, and thinking about the future in particular, both influences and is influenced by motivation and emotion.

Frederik Polak, in his classic study of the historical development of *The Image of the Future*, emphasizes the multi-dimensional quality of awareness of the future. As he states, many psychological elements contribute to thinking about the future, including reason, faith, emotion, intuition, and imagination. Further, the power and draw of images of the future created by various cultures throughout history is not entirely due to rational considerations. Aesthetic, emotional, and spiritual factors also contribute to the influence futurist images have on people’s behavior.<sup>69</sup>

The holistic nature of future consciousness reflects the holistic nature of the human psyche. The fundamental dimensions of human psychology, including thought, emotion, motivation, behavior, and self-identity, form a reciprocal system. Each capacity is a relatively distinct psychological reality, yet they are all clearly interdependent and form a unified whole.

The noted psychologist Albert Bandura, in his theory of **reciprocal determinism**, captures many of these psychological interdependencies.<sup>70</sup> He believes that the fundamental variables of human psychology – mind, behavior, and the environment – interact in a circular and mutually dependent fashion. Mind (through thoughts, emotions, and desires) initiates behavior, which in turn affects the environment, which in turn has an effect back on our thoughts and emotions through the perception of what happens in the environment when we act. Humans continually modify their thoughts, emotions, or motives as a consequence of observing the results of their actions in the environment. Because thoughts and emotions guide behavior, which in turn affects the environment, the mind has an influence on the environment, and reciprocally, the environment, through its effect on perception, has an effect back on the mind.

Reading adopts a similar model in describing the relationship between hope and action. Hope directs and energizes future oriented behavior toward the realization of some goal. Based on feedback from the environment, a person may modify his behavior, change his thinking, or even alter the goal. If the result of future oriented behavior leads to the realization of a future goal, or some intermediate step toward the goal, a person's sense of hope increases. If future oriented behavior does not lead to either the goal or a step toward the goal, hope and motivation decline. If efforts toward realizing a future goal are repeatedly frustrated and a person concludes that there is no realistic hope toward realizing the goal, depression and despair increase. Reading describes this whole process in terms of circular feedback loops, where mind, behavior, and environmental consequences impact each other, either raising or lowering a person's level of hope.<sup>71</sup>

At the most general level, the person and the environment form a reciprocal whole.<sup>72</sup> The person and the environment mutually affect and determine each other. When we engage the environment in attempting to create a positive future for ourselves, the future unfolds as a result of a reciprocal interaction between ourselves and the world around us. The actual results of our plans reflect the input of the environment as well as our states of mind and behavior. We are neither a passive victim of the environment nor totally in control of it. It is more accurate to say that we are participatory in the creation of our future and that the future will involve a co-evolution of both ourselves and the world around us. What happens in our lives is an interaction effect.

Since how we approach the future affects all aspects of the human mind, theories of the future should be evaluated regarding their overall effect on human psychology. For example, even if technological visions of the future promise increased economic productivity and intellectual augmentation, what impact would such a future have on human personality, human emotion, and social interaction? When we assess the various methods for envisioning and thinking

about the future, such as science fiction, myth, religion, science, or reason, we should consider how different approaches engage the fundamental dimensions of the human mind. Because the whole human mind participates in the creation and experience of the future, any viable approach to the future needs to address all the fundamental psychological dimensions.

### **The Self and Future Consciousness**

Self-identity – who we are – necessarily contains an element of future consciousness. People cognitively represent their personal identities as “narratives” or “stories.” To use an expression of the neurophysiologist Antonio Damasio, we understand and describe ourselves in terms of an “autobiographical self.” The object of self-consciousness is not a static thing; rather we are an ongoing story we tell ourselves. Interestingly, we are both the narrator and the main character in this story; we are both subject and object; the creator and the thing created.<sup>73</sup> The narrative of the self includes both the past and the future – of significant events and themes that summarize our life journey to the present, as well as hopes and aspirations for our future. The narrative of the self gives temporal coherence to our lives and our consciousness, connecting and relating past, present, and future.<sup>74</sup> We have a sense of how the main events in our life are related through the narrative of the self. How have we come to where we are and where is this ongoing journey heading in the future? As the creator of this narrative, we interpret and sculpture the meaning and substance of the journey and consequently who we are.

Reading highlights the important connection between the self and one’s conception of the future. According to Reading, the narrative of the self, involving both past and future, gives consciousness sequential coherence. Without the narrative of the self, consciousness would be fragmented. In fact, he argues that true consciousness only arises in humans who can conceptualize and mentally represent a narrative self. Animals and human infants possess “sentience” but not true consciousness. Hence, for Reading, all true consciousness involves an ongoing sense of self-consciousness, and since self-consciousness is narrative in form, all consciousness involves an integrated consciousness of both past and future. Adding to Bernard Baars’ model that consciousness is like a theatre, Reading contends that consciousness is more like an interactive TV, where the self is both what is being monitored as well as manipulating what is coming up on the screen. Further, because as humans we have a conscious sense of self, we also have a sense of choice and free will. We see ourselves as agents able to make choices among different possible futures. Consequently, the conscious experience of choice and free will ultimately depends upon future consciousness; the narrative self entails a sense of future consciousness and without a narrative self there is no sense of choice. Also, the idea of having choices clearly involves a sense of the future for choices refer to different possible actions in the future.<sup>75</sup>

One particular theme that is highly significant in our self-narratives is the relative strength of **optimism** and **pessimism** in how we view the story of our

lives. The psychologist Martin Seligman, who has studied optimism and pessimism extensively, argues that the belief that one can positively affect the future is critical to optimistic thinking. Seligman defines optimism as a way of thinking involving the beliefs that misfortunes are relatively short-lived, limited in their effect, and due to external circumstances. Pessimists not only have negative images about the future, they believe that they cannot positively affect any change in what is to come. They believe that they are doomed to failure. They *feel* hopeless and helpless. Seligman defines pessimism as involving the beliefs that misfortunes have long-term and pervasive effects and are the fault of the individual. Following a cognitive theory of motivation and emotion, Seligman contends that the emotional state of depression is primarily due to pessimistic thinking. One other general point that he brings up is that both optimism and pessimism are self-fulfilling prophecies. Consequently, each mode of thinking gets reinforced since it tends to lead to the very results it anticipates. The particular attitude, whether it is optimism or pessimism, forms a reciprocal loop with the evolution of one's personal environment. Beliefs lead to behaviors that produce environmental effects which confirm and strengthen the beliefs. (Reading describes this self-reinforcing process as the "snowball" effect of hope and depression.) Seligman sees optimism and pessimism as "habits of thought" which obey the laws of reinforcement – they are reinforced through confirmation. In his mind, based upon a great deal of accumulated experimental evidence, these habits of thought can be changed through re-learning, education, and training.<sup>76</sup>

Optimism and pessimism come in degrees and the same person can possess elements of both attitudes in their assessment of themselves and the possibilities of their lives. Polak argues that cultures show combinations of optimism and pessimism in their images of the future. Further; the degree to which a person or a culture exhibits an optimistic or pessimistic attitude depends upon fluctuating factors both within the person or culture and within the environment. A string of successes or failures can raise or lower the levels of optimism and pessimism. Still, as Seligman argues, optimism and pessimism depend upon certain inner habitual ways of thinking and interpreting reality; hence, a general optimist will interpret success or failure differently than a pessimist and react differently. Seligman and Reading argue that optimism and pessimism have both positive and negative values associated with each attitude; optimism energizes and is self-fulfilling, but pessimism attunes people to the possibilities of danger. Reading sees the need for balance and flexibility in optimism and pessimism within an individual.<sup>77</sup>

In this review of optimism and pessimism, we see again that beliefs about the self are an essential element in a person's attitude toward the future. Pessimists believe they are impotent and feel depressed about the future; optimists believe they have power to positively affect the future and feel hopeful about the future. It should also be noted that such beliefs and emotions pertaining to the self affect behavior. Optimists act as if they believe they are going to succeed; pessimists act as if they believe they are going to fail.

Bandura has studied the beliefs people have about their own “self-efficacy” and its affect upon behavior.<sup>78</sup> “**Self-efficacy**” is defined as the belief in one’s ability to achieve one’s goals. People show different degrees of “self-efficacy.” A person with low self-efficacy believes he is relatively powerless with respect to the future, whereas a person with high self-efficacy believes he has a high level of control or influence on the future. High self-efficacy is the opposite of *perceived* helplessness. People with high self-efficacy set realistic goals and persist in achieving these goals. People with low self-efficacy set unrealistic or minimal goals and are very likely to give up as soon as challenges or difficulties arise.

Within many forms of psychotherapy, including cognitive therapy, the goal is to help people to see that there are alternatives to the negative future scenarios they foresee for themselves and that they have some power to change the direction of their lives. Opening the mind to the possibilities of tomorrow and raising one’s perceived self-efficacy in realizing positive possibilities, in essence, is what psychotherapy is all about – it is a form of changing and expanding one’s future consciousness. Psychotherapy often involves helping clients to set new goals, articulate plans, and monitor follow through on these plans, all forms of future consciousness. Psychotherapy also works toward helping people to think differently about themselves – to see themselves as more capable or open to change than they previously believed. Psychotherapy facilitates changes in a person’s self-narrative.

Acting on the future proactively alters one’s self-identity. The future is a challenge, necessarily involving an element of risk and uncertainty, and when people meet challenges rather than running from them, they increase their self-confidence and self-esteem. Expanded foresight, goal setting, planning, and goal-directed behavior give a person a sense of increased control and self-empowerment. Developing one’s capacity to think about the future – to identify and seize opportunities and tackle challenges - improves one’s self-image and self-confidence.

Howard Bloom expresses a popular sentiment that people need challenges in life in order to feel happy. He would also add the related factors of a sense of control over one’s life and a determined commitment to goals as essential to happiness.<sup>79</sup> As psychological research has shown, stress in life seems to have more to do with feeling out of control than having too much to do. Hence, following this argument, psychological well-being depends upon a person’s self-image and actions with respect to the future. Embracing the challenges of the future with a sense of self-efficacy and commitment to success generates happiness.

Another important connection between the self and future consciousness pertains to approach versus avoidance motivation. As Karniol and Ross report, within self-discrepancy theory it is hypothesized that individuals behave in accordance with two different types of visions of a future self. The first vision is referred to as the “ideal-self” which includes positive hopes about a future self that a person attempts to approach and realize, such as career and personal goals. The second type of future self is the “ought self” which includes future

states that a person wants to avoid, such as unethical or criminal ways of life. The “ideal self” consists of “do’s” and the “ought self” consists of “don’ts”. This distinction corresponds roughly to Freud’s idea of the ego-ideal (the “ideal self”) and the conscience (the “ought self”). Karniol and Ross report that each type of future self seems to have different effects on motivation, performance, and behavior. Just as people can view the future as filled with positive outcomes or negative ones, people can see their future selves in a similar manner.<sup>80</sup>

The evolutionary biologist John Stewart has also examined the connection between future consciousness and self-identity.<sup>81</sup> Stewart, who comes at the issue of psychological development from an evolutionary rather than therapeutic perspective, suggests that individuals can become increasingly self-evolutionary. According to Stewart, since people are self-conscious, they possess the ability to assess and evaluate their beliefs, attitudes, and habits and consider to what degree their personal traits are of benefit to them for the future. As Stewart notes, many personal traits may have had value in the past but may not have value for the future. (For example, Walter Truett Anderson notes that at one time, having a set character was seen as a psychological strength, but with increasing change in our world a more flexible self – a multifaceted self – might be of more benefit.<sup>82</sup>) For Stewart, self-evolving individuals assess the future value of different possibilities of their own psychological make-up and attempt to direct their psychological growth toward qualities that will serve them best in the future. In essence, Stewart is suggesting that people can and should increasingly apply possibility thinking to their own selves and evaluate which possibilities seem most desirable for the future – the identification of “preferable selves” – and attempt to modify their personal identities accordingly.

Stewart argues that throughout natural history life has evolved an increasing capacity to adapt to time frames farther and farther out into the future. In general, he believes that evolution moves from adapting to local and immediate concerns (the here and now) to adapting to more expansive spatial and temporal parameters. He sees the most primitive life forms and states of consciousness as present focused, whereas human evolution and the rise of modern civilization have generated longer and wider spheres of temporal consciousness. Throughout evolution and history humans see increasingly farther out in space and time.<sup>83</sup> Interestingly, this same evolutionary trend is mirrored in the psychological development of individual humans. Infants are described as exceedingly egocentric, functioning primarily in the immediate here and now; as we mature we broaden our perspective in both space and time.<sup>84</sup> Stewart sees the future evolution of the self as following a similar pattern of increasingly expansive perspectives – the self will take longer and longer views of its own development and evolution.

People undoubtedly show significant variation in terms of the extent of their temporal and spatial consciousness. But as I have argued, all normally functioning human adults are conscious of the future to some degree and how they see the future impacts their psychological states in many ways. Following Stewart and the ideas of many futurists, expanding the range of our temporal

consciousness regarding our own self-identity into the longer-term future has many beneficial effects.

As Reading notes, people search for both an explanation of their existence and a purpose for their life.<sup>85</sup> In essence, we want to connect our identity to a past and to a future. Our lives and our personal identities will acquire greater coherence and meaning the more we see ourselves in the context of greater expanses of time, both past and future. A self that focuses on relatively immediate needs and short-term results is correspondingly a more fragmented identity – a series of relatively disconnected episodes and states of consciousness without any overall direction or integration. In fact, it is one of the great struggles in life to keep ourselves focused on our goals and fundamental priorities without being distracted or lost within the chaos of the present. Taking a long term view of personal identity and our lives and working toward the realization of this vision brings greater coherence to the self.

### **The Integrative Dimension of Future Consciousness**

There is an integrative dimension of future consciousness. Raising our awareness of the future teaches us that nothing exists in isolation, and that we must learn to look at the whole and not just some individual part or slice of reality. In the academic and professional worlds, a particular topic or discipline is usually studied and practiced in isolation of other aspects of life, such as in biology, business, medicine, law, psychology, or economics. The academic and professional worlds breed specialization.<sup>86</sup> Yet in life all these different areas interact with one other. Changes in human psychology and mental health affect economics and vice versa. Biological and medical advances affect society and social growth. Just as the human mind involves the reciprocal interaction of many psychological processes, our world is a vast reciprocal network of institutions, cultures and belief systems, and social and technological forces. Our future world will be the result of many interactive variables. In imagining the future, we are stimulated to different degrees into both **integrative** and **interactive thinking**.

Science fiction, which creates complex and realistic scenarios about the future, is one avenue for understanding the interactive quality of the evolution of the future. A good science fiction novel must discuss the environment, social institutions, belief systems and transformed cultures, as well as advances in technology and science and consider how all these variables interact and intermesh to produce a future reality.

Yet to move in the opposite direction in time, one of the most dramatic and effective ways to see the interactive quality of all the dimensions of human life is through the study of history. History, in fact, has much to offer in understanding the future and when people really begin to ponder the possibilities of the future they almost always begin to think more about history. As noted earlier, future and past consciousness are interconnected. Patterns and trends, which are a basis for making predictions about the future, are revealed through history. The full scope of human existence is revealed through the reading of general histories of

humankind. History expands a person's temporal consciousness. History reveals both relative persistence and change – it reveals temporal patterns. Finally, history provides innumerable examples of the causative relationships across time – how events trigger other events and so forth. But in particular, because history expands our temporal awareness and reveals the richness and scope of change through time, we begin to see more clearly how the different elements of human life actually are interdependent. We find that varied and multiple aspects of human life have changed across time and we see that the changes are due to the effects all components have on each other. History shows a dynamic interactive tapestry – a tapestry that we can take as one central source of information for thinking about the future.<sup>87</sup>

Though thinking about the future expands our consciousness, it also brings the abstract down to earth; it personalizes our world. If science, technology, business, or world ecology changes, what impact will such transformations have on our lives? We often fail to notice in the present how big events set the tone of our existence. Yet if we were to alter the fundamental parameters of our civilization, it would be much more apparent how we are connected to the grander scheme of things. Imagine a world transformed and then imagine oneself in it. Significant worldwide developments in the future, such as the pervasive application of genetic technology to medicine, reproduction, and food production will impact our personal lives in numerous ways.<sup>88</sup> Thinking about how the world may change in the future connects us to our world.

Expanding our future consciousness stimulates us into considering how changes in our world are going to impact us and what we need to do to take advantage of these changes. We may be motivated to become more flexible and creative.<sup>89</sup> If one follows the evolutionary logic of Stewart, ever-increasing flexibility has been a fundamental direction in life throughout the history of evolution. Stewart believes that the more we extend our perspective out into the future and the more we self-evolve in anticipation of the future, the better our chances for survival as a species.<sup>90</sup> As change accelerates, this “evolutionary imperative” will become increasingly necessary in the years and decades ahead.

### **Ethics, Values, and Virtues**

Future consciousness is intimately connected with values and ethical thinking. As Wendell Bell has argued, part of futurist thinking is ethical in nature. When we imagine a better world for tomorrow, we are moved to consider and define what is “good.” What is the good life? What makes a good society? These questions are ethical in nature. When we consider alternative possibilities, each of which could be realized depending on our actions today, we are considering different choices for tomorrow. And when we ponder which choice to make, the basis of our decision making is values, and in particular, ethical values. Not all human values are ethical or moral – values are ideals that could apply to any aspect of life. Ethics pertains to those values that are concerned with human conduct, human character, and human affairs in general. Still when we consider

preferable futures, ethics invariably is part of the picture, and hence thinking about preferable futures is a form of ethical thinking, for what is preferable regarding human behavior and human life is defined in terms of some set of ethical values.

The future is a testing ground for our values. Through thinking about the future, we might choose to revise our values. We might decide that if we were to pursue some present direction based on some value, e.g., “it’s good to have many children,” that the future consequences would be quite undesirable. We may need to rethink the realistic and future implications of our values.<sup>91</sup> Can we imagine societies or individual lives built on different ethical principles? Would we find them desirable or realistic? Within the context of the future, we can discuss the present and our contemporary values. We can envision ideal future worlds and compare them to our present world, observing where we fall short of such ideals and how we could go about improving our world.

In the most general sense all ethical decision making is a form of future consciousness. Ethics provides principles to guide us in making choices. The capacity to see that we have choices entails that we are aware of different possibilities in the future and that we can select which of these possibilities is most desirable.<sup>92</sup> When we make decisions and choices based upon our ethics and values, we are considering what course of action to take in the future. Also when we think ethically, we consider consequences and consequences are anticipated events in the future. How will one’s actions impact the future? As noted earlier, all purposeful behavior involves future consciousness, and behavior motivated by ethics is a form of purposeful behavior. One of the most influential theories of ethics in Western philosophy is the Consequentialist Theory, developed by Jeremy Bentham and John Stuart Mill, which defines the ethical value of actions in terms of the future benefit and costs of actions.<sup>93</sup> From this philosophical viewpoint, ethics unequivocally pertains to the future.

Ethics also comes into future consciousness when we consider future human generations. As I noted earlier, the ongoing evolution of future consciousness is part of a more general process of expanding consciousness from egocentricity and the here and now to ever widening spheres of awareness in space and time. The farther out we think in time, the more other humans come into the picture. What responsibilities do we have toward our children and their lives tomorrow? These are ethical questions. We need to consider possible future developments in society, business, and science in order to help them become better prepared as adults. In fact, whenever we think about how to raise our children we are obviously thinking about the future, as well as thinking about ethics.

What about the future generations of all humanity? Should we consider the future consequences of our present actions?<sup>94</sup> Are we not ethically responsible to all of our descendants? For example, should we be squandering our present resources and robbing future humans of the same opportunities for a good life that we have enjoyed?<sup>95</sup>

As one final point on ethics and future consciousness, I would argue that the evolution of future consciousness should be guided by a set of **virtues**, which

in effect are ethical character traits.<sup>96</sup> In presenting this argument I am following the futurist idea, clearly articulated by Wendell Bell, that “preferable futures” is a critical dimension of futurist thinking.<sup>97</sup> Evolving our future consciousness must be guided by values and not simply predictions and probabilities. But I am also arguing that when we think about preferable futures, we need to particularly focus on ourselves. How should we guide ourselves into the future? What should we aspire toward in the future? Virtues define ideal or preferable character traits within the individual. Connecting back to the previous discussion on the self, and in particular, the “ideal self”, virtues provide the ethical direction for the evolution of the self.

Following Seligman’s work on key character strengths and how such traits are connected to human happiness, I would propose that our contemporary psychological and social reality can be significantly improved through a focused exercise and development of a core set of character virtues.<sup>98</sup> The idea that the “good life” can be achieved through the internalization of character virtues goes back at least as far as Aristotle. For Aristotle, a life of virtue not only creates happiness in the individual but equally contributes to the well being of the community.<sup>99</sup> Virtues are not simply self-centered or self-serving. Virtues are connected with values, in that a virtue is a value lived and internalized into the character of a person. If truth is a value, honesty and forthrightness are the corresponding virtues.

Some of the most significant and central virtues that will both improve our present psycho-social reality and expand our future consciousness are courage, self-responsibility, the love of wisdom and thinking, and evolutionary transcendence. Courage is necessary for dealing with uncertainty and change; self-responsibility supports self-initiative; the love of wisdom and thinking opens and enriches our minds, and as noted earlier, wisdom provides a creative guidance system for good choices in the face of novelty and complexity; and evolutionary transcendence provides us with optimism and hope for tomorrow and pulls us out of egocentric thinking and concerns.<sup>100</sup>

Virtues provide a value-structured way to approach the future. Instead of simply asking what might be, we ask what should be. Instead of simply looking at external forces that may shape the future, we look at ourselves and ask how we can help shape the future. Instead of simply considering an ideal future scenario, we focus on what might be an ideal future self. We can not have a better world, unless we have better human beings.

### **Philosophy, Cosmic Consciousness, and the Future**

The future is the most cosmic, mind-expanding, and philosophically enlightening topic the human mind can entertain. Will we travel into space and find new and strange worlds that possess life and intelligence? Will we evolve machines that are smarter and wiser than we are? What great wonders lie beyond the horizon of tomorrow? Will we achieve a social utopia? How might humanity, biologically or psychologically, be transformed? Will we transcend our

present biological bodies? What new revelations and achievements, technologically, scientifically, and even spiritually will emerge? Is humanity a stepping-stone on the journey of life and mind within the cosmos? What unbelievable realities will evolve in the universe and will we participate in their creation? The growth of future consciousness facilitates the growth of cosmic consciousness.

What we think is impossible today may become possible tomorrow. As H.G. Wells stated we may be only at “the beginning of the beginning.” We may be only just awakening. What, indeed, can we say is impossible forever and always? Throughout history many of humankind’s most cherished and deepest beliefs have been contradicted and transformed. What are the boundaries and the potentialities of reality? What are the limits to life, intelligence, technology, and civilization – to truth, beauty, and the good? And what may lie beyond these human categories of existence? The vast reaches and mysteries of the future seem to extend without end, challenging our intellect and expanding our consciousness and imagination. The future may be a reality of infinite mental space.

The growth of future consciousness expands one’s philosophical mindset. Many of the classic philosophical questions, concepts, and themes are being reconsidered and debated within the context of futurist thinking. The great mysteries of life are taking on new meanings as we consider the far-reaching possibilities of tomorrow. Biotechnology and cyborgization are leading to redefinitions of life and the nature of being human. Artificial intelligence and computer technology are stimulating new theories and ideas regarding the nature of consciousness and mind. Given the incredible possibilities of virtual reality and the growing infusion of electronic simulations into all aspects of human life, what are we to think about the nature and possibilities of reality? Discussions of globalization and cultural pluralism are stimulating new ideas in ethical and political theory. Immortality, a topic traditionally reserved for religion, is another issue seriously being considered in futurist thought.<sup>101</sup>

Spirituality and theology also get re-examined in the context of the future. The existence of God has been addressed and re-conceptualized in the far-reaching speculations of futurists and cosmologists such as Frank Tipler.<sup>102</sup> As the great futurist science fiction writer and philosopher Olaf Stapledon clearly saw, the future *can* be seen as a great cosmic or spiritual journey.<sup>103</sup> The future may have deep spiritual and metaphysical significance. The future is not simply an issue of technological and scientific possibilities but, perhaps more so, an issue of the possibilities of mind, spirit, and reality.

Although philosophical or spiritual issues could be seen as having a timeless or eternal quality, the great questions of humanity are, to a great degree, time-bound. Philosophy and theology have evolved through history, and there is no reason to think that they will not evolve further in the future. The big questions and the big answers get redefined through time. Sometimes the big questions get answered, as is the case with science often developing ways to address questions that previously seemed beyond human understanding. A dramatic case in point is how recent advances in physical cosmology are

beginning to answer the question of the origin of the universe, or simply put, “Why is there something rather than nothing?”<sup>104</sup> Besides old questions being answered, undoubtedly new mysteries and ideas will emerge, contingent upon the challenges and perplexities of the world of tomorrow. In thinking about the future, we can at times get a glimpse of what these new insights and issues might be.

When we think about the future we engage in “possibility thinking” – we stretch and expand the universe of ideas, vistas, and realities. We entertain the unthinkable and make it thinkable. All philosophical theories and spiritual perspectives are founded upon certain beliefs and assumptions regarding the nature of reality, human existence, and human knowledge. Yet possibility thinking stimulated by the simple question “What if?” opens the human mind to considering alternative visions of reality and existence. One clear case of such mind-expanding thinking concerns the emergence of a world-wide collective mind and consciousness as technology wires and connects humanity together into some kind of global brain.<sup>105</sup> In such a “possibility universe” what would be the meaning of the individual human self? Would there be some new kind of self woven into the personal identities of humans?<sup>106</sup> Would there be such a thing as a collective or global consciousness? How could this be? What would the idea of individual freedom mean? What would the idea of a society mean?

### **The Contemporary Transformation and the Challenge to Future Consciousness**

*“The central question of our time is what to do about the future.  
And that question creates a deep divide.”*

*Virginia Postrel*

Turning from the cosmic and the spiritual to the other end of the philosophical continuum, future consciousness is intimately tied to the concrete and pragmatic concerns of life. The future is the most important and pressing practical issue of our time. It is of great importance both for humanity as a whole, as well as for each of us individually.

As innumerable writers have pointed out, and almost everyone can see by observing the world around them, we live in a period of significant, if not monumental, change. Socially, technologically, and psychologically, humanity is being transformed. The contemporary transformation of humanity is pervasive, fundamental, and multifaceted. We are in the midst of a “paradigm shift” for all of human civilization.<sup>107</sup> As various futurist authors have stated, we live at a “turning point,” a time of “future shock” and “creative chaos.”<sup>108</sup> We live in turbulence. Our universe is bubbling and we are in the pot.

We see around us multiple trajectories of change – going forwards, backwards, and into the unknown - at times reinforcing and amplifying one other, at times in violent opposition to each other. Furthermore, these various changes

are open to different interpretations; what some writers and social commentators see as a progressive change, other writers see as regressive and vice versa. To name just some of the most significant trends and developments, we could include globalization; ever increasing world population and the emergence of giant mega-cities around the world; international terrorism; the accelerative growth and ubiquitous spread of technology; the transformation of the natural environment; potential mass extinctions; the resurgence of tribalism; ever-increasing consumerism and consumption; the feminist movement and other human rights movements; the rise of religious fundamentalism; computerization, post-industrialism, and the new information economy; and the great postmodernist disillusionment with modernity and the Western vision of progress.<sup>109</sup>

Not only do we live in an age of fundamental change, to coin an expression, we live in the “Age of Velocity.” History reveals change, and recent history seems to demonstrate that change is accelerating.<sup>110</sup> As Walter Anderson, James Gleick, and other writers on contemporary trends have pointed out, the exponential curve of growth is one of the defining symbols of our time – everything seems to be speeding up.<sup>111</sup> According to Gleick, time is compressing – more and more is happening in a day – in a week - in a year. One could say that the future is coming at us more rapidly than ever before – the flow of the river of time is speeding up. As Milan Kundera observes, “Speed is the form of ecstasy the technical revolution has bestowed on man.”<sup>112</sup>

Because of the complexity, ambiguity, speed, and pervasiveness of these different changes in our world, there is uncertainty, fear, and conflict. The uncertainty of our times, and consequently the uncertainty of the future, is amplified by the diverse set of perspectives and theories offered to explain the contemporary transformation. There are competing views and philosophies of what is happening around us, what is right and what is wrong about these changes, where we are heading, and where we should be heading. We are being bombarded with information, choices, belief systems, and possibilities. Many believe we are going through an epochal re-organization and evolution of human civilization, unparalleled since the time of the Industrial Revolution. Some believe modern Western civilization is crumbling.<sup>113</sup> Some see advancing technology as a boom, ready to finally realize humanity’s oldest dreams of a paradise on earth;<sup>114</sup> some see human technology as a scourge on the earth, about to collapse under its own hubris and wastefulness and perhaps bring the whole earthly ecosystem down with it.<sup>115</sup> There is the clash, reflective of an ongoing disagreement running back through human history, over stability and conservatism versus change and innovation. Should we anchor ourselves to the past and to tradition, or should we embrace what is new and different?<sup>116</sup> All these perspectives vie for our attention and allegiance. There is, in fact, an ongoing struggle over the future, as Postrel notes, embodied in these various philosophies and perspectives, occurring both in the public arena and in our individual minds.<sup>117</sup> The future is undecided, confusing, and open to debate. Humanity is in a battle over the future. Our minds are in a battle over what to believe and what to do.

Because of the great turmoil and historical significance associated with our age, it is absolutely necessary to bring some mental order and understanding to the present chaos and complexity of our times, to see the main pieces of the puzzle and the pattern of it all, to evaluate the different viewpoints, theories, and possibilities, and to gain some sense of direction for tomorrow. In particular, given the diverse views regarding the future, it is important to find a balance between openness to different ideas and principled standards for evaluating these various ideas. It is essential to develop an informed, proactive, comprehensive, and integrative perspective on what is happening around us and where all these changes may lead. From the previous review of psychological dimensions of future consciousness, it is clear that we need to develop our critical thinking capacities, our decision and problem solving abilities, our sense of realistic optimism and self-efficacy, an evolving sense of self, and various virtues and character strengths to flourish and achieve direction in our complex, fast paced world. Perhaps most of all we need wisdom.

Yet we face a challenge. According to many writers, our conscious sense of the future is narrowing and weakening. We are becoming lost and forlorn in an overpowering present. Howard Didsbury believes that our increasing need for immediate gratification, supported by modern technology and its conveniences, is diminishing our sense of the future and the importance we place on it.<sup>118</sup> Stephen Bertman, coining the term “hyperculture,” contends that the fast-paced modern world is destroying both historical consciousness, and our sense of the future. We quickly forget the past and don’t have time to think about tomorrow.<sup>119</sup> As James Gleick says, “We live in the buzz.”<sup>120</sup> Stewart Brand goes so far as to state that “Civilization is revving itself into a pathological short attention span.”<sup>121</sup> The historian Robert Nisbet argues that the contemporary “Cult of the Present” – an intentional focusing on the now as all that really matters – is destroying both the past and the future.<sup>122</sup>

In the opening section, I argued that humans would become disoriented and dysfunctional without future consciousness. Given the increasing complexity of our modern world and the accelerating pace of change, it would appear highly maladaptive and paradoxical for humans to be losing their sense of the future. Given the momentous changes occurring around us, future consciousness is something that should be expanding rather than shrinking if we are to flourish or even survive as a species in the future.

What seems paradoxical about this presumed deterioration of both a sense of the future and the past is that it runs against evolutionary and historical trends. Future consciousness has evolved throughout the history of life. As a general evolutionary trend, which seems mirrored in the cognitive development of children (ontogeny recapitulating phylogeny), awareness and adaptive functioning becomes increasingly less egocentric and more expansive in both space and time throughout the history of life. There is a developmental movement in evolution from the “here and now” to the “there and then.” The “mind’s eye” sees out further and further.

In particular, awareness of the future has dramatically increased with the emergence of humans and our very large brains that are capable of both

enhanced memory and foresight. Further, with the advent of human civilization and written culture, human awareness of time, both of the past and the future, went through a significant jump forward.<sup>123</sup> We began to keep written records of the past, accumulating knowledge to plan better for the future. Creating another great step forward, with the dawn of science our knowledge of the vast extent of time and “the life of the cosmos”<sup>124</sup> has grown immensely and we understand the intricacies and details of our human history and the history of the earth better than ever before.

Hence, although there are various arguments and social and psychological indications that future (and past) consciousness is regressing in contemporary times, there are contrary and more general indications that our consciousness of both space and time has been steadily growing throughout history. So which is it? Is future consciousness in humanity expanding or diminishing? The answer is probably both.

Consider, as writers such as Reading and Christopher Lasch in his *Culture of Narcissism* point out, that in times of uncertainty or pessimism over the future, people tend to focus more on the present and short term pleasures. Also people become more self-centered and cynical and retreat to the past or into the occult. If Postmodernism destroyed the credibility of the Western vision of progress, as many have argued, then the “morale” (or social equivalent of hope) in the general population has deteriorated; at least in the West, there is no common purpose or sense of direction. There are too many different possibilities, both good and bad; there is no single unifying credible image of the future. Also, growing up and living in a period of flux and uncertainty, without a sense of trust and stability, seems to retard the development of future consciousness.<sup>125</sup> Finally, as Polak points out, if a culture does not regularly renew and revitalize its image of the future, its population will regress to focusing more on the present. Hence, those very social factors that make it imperative that we evolve our future consciousness are contributing to its loss as well as to a loss of optimism.

While our general knowledge of past and future keeps accumulating through advances in science, history, and other disciplines, we may not always be using this knowledge in our everyday lives. In spite of its fast pace, we may have entered a depressive or disorganized period in human history, having lost our hope and vision in a positive future. There are clearly many forward looking organizations and social movements around the world, but perhaps the general population, in modernized countries, is caught in the madness of the present, while those in undeveloped and poor countries struggle with basic survival needs and the impoverishment of their uprooted lives. All in all, we are caught between time and Timbuktu; our horizons keep expanding, yet we feel increasingly lost amidst the complexity of it all. To whatever degree and in whatever ways our temporal consciousness is narrowing we need to understand why, and find ways to turn the process around and expand our minds outward into time and the future.

It is my belief that in the long run future consciousness in humans will continue to evolve. In agreement with Stewart and other writers, I think evolution favors a continued expansion in temporal consciousness. If future consciousness

in humans doesn't grow we are doomed. Perhaps then a superior type of mind will pick up the gauntlet.<sup>126</sup> There are, though, as noted above, contemporary trends and social movements showing a heightened, rather than regressive sense of the future.<sup>127</sup> Perhaps what we need (and indeed what will happen) is a pervasive and global "paradigm shift" of the first order that will emerge out of some type of synthesis of these forward looking movements.

From a practical standpoint, one thing is certain. The future is the only reality that we can actually do anything about. Though there is much to be learned about the past that clearly is of great benefit to us, until time travel comes along, we can do nothing about the past. The past is both set and gone. Though it is often said that all we have is the present, the present, at best, is transitory and perpetually flowing into the future. The future is a vast arena of possibilities – the present is here and gone. Unless one is fatalistic and believes in pre-determination the future is the only arena of existence over which we have any practical influence or control. To whatever degree we can guide the future in a constructive and informed way we will benefit ourselves, and all others, who are affected by our actions.

We all can become better informed on the topic of the future. Becoming better informed on the future involves learning about present trends and future possibilities and the main theories, challenges, and controversies regarding the future.

We all can improve our thinking capacities about the future. Enhancing one's thinking capacities about the future involves improving one's abilities to imagine new possibilities for tomorrow, to more thoughtfully compare and evaluate different possibilities and alternative theories of the future, to synthesize information and ideas on the future, and to more clearly define values and preferred directions for tomorrow. We can expand our capacities for wisdom and integrative thought. These various capacities need to be applied both to the world around us and self-reflectively to ourselves

We all can improve our abilities to constructively guide and create the future. Improving one's ability to create and guide the future means becoming better at applying futurist understanding and thinking to the active and often inventive process of participating in the development of the future. It means connecting thought with behavior – theory with application. Constructively influencing the future also involves motivational, attitudinal, and emotional factors, for we need to be inspired, optimistic, and visionary if we are to successfully direct the evolution of our lives.

## **Summary and Conclusion**

In summary and conclusion, it would be helpful to list the various benefits connected with the development of future consciousness and some of the different ways to further develop future consciousness that I have described within this chapter.

## **Benefits of Enhancing Future Consciousness**

- Improves imagination, creativity, and flexibility.
- Fosters mental health.
- Improves higher-order cognitive abilities, especially planning, problem solving, critical thinking skills, and integrative understanding.
- Raises self-consciousness.
- Expands mental and behavioral freedom.
- Expands consciousness.
- Can work against depression, fear, apathy, and perceived helplessness.
- Gives meaning, purpose, and hope to life.
- Brings greater self-control over one's life.
- Brings greater coherence to the self.
- Is highly adaptive, especially in a world of rapid change – maximizes the chances of survival and thriving in the future.
- Facilitates the development of courage and wisdom.
- Can improve ethical thinking and character.
- Expands philosophical understanding and cosmic consciousness.

## **Ways to Develop Future Consciousness**

- Challenge existing habitual beliefs about the future.
- Brainstorm on alternative visions and beliefs about the future.
- Become familiar with many diverse visions of the future, both from the sciences and the humanities.
- Challenge existing habitual beliefs about one's ability to influence the future.
- Clarify and assess your life plans and goals and imaginatively and critically consider alternative possibilities.
- Clarify and assess your self-narrative and imaginatively and critically consider alternative views of who you are, what you can accomplish, and where you are heading.
- Learn about history and especially long term trends that are continuing in the present.
- Learn to tolerate better, if not appreciate, the uncertainties and adventure of life – be willing to take calculated risks at times – don't be ruled by security and safety.
- Learn the psychological practices and techniques for enhancing optimism.
- Learn the psychological practices and techniques for enhancing thinking skills, visualization and imagination, and creativity.

In conclusion, future consciousness involves a fundamental set of normal psychological abilities and attitudes. Throughout our history, future consciousness has evolved, and there are many ways to facilitate its further

development. It is of great value, personally and collectively, to pursue this continued evolution.

Whether one is abstract or concrete, ethereal or pragmatic, cosmic or personally focused in attitude and inclination, future consciousness energizes, enriches, and benefits the total human mind. The future is both a very practical concern and a mind-expanding cosmic adventure in creativity and imagination.

Future consciousness includes visual foresight, goal setting, planning, critical thinking, decision making, problem solving, ethics, and character virtues, and, most broadly, the multi-faceted capacity of wisdom. Future consciousness is also connected to the emotional, motivational, and personal dimensions of the human mind. Our psychological health – our sense of hope, optimism, adventure, and self-efficacy – is intimately connected with future consciousness. Future consciousness is holistic and impacts all aspects of human psychology.

The study of the future fosters intellectual synthesis and the development of higher cognitive processes; it helps us think about and understand the grand and interactive scheme of things. Future consciousness connects us to our world and all of humanity, present and future generations included, both cognitively and ethically. Future consciousness transforms us philosophically and spiritually. Given the scope and speed of change in our contemporary world, it is absolutely necessary that we continue to develop our future consciousness.

There are many different reasons why we should further evolve our future consciousness. It is an issue of survival, of mental health, and of transformation and transcendence.

---

## References Chapter One

- <sup>1</sup> Damasio, Antonio *The Feeling of What Happens: Body and Emotion in the Making of Consciousness*. Orlando, Florida: Harcourt Brace, 1999.
- <sup>2</sup> Reading, Anthony *Hope and Despair: How Perceptions of the Future Shape Human Behavior*. Baltimore, Maryland: The John Hopkins University Press, 2004, Pages 6-7, 9-10, 109-115, and 120.
- <sup>3</sup> Gibson, James J. *The Ecological Approach to Visual Perception*. Boston: Houghton Mifflin, 1979; Lombardo, Thomas *The Reciprocity of Perceiver and Environment: The Evolution of James J. Gibson's Ecological Psychology*. Hillsdale, NJ: Lawrence Erlbaum Associates, 1987, Pages 301-302.
- <sup>4</sup> Although Reading argues that perception does not produce an awareness of time, he does acknowledge that the experience of passage and change requires the experience of continuance or persistence. See Reading, Anthony, 2004, Page 120.
- <sup>5</sup> Cornish, Edward "How We Can Anticipate the Future" *The Futurist*, July-August, 2001
- <sup>6</sup> Reading, Anthony, 2004, Pages 40 – 41, 119.
- <sup>7</sup> Morris, Richard *Time's Arrows: Scientific Attitudes Toward Time*. New York: Touchstone, 1986.
- <sup>8</sup> Carlson, Neil *Physiology of Behavior*. 3<sup>rd</sup> Edition. Boston: Allyn and Bacon, Inc., 1986, Chapters 6 and 7.
- <sup>9</sup> Reading would argue on this point that it is short-term or working memory that provides the mental "glue" that unites together the perceptual snapshots into a continual and flowing experience. Yet, his argument assumes that perception is a set of instantaneous snapshots, but perception is grounded in relationships rather than instantaneous and absolute values. See Reading, Anthony, 2004, Page 57.
- <sup>10</sup> Johnson, Marcia and Sherman, Steven "Constructing and Reconstructing the Past and the Future in the Present" in Higgins, E.T. and Sorrentino, R. M. (Ed.) *Motivation and Cognition: Foundations of Social Behavior* Vol. II. New York: Guilford Press, 1990.
- <sup>11</sup> Reading, Anthony, 2004, Pages 62 – 63.
- <sup>12</sup> Morris, Richard, 1986.
- <sup>13</sup> Wade, Carole, and Tarvis, Carol *Psychology*, 7th Edition. Upper Saddle River, NJ: Prentice Hall, 2003, Chapters Four and Eleven.
- <sup>14</sup> Reading, Anthony, 2004, Page 83.
- <sup>15</sup> Seligman, Martin *Authentic Happiness: Using the New Positive Psychology to Realize Your Potential for Lasting Fulfillment*. New York: The Free Press, 2002; Damasio, Antonio *Looking for Spinoza: Joy, Sorrow, and the Feeling Brain*. Orlando, Florida: Harcourt, Inc., 2003.
- <sup>16</sup> Reading, Anthony, 2004, Page 76; 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.
- <sup>17</sup> Reading, Anthony, 2004, Pages 44-45, 74.
- <sup>18</sup> Reading, Anthony, 2004, Pages 3-13, 150-160.
- <sup>19</sup> The capacity for purposeful behavior directed toward anticipated future goals can be significantly impaired in brain damaged individuals. See Damasio, Antonio, 1999.
- <sup>20</sup> Karniol, Rachel and Ross, 1996, Pages 1, 6-7.
- <sup>21</sup> Karniol, Rachel and Ross, 1996, Page 1-2.
- <sup>22</sup> Karniol, Rachel and Ross, 1996, Page 5; Polak, Frederik *The Image of the Future*. Abridged Edition by Elise Boulding. Amsterdam: Elsevier Scientific Publishing Company, 1973, Pages 9-10; Solomon, Robert *The Big Questions: A Short Introduction to Philosophy*. 6<sup>th</sup> Ed. Orlando, Florida: Harcourt College Publishers, 2002, Chapter 8; Wilson, E.O. "The Biological Basis of Morality" *The Atlantic Monthly*, April, 1998; Shermer, Michael *The Science of Good and Evil*. New York: Times Books, 2004; Jones, Dan, "The Moral Maze" *New Scientist*. November 26 - December 2, 2005, Pages 34 - 37.

- 
- <sup>23</sup> Karniol, Rachel and Ross, 1996, Page 2.
- <sup>24</sup> Karniol, Rachel and Ross, 1996, Page 3.
- <sup>25</sup> Ellis, Albert and Harper, Robert *A New Guide to Rational Living*. North Hollywood, CA: Wilshire Book Company, 1976; Seligman, Martin *Learned Optimism: How to Change Your Mind and Your Life*. New York: Pocket Books, 1998; Wade, Carole, and Tavis, Carol, 2003, Chapter Eleven.
- <sup>26</sup> Seligman, Martin, 1998.
- <sup>27</sup> Hergenhahn, B.R. and Olson, Matthew *An Introduction to Theories of Personality*. 6<sup>th</sup> Edition. Upper Saddle River, NJ: Prentice Hall, 2003. Especially see Chapter Eleven.
- <sup>28</sup> Seligman, Martin, 1998.
- <sup>29</sup> Seligman, Martin, 2002, Chapter Three.
- <sup>30</sup> Zey, Michael G. *The Future Factor: The Five Forces Transforming Our Lives and Shaping Human Destiny*. New York: McGraw-Hill, 2000; Brand, Stewart *The Clock of the Long Now: Time and Responsibility*. New York: Basic Books, 1999.
- <sup>31</sup> Best, Steven and Kellner, Douglas *The Postmodern Turn*. New York: The Guilford Press, 1997.
- <sup>32</sup> Nisbet, Robert *History of the Idea of Progress*. New Brunswick: Transaction Publishers, 1994.
- <sup>33</sup> Hubbard, Barbara Marx *Conscious Evolution: Awakening the Power of Our Social Potential*. Novato, CA: New World Library, 1998.
- <sup>34</sup> Seligman, Martin, 1998.
- <sup>35</sup> Hergenhahn, B.R. and Olson, Matthew, 2003. Especially see Chapter Ten.
- <sup>36</sup> Maslow, Abraham *Toward a Psychology of Being*. New York: D. Van Nostrand Co., 1968.
- <sup>37</sup> Wilkins, Wallace "The Art of Strategic Anticipation: Investing in Your Positive Futures" *The Futurist*, March-April, 2001.
- <sup>38</sup> Nelson, Noelle "Beliefs About the Future" *The Futurist*, January-February, 2000.
- <sup>39</sup> Ellis, Albert and Harper, Robert, 1976.
- <sup>40</sup> Maslow, Abraham, 1968; Hergenhahn, B.R. and Olson, Matthew, 2003, Chapter Fifteen.
- <sup>41</sup> Reading, Anthony, 2004, Page 3.
- <sup>42</sup> Postrel, Virginia *The Future and Its Enemies: The Growing Conflict Over Creativity, Enterprise, and Progress*. New York: Touchstone, 1999.
- <sup>43</sup> Russell, Peter *The White Hole in Time: Our Future Evolution and the Meaning of Now*. New York: HarperCollins, 1992.
- <sup>44</sup> Maslow, Abraham, 1968.
- <sup>45</sup> Bloom, Howard *The Lucifer Principle: A Scientific Expedition into the Forces of History*. New York: The Atlantic Monthly Press, 1995, Pages 299-303.
- <sup>46</sup> Fraser, J. T. *Time, the Familiar Stranger*. Redmond, Washington: Tempus, 1987; Diamond, Jared *The Third Chimpanzee: The Evolution and Future of the Human Animal*. New York: HarperPerennial, 1992; Shlain, Leonard *Sex, Time, and Power: How Women's Sexuality Shaped Human Evolution*. New York: Viking, 2003; Calvin, William *A Brief History of the Mind: From Apes to Intellect and Beyond*. New York: Oxford University Press, 2004.
- <sup>47</sup> Reading, Anthony, 2004, Pages 24-26, 40-42, 55-58
- <sup>48</sup> Reading, Anthony, 2004, Pages 50-58.
- <sup>49</sup> Dennett, Daniel C. *Consciousness Explained*. Boston: Little, Brown, and Co., 1991; Hawkins, Jeff *On Intelligence*. New York: Times Books, 2004.
- <sup>50</sup> Karniol, Rachel and Ross, 1996, Page 8.
- <sup>51</sup> Recall that perception is not completely limited to the immediate here and now and that the idea of an absolute now – distinct from past and future - is highly doubtful.
- <sup>52</sup> Reading, Anthony, 2004, Page 2.
- <sup>53</sup> Csikszentmihalyi, Mihaly *Creativity: Flow and the Psychology of Discovery and Invention*. New York: HarperCollins, 1996.
- <sup>54</sup> Bell, Wendell *Foundations of Future Studies: Human Science for a New Era*. Volume I. New Brunswick: Transactions Publishers, 1997.
- <sup>55</sup> Reading, Anthony, 2004, Pages 100-106.
- <sup>56</sup> 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/>.

- 
- <sup>57</sup> Bell, Wendell "Making People Responsible: The Possible, the Probable, and the Preferable", *American Behavioral Scientist*, Vol. 42, No.3, November-December, 1998.
- <sup>58</sup> Critical Thinking Community - Taking Charge of the Human Mind - <http://www.criticalthinking.org/resources/tgs/taking-charge-of-the-human-mind.shtml> .
- <sup>59</sup> Wade, Carole, and Tarvis, Carol, 2003, Chapter Nine; Myers, David *Psychology: Seventh Edition in Modules*. New York: Worth Publishers, 2004, Module 28.
- <sup>60</sup> Calvin, William, 2004.
- <sup>61</sup> Karniol, Rachel and Ross, 1996, Page 7.
- <sup>62</sup> Bell, Wendell, Volume I, 1997.
- <sup>63</sup> Again see Damasio, Antonio, 1999, in this case on brain damaged individuals who do not seem able to plan.
- <sup>64</sup> Postrel, Virginia, 1999.
- <sup>65</sup> Bell, Wendell, Volume I, 1997.
- <sup>66</sup> Tarnas, Richard *The Passion of the Western Mind: Understanding the Ideas that have Shaped Our World View*. New York: Ballantine, 1991; Solomon, Robert, 2002, Chapter Five.
- <sup>67</sup> Quinn, Daniel *Beyond Civilization: Humanity's Next Great Adventure*. New York: Three Rivers Press, 1999.
- <sup>68</sup> Lombardo, Thomas "The Pursuit of Wisdom and the Future of Education" *Odyssey of the Future* - [http://www.odysseyofthefuture.net/pdf\\_files/Readings/Pursuit\\_of\\_Wisdom.pdf](http://www.odysseyofthefuture.net/pdf_files/Readings/Pursuit_of_Wisdom.pdf);  
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.
- <sup>69</sup> Polak, Frederik, 1973, Pages 13, 22.
- <sup>70</sup> Hergenhahn, B.R. and Olson, Matthew, 2003, Chapter Eleven.
- <sup>71</sup> Reading, Anthony, 2004, Pages 17-20.
- <sup>72</sup> Lombardo, Thomas, 1987, Chapter One.
- <sup>73</sup> Damasio, Antonio, 1999, Pages 17-18, 134-143, 172-176.
- <sup>74</sup> Reading, Anthony, 2004, Page 31.
- <sup>75</sup> Reading, Anthony, 2004, Pages 60-70; Baars, Bernard J. *In the Theatre of Consciousness: The Workplace of the Mind*. New York: Oxford University Press, 1997.
- <sup>76</sup> Seligman, Martin, 1998, Pages 4-7, 76-82, 107-115, 291-292.
- <sup>77</sup> Polak, Frederik, 1973, Page 17; Reading, Anthony, 2004, Page 10.
- <sup>78</sup> Hergenhahn, B.R. and Olson, Matthew, 2003, Chapter Eleven.
- <sup>79</sup> Bloom, Howard, 1995, Pages 311.
- <sup>80</sup> Karniol, Rachel and Ross, 1996, Page 8.
- <sup>81</sup> Stewart, John *Evolution's Arrow: The Direction of Evolution and the Future of Humanity*. Canberra, Australia: The Chapman Press, 2000.
- <sup>82</sup> Anderson, Walter Truett *The Future of the Self*. New York: Putnam, 1997.
- <sup>83</sup> Shlain, Leonard, 2003.
- <sup>84</sup> Wade, Carole, and Tarvis, Carol, 2003. See especially Chapter Fourteen.
- <sup>85</sup> Reading, Anthony, 2004, Page 136.
- <sup>86</sup> Wilson, E.O. *Consilience: The Unity of Knowledge*. New York: Alfred A. Knopf, 1998.
- <sup>87</sup> Molitor, Graham T.T. "Trends and Forecasts for the Next Millennium" *The Futurist*, August-September, 1998; Molitor, Graham T.T. "The Next 1000 Years: The "Big Five" Engines of Economic Growth" in Didsbury, Howard F. (Ed.) *Frontiers of the 21<sup>st</sup> Century: Prelude to the New Millennium*. Bethesda, Maryland: World Future Society, 1999.
- <sup>88</sup> Anderson, Walter Truett *Evolution Isn't What It Used To Be: The Augmented Animal and the Whole Wired World*. New York: W. H. Freeman and Company, 1996; Naisbitt, John *High Tech - High Touch: Technology and our Accelerated Search for Meaning*. London: Nicholas Brealey Publishing, 2001; Stock, Gregory *Redesigning Humans: Our Inevitable Genetic Future*. Boston: Houghton Mifflin Company, 2002.
- <sup>89</sup> Russell, Peter, 1992.
- <sup>90</sup> Stewart, John, 2000.
- <sup>91</sup> Bell, Wendell, Vol. I, 1997.
- <sup>92</sup> Reading, Anthony, 2004, Page 69.

- 
- <sup>93</sup> Solomon, Robert, 2002, Chapter Eight.
- <sup>94</sup> Meadows, Dennis, Meadows, Donella, and Randers, Jorgen *Beyond the Limits*. Toronto: McClelland & Stewart, 1992; Slaughter, Richard "Futures Concepts" in Slaughter, Richard (Ed.) *The Knowledge Base of Future Studies*. Volume I. Hawthorn, Victoria, Australia: DDM Media Group, 1996.
- <sup>95</sup> Mellert, Robert B. "Do We Owe Anything to Future Generations?" *The Futurist*, December, 1982.
- <sup>96</sup> Lombardo, Thomas and Richter, Jonathon, 2004.
- <sup>97</sup> Bell, Wendell, Vol.I, 1997; Bell, Wendell, 1998.
- <sup>98</sup> Seligman, Martin, 2002.
- <sup>99</sup> Solomon, Robert, 2002, Chapter Eight.
- <sup>100</sup> Lombardo, Thomas and Richter, Jonathon, 2004.
- <sup>101</sup> Stock, Gregory *Metaman: The Merging of Humans and Machines into a Global Superorganism*. New York: Simon and Schuster, 1993; Kurzweil, Ray *The Age of Spiritual Machines: When Computers Exceed Human Intelligence*. New York: Penguin Books, 1999; Kurzweil, Ray and Grossman, Terry *Fantastic Voyage: Live Long Enough to Live Forever*. U.S.A: Rodale, 2004.
- <sup>102</sup> Tipler, Frank *The Physics of Immortality: Modern Cosmology, God, and the Resurrection of the Dead*. New York: Doubleday, 1994.
- <sup>103</sup> Stapledon, Olaf *Last and First Men and Star Maker*. New York: Dover Publications, 1931, 1937. See also Wilber, Ken *A Brief History of Everything*. Boston: Shambhala, 1996; Tipler, Frank, 1994; Hubbard, Barbara Marx, 1998.
- <sup>104</sup> Smolin, Lee *The Life of the Cosmos*. Oxford: Oxford University Press, 1997; Prigogine, Ilya *The End of Certainty: Time, Chaos, and the New Laws of Nature*. New York: The Free Press, 1997; Hawking, Stephen *The Universe in a Nutshell*. New York: Bantam Books, 2001.
- <sup>105</sup> Stock, Gregory, 1993.
- <sup>106</sup> Kurzweil, Ray, 1999.
- <sup>107</sup> Best, Steven and Kellner, Douglas, 1997; Cornish, Edward *Futuring: The Exploration of the Future*. Bethesda, Maryland: World Future Society, 2004.
- <sup>108</sup> Capra, Fritjof *The Turning Point*. New York: Bantam, 1983; Rucker, Rudy, Sirius, R.U., and Queen Mu, *Mondo 2000*. New York: Harper Collins, 1992; Toffler, Alvin *Future Shock*. New York: Bantam, 1971; Toffler, Alvin *The Third Wave*. New York: Bantam, 1980; Toffler, Alvin *Power Shift: Knowledge, Wealth, and Violence at the Edge of the Twenty-First Century*. New York: Bantam, 1990.
- <sup>109</sup> Glenn, Jerome and Gordon, Theodore *2004 State of the Future*. American Council for the United Nations University, 2004; Christian, David *Maps of Time: An Introduction to Big History*. Berkeley, CA: University of California Press, 2004, Chapter Fourteen; Best, Steven and Kellner, Douglas, 1997.
- <sup>110</sup> Kurzweil, Ray, 1999; Christian, David, 2004, Chapter Fourteen.
- <sup>111</sup> Gleick, James *Faster: The Acceleration of Just About Everything*. New York: Pantheon Books, 1999; Anderson, Walter Truett *All Connected Now: Life in the First Global Civilization*. Boulder; Westview Press, 2001; Gitlin, Todd *Media Unlimited: How the Torrent of Images and Sounds Overwhelms Our Lives*. New York: Metropolitan Books, 2001.
- <sup>112</sup> Gleick, James, 1999.
- <sup>113</sup> Berman, Morris *The Twilight of American Culture*. New York: W. W. Norton, 2000.
- <sup>114</sup> Kaku, Michio *Visions: How Science Will Revolutionize the 21st Century*. New York: Anchor Books, 1997; Zey, Michael G. *Seizing the Future: How the Coming Revolution in Science, Technology, and Industry Will Expand the Frontiers of Human Potential and Reshape the Planet*. New York: Simon and Schuster, 1994.
- <sup>115</sup> See for example Walter Anderson's discussion of the Deep Ecology movement in Anderson, Walter Truett, 1996.
- <sup>116</sup> Reading, Anthony, 2004, Page 147.
- <sup>117</sup> Postrel, Virginia, 1999; Zey, Michael G., 2000.

---

<sup>118</sup> Didsbury, Howard F. "The Death of the Future in a Hedonistic Society" in Didsbury, Howard F. (Ed.) *Frontiers of the 21<sup>st</sup> Century: Prelude to the New Millennium*. Bethesda, Maryland: World Future Society, 1999.

<sup>119</sup> Bertman, Stephen "Cultural Amnesia: A Threat to Our Future", *The Futurist*, January-February, 2001.

<sup>120</sup> Gleick, James, 1999.

<sup>121</sup> Brand, Stewart *The Clock of the Long Now: Time and Responsibility*. New York: Basic Books, 1999.

<sup>122</sup> Nisbet, Robert, 1994.

<sup>123</sup> See Shlain, Leonard, 2003 for a theoretical explanation of how primitive humans first became conscious of extended time. And see Fraser, J. T., 1987 for a general discussion of the evolution of temporal consciousness throughout the history of humanity.

<sup>124</sup> I take this expression from Smolin, Lee, 1997.

<sup>125</sup> Reading, Anthony, 2004, Pages 7, 126, 140-141, 148, 171-172; Lasch, Christopher *The Culture of Narcissism*. New York: Warner Books, 1979.

<sup>126</sup> Vinge, Vernor "The Coming Technological Singularity: How to Survive in the Post-Human Era" *Vision-21: Interdisciplinary Science and Engineering in the Era of Cyberspace NASA-CP-10129*, 1993 - <http://www.ugcs.caltech.edu/~phoenix/vinge/vinge-sing.html>; Kurzweil, Ray, 1999.

<sup>127</sup> Ray, Paul and Anderson, Sherry *The Cultural Creatives: How 50 Million People are Changing the World*. New York: Three Rivers Press, 2000; Hubbard, Barbara Marx, 1998.