

# The Pursuit of Wisdom and the Future of Education

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*“Blessedness is not the reward of virtue, but virtue itself; neither do we rejoice therein, because we control our lusts, but contrariwise, because we rejoice therein, we are able to control our lusts.”*

*Benedict de Spinoza*

## The Virtue and Value of Wisdom

About a year ago, in discussions I had with my colleague Jonathon Richter, I got the idea that a constructive and valuable way to approach the future was through the development of virtue. I had been reading the psychologist Martin Seligman’s writings on character virtues and how the exercise and strengthening of certain fundamental virtues, such as courage, love, and temperance, was strongly connected with happiness, purpose, and meaning in life.<sup>1</sup> Why not apply Seligman’s idea on virtues to how we think about and approach the future? Instead of emphasizing material or economic gain, technological advancement, or environmental restoration as goals for the future, why not focus on the pursuit and development of virtues, both individually and collectively? This shift of emphasis would be away from the materialistic and the technological to the psychological and ethical. Further, this approach would place the focus on the future of the self and self-responsibility rather than external factors. Jonathon and I developed the argument that many of the main problems of contemporary life in modernized countries, such as information overload, stress, collective frenzy, nihilism, and egocentricity, can be solved or ameliorated through the exercise and pursuit of certain key virtues.<sup>2</sup> Further, through the development of these virtues, we would not only improve the quality of our lives now, but enhance our capacities for thinking about the future and creating a better world for tomorrow.

We came up with a list of six key virtues for the future:

- **Self-Efficacy and Self-Responsibility**
- **Order, Integration, and Direction**
- **Courage, Faith, and Freedom**
- **Wisdom and the Love of Thinking**
- **Reciprocity and Balance**
- **Evolution and Transcendence**

Having just recently finished reading the book *Affluenza*, on the negative effects of excessive consumerism, commercialism, and speed in our lives<sup>3</sup>, I am

more convinced than ever that we need to focus on cultivating certain virtues if we want to improve our lives and create a positive future. Virtue is the answer to the question “What is the good life?” in at least several ways. First, through the pursuit of virtue we will experience increased long term “authentic happiness.” Second, we will be better people ethically in the process. Thirdly, following Seligman’s research, the pursuit of certain core virtues (transcendence in particular), brings meaning, inspiration, and purpose to life. And finally, many of the problems and challenges facing us today that negatively impact the quality of life can be constructively addressed through developing certain virtues within ourselves.

In this present essay, I want to focus on one of the above six virtues, namely wisdom. Over the last few years especially, I have studied and considered this one particular virtue from a variety of angles and believe it is of critical importance for a better future and the improvement of humanity. It is a pivotal virtue in creating the good life.

Pursuing the development of wisdom addresses a variety of major concerns and problems in both contemporary education and popular culture. In an era when thoughtful deliberation, expanded perspective, and conceptual integration seem absolutely essential in dealing with modern life and the challenges of the future,<sup>4</sup> our popular modernized culture often appears shallow, fickle, fragmented, narrow in scope, and anti-intellectual. The world of education is beset with a host of problems and trends that are counter-productive to the pursuit and love of knowledge and thinking: the excessive commercialization of education; an emphasis on high-tech gadgetry, service, convenience, and speed over depth, hard work, and sustained thinking; the push for vocational, profit-motivated, and self-serving learning over social responsibility and the love of ideas; and the offering of fragmented, just-in-time learning instead of an integrated curriculum and holistic education.<sup>5</sup> I think the cultivation and reinforcement of wisdom is a counter-balance to all these problems and negative trends in both education and culture at large.

One could in fact argue that many of our problems in education are precisely due to having lost sight of the central importance of wisdom. For example, within the discipline of philosophy, which literally means, from the ancient Greek, “the love of wisdom,” the ideal of wisdom has fallen into disrepute and neglect.<sup>6</sup> According to some writers, the ideal of wisdom now seems too arrogant and pretentious a goal given the relativist and nihilist trends in modern thinking. Second, as noted above, our curriculum and educational services frequently emphasize the values of fast, quick, and easy over depth and extended study. Wisdom does not seem to be a capacity that can be delivered in a quick and simple fashion. But third, our educational institutions, once considered centers for creating mental and moral excellence, have to a significant degree abdicated their leadership role in guiding the intellectual evolution of society, becoming subservient to the interests of business, economics, popular culture, and students conceptualized as “customers” or “consumers”. Our popular culture values the sensational, the ever changing phantasmagoria of sights and sounds, and the value of consumption. The world

of business and economics values profit, and then more profit, where all other values are subsumed under this all-embracing commercial umbrella. If educational institutions serve such masters, then wisdom, as its central value, has clearly gone out the window, at best being prostituted to the fickle and commercial priorities of popular culture and business.<sup>7</sup>

Once there was great hope that knowledge, wisdom, and the cognitive capacities of humankind would continue to grow in the future. For example, consider the following optimistic quote, capturing the spirit of the European Enlightenment, by philosopher-mathematician Bernard de Fontenelle (1657-1757), "...men will never degenerate, and there will be no end to the growth and development of human wisdom." But the temper of our times has gravitated more toward a thesis of superficiality, cynicism, and despair. To quote the contemporary playwright David Mamet, "We are learning to believe that we do not require wisdom, community, provocation, suggestion, chastening, enlightenment – that we require only information, for all the world, as if life were a packaged kit and we consumers lacking only the assembly instructions." To whatever degree such pessimism is warranted – to whatever degree our cultural mentality and educational expectations are "dumbing down" and "selling out" - it behooves us to do what we can to counter-act the possible regressive trend in our collective mental capacities.

As the writers of the well known and highly respected study of learning and education, *How People Learn: Brain, Mind, Experience, and School*, argue, the goals of education have changed over the last century. Where in the past the emphasis was on memorization, drill, and mechanical learning, education today aspires to facilitate the development of interpretative skills and deep understanding in students. According to the authors of *How People Learn*, the contemporary goals of education, reflecting the challenges and demands of modern society, include the capacities to think and read critically, to solve complex problems, to communicate clearly and persuasively, and to participate thoughtfully in the democratic process. But perhaps, most centrally, students need to develop "learning strategies" that support life-long learning; they must learn how to learn.<sup>8</sup>

Meeting such challenging educational goals is clearly needed to help people successfully function and thrive in our more complex fast – paced world, but as I have noted above, our popular culture and higher educational systems often seem to reinforce antithetical values and priorities. I think that many, if not most, of the contemporary educational goals identified in *How People Learn* can be encompassed under the virtue of wisdom. Unfortunately, that seems to be what we have lost sight of and need to regain in our vision of the function of education.

Some futurists, in fact, envision the need for a "New Enlightenment" or a "Second Enlightenment" that will raise the mind of humanity upward, expand our consciousness, and sharpen our intellects in ways absolutely necessary for the world of tomorrow.<sup>9</sup> I would argue that wisdom as a cognitive capacity encompasses many of the mental abilities and concepts associated with New

Enlightenment thinking and hence, at the core of this New Enlightenment should be the pursuit of wisdom.

But wisdom is more than just a cognitive capacity, involving knowledge and skills; is an ethical concept as well. Wisdom is a virtue. A virtue can be defined as a value lived or internalized in a person's character. A virtue is a character trait that exemplifies one or more high moral standards. Wisdom is a virtue because it is an admirable trait, esteemed in most cultures, that requires experience and effort to achieve. Further wisdom is usually described as serving the betterment of life. Wisdom uses knowledge toward good ends, for both the self and others. Also, wisdom is connected with a number of other virtues, such as courage, transcendence, and compassion.

Working in education, I have come to the conclusion that the cultivation of the virtue *of* wisdom should be the ultimate, central goal of teaching and learning.<sup>10</sup> This conclusion aligns with Howard Gardner's argument that the core of all education revolves around the development of virtues, and Van Weigel's contention that "ethical values" should be at the center of academia and academic inquiry.<sup>11</sup> The thesis that education should focus on the development of ethical values and virtues runs counter to the traditional practices of focusing on just skills, theory, and factual knowledge.

So what is wisdom, why is it so valuable, and how do we go about developing it and instilling it in our students? In this paper I will describe the research and the steps in thinking I went through as I investigated wisdom over the past few years. I will examine a set of connected topics: Deep learning, critical thinking, enlightenment, teaching, the nature of knowledge, and multiple modes of understanding, and explain how each of these subject areas contributes to our understanding of wisdom.

## **Deep Learning**

*"To recognize the significant in the factual is wisdom."*

*Dietrich Bonhoeffer*

Let me begin with the topic of "deep learning", a psychological process that is intimately connected with the development of wisdom. As a faculty member, last year I was presented with a very practical problem and challenge by the Dean of our college. How does one assess "deep learning" in students? Students, of course, are often quite capable at memorizing large sets of individual facts and regurgitating such information on examinations, but how well do they truly and deeply understand the topics being studied? Further, if we can facilitate deep learning or understanding, how do we test for it and assess it? Given this challenge, my first step was to clarify the meaning of the expression "deep learning" and understand how it differed from superficial or "surface learning."

“Deep learning” is a popular expression in contemporary educational and psychological research and thinking. It is usually contrasted with “surface learning.” According to a variety of sources, deep learning involves gaining a synthesized and comprehensive understanding of a domain of study rather than simply learning a set of disconnected facts about a subject area. Surface learning is analogous to the game “Trivial Pursuit”. Deep learning is getting the big picture and understanding how the parts fit together. Whereas surface learning sits on the surface of the mind, never penetrating to the core concepts and ideas of a learner, deep learning penetrates into the learner’s mind and affects their fundamental values and beliefs. Deep learning involves conceptual re-organization; in surface learning nothing of importance in the mind of the learner changes. Deep learning sticks with the learner – the new knowledge is carried into the future and affects decisions and problem solving in new situations; that is, in psychological terminology, deep learning transfers from the original learning situation to new situations. Surface learning is the opposite – in one ear and out the other. Surface learning doesn’t stick or transfer. Deep learning is achieved through thinking about the subject matter; surface learning involves rote memorization. In fact, deep learning means that a person can think about the new ideas learned and can think with these ideas – the new knowledge becomes operational - it is active and useable knowledge. Surface learning is inert, floating on the surface of the mind, and a person’s thinking processes and problem solving do not incorporate the new knowledge. Hence, deep learning creates practical knowledge – knowledge that can be used – whereas surface learning is the accumulation of trivia (from the point of view of the learner). Deep learning also connects with self-awareness, reflection, and meta-cognition; when individuals engage in deep learning, they think about their own thinking processes and beliefs. Surface learning occurs without self-reflection. Finally, deep learning is usually associated with an intrinsic motivation to learn (for learning’s sake) and the associated emotional affect is positive. Surface learning is extrinsically motivated (e.g., to pass the test) and the associated emotional affect is frequently negative, involving feelings of anxiety, fear, and stress. In essence, deep learning is an active and exhilarating process; surface learning is more passive and often felt as mere drudgery. There are other qualities to deep learning, but the above ones provide a good starting point for understanding the concept.<sup>12</sup>

Given these various features of deep learning, we can see that the use of the term “deep” seems to mean a couple of different things. When something is learned deeply, it penetrates into the core beliefs and central attitudes of the learner – it moves deep into the psyche or mind. “Deep” also seems to mean that the new knowledge becomes generative. It can be used by the individual to create solutions to new problems and invent new interpretations of facts, information, and ideas. The new knowledge lies below the surface affecting and structuring everything that emerges in thinking and behavior. Further, the learning is deep because it is woven into the already existing network of concepts in the learner’s mind – in fact it may and often does modify the existing network of knowledge.

Within the history of psychology there have been a variety of different theories of learning – of how people and animals learn and how to enhance or maximize the process. There are probably different types or forms of learning, ranging from simple conditioning to creative insight.<sup>13</sup> In particular, the distinction between rote learning and learning with understanding is a common contrast that psychologists and educators have made. Yet, contemporary research in learning, such as that reported in *How People Learn*, clearly demonstrates that deep learning or learning with understanding is a much more permanent, flexible, and effective form of learning than surface or rote learning.

Based on research into deep learning and understanding, as well as other contemporary developments in psychology and related disciplines, a new theory of learning has emerged in the last few decades. Although simpler forms of learning, such as conditioning and rote memorization, are still acknowledged, what theory and research emphasizes is that human learning should be viewed as an active and constructive process, where the learner mentally engages the subject to be learned and constructs an interpretation of the subject matter as the material is being learned. The learner only “really learns” if the subject matter is “assimilated” into the concepts and experiences in the learner’s mind, though this assimilation may also require some level of “accommodation” as well – the learner may need to rearrange or alter presently existing ideas in order to make the new material fit. Further, learning should be seen as an “ecological” process involving the interaction of mind and brain with the environment. Different types of environments may support or interfere with learning in different ways. Learning emerges as a “Gestalt” effect in the interaction between an active constructive learner and a supportive and stimulating learning environment.<sup>14</sup>

I would add one important feature to this new view of learning. The deep learner is an inquisitive soul; questions and perplexities frequently emerge in the deep learner’s mind, guiding the process of investigation and study. When we think about the nature of human knowledge, we could describe knowledge as a collection of facts, answers, and conclusions, but this would turn knowledge into a static and closed system. Not that we don’t learn answers and facts in the educational process, but we also learn new questions, as well as ways to ask questions and solve problems. Our capacity and drive for intelligent interrogation increases. If our minds “come alive” in the process of learning we become active explorers of nature and reality, and this capacity and inclination is what drives a life of learning. Life long learning does not take place in a mind possessing only answers without any questions, or in a mind without the capacity or desire to ask questions. Whatever active knowledge is, it is not simply a set of answers – it is a dynamical system that self-stimulates its own continual growth. Hence, if learning in the most fundamental sense is the acquisition of knowledge, then learning should involve the development of an open and inquisitive mindset. I will explore further the dynamical and open quality of knowledge in later sections of this paper.

In summary and conclusion, there are a set of key features to deep learning that I believe are highly relevant to understanding the nature of wisdom: grasping the big picture, the capacity to apply the knowledge to problems and

new situations, thinking about what is being learned, self-reflection, questioning, and a positive motivational-emotional state involving a love of the learning and thinking processes. All of these features, as I will explain below, are essential to the development of wisdom. Deep learning throughout life appears to be a necessary step to wisdom. In order to become wise, one must learn things deeply.

## **Critical Thinking**

*"Education is nothing more nor less than learning to think."*

*Peter Facione*

In studying the work of Martin Seligman the previous year, I had come across a list of character strengths which he connects with the general virtue of wisdom. One of the character strengths identified is the capacity for critical thinking.<sup>15</sup> Prior to researching the topic of deep learning, for the last few years I had been investigating critical thinking: What is it and how to incorporate its skills and values into teaching and student assessment? As a second important step in developing a concept of wisdom, I would suggest that critical thinking should be examined for there are many important features of this capacity that seem integral to wisdom.

One point to note at the onset is that "critical thinking" does not simply mean the skill or ability to be critical. To criticize is to find fault or error in a belief, mode of thinking, or behavior. Criticism has a destructive quality. The idea of critical thinking, as developed by the American Philosophical Association and the Critical Thinking Consortium, refers to those standards and practices that make for sound good thinking. Hence, critical thinking can serve either a destructive or constructive function. Richard Paul and Linda Elder of the Critical Thinking Consortium list the following standards: Clarity, accuracy, precision, relevance, depth, breadth, fairness, significance, and logic.<sup>16</sup> The standards of critical thinking provide criteria and guidance for creating sound arguments and clear and coherent theories and statements of belief and not just principles to use in critiquing a statement or viewpoint. The literature on critical thinking also provides a systematic description of the main components and processes involved in thinking, such as analysis, synthesis, evaluation, and logical inference, including both deduction and induction. All in all, the study of critical thinking deals with the nature of thinking and, in particular, the standards for good thinking.

As a beginning point, we should note that there is an intimate connection between critical thinking and deep learning. Not only is deep learning associated with the love of learning, it is also associated with a passion for thinking about the subject matter. Thinking, in so far as it is associated with the acquisition and application of knowledge, is experienced as an intrinsically rewarding activity. Good critical thinkers also love to think and think about the significance of what

they are learning. Consider the following description of the good critical thinker from the American Philosophical Association:

“...there is a critical spirit, a probing inquisitiveness, a keenness of mind, a zealous dedication to reason, and a hunger or eagerness for reliable information which good critical thinkers possess but weak critical thinkers do not seem to have.”<sup>17</sup>

According to the American Philosophical Association, the ideal critical thinker not only possesses a set of skills associated with good thinking, but has a passion for thinking and learning. Ideal critical thinkers are curious and love to learn and think. As with deep learning, there is also a motivational-emotional dimension associated with good critical thinking.

Next, consider a second description – of the ideal critical thinker – provided by the American Philosophical Association:

“The ideal critical thinker is habitually inquisitive, well-informed, trustful of reason, open-minded, flexible, fair-minded in evaluation, honest in facing personal biases, prudent in making judgments, willing to reconsider, clear about issues, orderly in complex matters, diligent in seeking relevant information, reasonable in the selection of criteria, focused in inquiry, and persistent in seeking results which are as precise as the subject and the circumstances of inquiry permit.”<sup>18</sup>

Notice that the list of qualities of the ideal critical thinker includes quite a few items, such as fair-mindedness, honesty, and prudence, which sound like ethical virtues. The internalization of the spirit or philosophy of critical thinking brings with it an ethical dimension – the belief and practice of a set of virtues.

Along similar lines, Richard Paul and Linda Elder of the Critical Thinking Consortium interpret certain key motivational dispositions of the good critical thinker as “character traits”, and describe these character traits as virtues.<sup>19</sup> Paul and Elder list eight character traits or virtues:

- **Intellectual Humility vs. Intellectual Arrogance**
- **Intellectual Courage vs. Intellectual Cowardice**
- **Intellectual Empathy vs. Intellectual Closed-mindedness**
- **Intellectual Autonomy vs. Intellectual Conformity**
- **Intellectual Integrity vs. Intellectual Hypocrisy**
- **Intellectual Perseverance vs. Intellectual Laziness**
- **Confidence in Reason vs. Distrust of Reason and Evidence**
- **Fair-mindedness vs. Intellectual Unfairness**

A character trait is a general disposition toward thinking, feeling, and behaving. A character trait is a general feature of a person’s personality. Hence, the ideal critical thinker describes a certain personality type. But further, the character traits Paul and Elder list have value, and in their minds, are “laudatory”, in that they support good thinking. In fact, traits like courage, humility, and

integrity do more than support sound thinking – they contribute overall to a good, ethical life. Hence, the spirit of critical thinking is more than a set of skills, more than even motivational – emotional disposition or a personality type - it is a normative concept pertaining to how a person should conduct his or her life. Indeed, the disposition towards critical thinking is a virtue. Further, it is a virtue supported by a set of connected general virtues. These points should be kept in mind, as we approach the topic of wisdom, which is also a virtue and connected with a set of other virtues that considerably overlap with those virtues associated with critical thinking.

Open-mindedness is another important trait of critical thinkers that is relevant to understanding the nature of wisdom. Open-mindedness is contained in both Seligman's list of traits associated with wisdom and Paul and Elder's list of intellectual virtues associated with critical thinking. (Paul and Elder do not specifically use the word "open-mindedness" but use the terms "humility", "fair-mindedness", and "empathy", the last term being contrasted with "closed-mindedness".) Open-mindedness is also contained in the APA description of the ideal critical thinker. This trait is also essential in the process of deep learning. If one is going to learn at a deep level, one must become actively "open" to new information and how it could change or impact one's core ideas and values.<sup>20</sup> We will see that the same principle applies to the development and practice of wisdom.

One additional feature of critical thinking to highlight is self-reflection. Good critical thinking entails thinking about thinking; that is, self-reflecting and evaluating one's thinking processes, assumptions, and beliefs. The Foundation for Critical Thinking includes in its definition of critical thinking, the following, "The art of thinking about your thinking while you are thinking in order to make your thinking better: more clear, more accurate, or more defensible."<sup>21</sup> This practiced capacity corresponds with the process of meta-cognition in deep learning – not only does deep learning involve thinking about the subject matter but thinking about *how* you think about the subject matter. Also, to recall, in deep learning one's core beliefs and values are confronted and sometimes self-consciously and purposefully altered due to new information and ideas. In general, deep learning entails self-awareness, as does good critical thinking.

Paul and Elder go so far as to argue that the essence of critical thinking is overcoming egocentric thought.<sup>22</sup> According to Paul and Elder, egocentricity involves being exclusively concerned with satisfying one's own personal desires and goals and protecting and justifying our own beliefs. Egocentric thinking is biased, closed-minded, and prejudicial. Egocentricity involves having a narrow and singular perspective on life and doing whatever is necessary to serve and reinforce this limiting perspective. According to Paul and Elder, in order to counter egocentricity, one must become aware of and scrutinize one's biases and limiting perspectives, which is what critical thinking is all about. So critical thinking expands and liberates the mind by raising critical self-consciousness and facilitating the transcendence of cognitive blinders and constraints in the human mind.

In summary, the qualities of critical thinking emphasized in this section include standards of sound thinking, the important connection between the acquisition of knowledge and thinking, the motivational and ethical dimensions of critical thinking, including a set of intellectual virtues, among which is open-mindedness, a key trait of critical thinkers, self-reflection, and the overcoming of egocentricity. As I noted many of the qualities of critical thinking overlap with similar qualities observed in deep learning. Additionally, as I now turn to the concept of wisdom, I will explain how these key qualities of critical thinking and deep learning are integral to wisdom. In essence, my hypothesis is that both deep learning and critical thinking are necessary steps in the development of wisdom.

### **The Qualities of Wisdom**

*"The sages do not consider that making no mistake is a blessing. They believe, rather, that the great virtue of a person lies in their ability to correct their mistakes and continually to make a new person of themselves."*

*Wang Yang-ming*

At this point in the paper, I will directly address the nature of wisdom, constructing a description of this virtue based on the building blocks laid down in my discussions of deep learning and critical thinking, but adding other elements and putting the pieces together into a synthetic whole.

The pursuit of wisdom has a long and inspiring history. With the emergence of written philosophy, religion, and the great spiritual traditions, thinkers such as Plato, Aristotle, Confucius, and Lao-tzu, thought about and wrote about the nature of wisdom extensively. Such thinkers, in fact, became role models and exemplar cases of this very virtue; they and others like them, became our inspirational "wise men" of the past. It is worth noting that wisdom was associated with a certain personality type – the wise sage who is calm and steady, with great inner strength and insightful answers to the problems and challenges of life. This caricature may be too simplistic or simply incorrect, but what is important to note is that wisdom through the ages has not simply been seen as a capacity or skill, but is invariably and intimately tied to an image of a certain type of personality. I have already noted a similar fact about the ideal critical thinker – what is described is more than just the embodiment of a set of skills but rather a general type of personality.

Such historical figures of wisdom, as well as more modern writers and thinkers, have offered various definitions and expositions on the nature of wisdom and how to develop it. There is, in fact, a multiplicity of descriptions of this virtue – some would even argue that the nature of wisdom is "elusive" and can not be adequately put into words. Yet there are certain common themes that

emerge in exploring the literature of wisdom, both regarding its features and how to develop it.<sup>23</sup>

Let us use the phenomena of deep learning and critical thinking as starting points for constructing a general theory of wisdom. In looking at deep learning I started to think that descriptions of deep learning sounded very similar to descriptions of wisdom that I had encountered. For example, one definition of wisdom is the ability to grasp the big picture of life and coordinate and apply this knowledge to enhance the well being of life. Wisdom has also been described as understanding the meaning of life and what is important in life and using this understanding to guide one's conduct and achieve what is important. These definitions which highlight grasping the big picture, identifying what is essential and significant, and using this knowledge to guide one's life correspond with similar qualities identified in deep learning. In deep learning, the big picture is grasped, what is essential is identified, and the knowledge is transferable to solving new problems.

Another common feature to deep learning, critical thinking, and wisdom is the love of learning and thinking. As noted earlier, there is a motivational-emotional dimension to deep learning and critical thinking, which involves among other things, an emotionally positive, intrinsically rewarding experience associated with thinking and the acquisition of knowledge. Deep learners and critical thinkers love learning new facts and ideas. Research in deep learning reveals that the process is facilitated by curiosity in the subject matter. People learn deeply when they are interested in the subject area. Also, deep learning is often accompanied by feelings of confidence and exhilaration. The development and exercise of wisdom also involves a positive emotional-motivational state. The wise person loves to learn and think – in fact that is a core reason for why he or she has become wise. As I noted earlier, Martin Seligman identifies a set of character strengths associated with the general virtue of wisdom. He includes curiosity, love of learning, judgment, critical thinking, open-mindedness, ingenuity and practical intelligence, social-personal intelligence, and perspective.<sup>24</sup> Curiosity and the love of learning and thinking reflect the emotional-motivational dimension of wisdom, and these qualities are evidently to be found in deep learning and ideal critical thinkers as well. Hence deep learning, critical thinking, and wisdom are associated with curiosity and a passion for knowledge, learning and thinking. Neither deep learning nor critical thinking nor wisdom is a simply cognitive process or capacity.<sup>25</sup>

Wisdom, as traditionally understood, also involves heightened self-awareness. Socrates's well-known statement "The unexamined life is not worth living" epitomizes the spirit of philosophy – that the love of wisdom is essentially expressed through self-examination. It would seem contradictory to describe a wise person as lacking self-consciousness – as someone who did not self-reflect. I have already noted that both deep learning and critical thinking as well involve "meta-cognition" (that is thinking about thinking) and in general self-examination. Hence, deep learning, wisdom, and critical thinking are all connected with the capacities for self-evaluation and self-correction.<sup>26</sup>

But I should also note that both critical thinking and wisdom facilitate an increased awareness of the other – of the ideas, ways of thinking, and values of other people besides oneself. The egocentric thinker is trapped within his or her singular point of view. The egocentric person is opened by becoming cognizant of other points of view, and fairly and openly comparing these different viewpoints with his or her own ideas. One central quality of wisdom is a broad awareness and concern beyond the self, to include the other (part of what Seligman means by social intelligence). Given Paul and Elder’s definition of egocentricity, the egocentric person could never be wise.

Another related quality found in deep learning and critical thinking that also applies to wisdom is open-mindedness. The wise person is open to the world and to different people’s ideas. The quality of open-mindedness within wisdom reveals a very surprising fact about this virtue. In thinking about deep learning, wisdom, and the ideal critical thinker, I came to the counter-intuitive and counter-stereotypical conclusion that wisdom is not the quality or trait of “knowing it all”, but in an important sense the reverse. The virtue of wisdom is developed and maintained through being open to new ideas, to change, and to transformation within. The wise person, just like the deep learner and the critical thinker, experiences life in a state of wonder, astonishment, and even mystery. (These are some other emotional qualities of wisdom.) Thus I imagine the wise person as frequently surprised and willing to revel in this experience and learn from it. Wise people are not perfect repositories of knowledge – they make mistakes, but learn from their mistakes. Though the “wise” person brings knowledge to new situations and is capable of applying that knowledge, the wise person is simultaneously open to change and growth.

The key in all of this is the concept of engagement with reality – of connectedness between the world and the mind. The causal connection runs in both directions, from mind to world and world to mind. In deep learning, what is new is connected (through active thinking) with what is fundamental and deep within the person – the world impacts the mind and the inner person. Reciprocally, the application of knowledge exemplified in deep learning and wisdom entails the capacity to engage what is known – what is within the mind - with the world. These two types of connectedness are in fact related, for the capacity to apply knowledge to new situations can only occur if the knowledge has penetrated into the core beliefs and thinking processes of the individual and goes with the individual into new situations. The quality of engagement between the person’s inner knowledge system and the world supports both new learning and the application of previous learning.

Based on this review of some basic parallels between wisdom and critical thinking and deep learning, we see that wisdom at least involves the cognitive capacities to understand the big picture and apply it to new problems and situations, to love learning and thinking, to engage in self-examination and self-reflection, to understand the other’s point of view, and to be open to the world and in awe and wonder over it.

Now let us identify some additional features of wisdom, as well as further elaborate on some of the ones already introduced above. It is generally agreed

that wisdom is not something a person is born with – wisdom is a product of experience and learning. It has been argued that wisdom only comes through failure and learning from mistakes in life and that wisdom requires listening to others. As Seligman notes, virtues in general are a result of effort, experience, and accomplishment; the virtue of wisdom does not seem to be an inborn talent or gift.

As already noted, wisdom clearly involves a cognitive dimension. Wisdom is founded on knowledge. The words “profound” and “deep” are often associated with wisdom. Aside from those features described earlier, such as the capacity to gain a big picture view of life (synthesis and comprehensiveness), wisdom has been described as “the ability to make sound choices, good decisions” in fact, the “best decision.” Earlier, I mentioned that wisdom has a practical dimension – using knowledge for the betterment of life. What is significant about the cognitive dimension of wisdom is that the theoretical and abstract are integrated with the practical and concrete.

There are other synthetic features of wisdom. The lessons of the past are applied to the present and the future. Wisdom involves a synthesis of the whole and the parts – seeing the big picture but connecting it to the particularities of real life. As another important cognitive synthesis, wisdom entails seeing the relationship between oneself and others – wisdom is not self-centered, and although this capacity could be seen as a cognitive trait, it underpins the ethical dimension to wisdom. The “other” is not ignored in the thinking of the wise person. Aristotle, in fact, saw all virtues, including wisdom, as serving both the good of the self as well as the good of the community. One final synthetic capacity is that wisdom is frequently seen as involving an understanding of the connection between the self and nature, if not the cosmos as a whole. This last synthetic quality is described in more detail below.

As noted above, there is an emotional and motivational dimension to wisdom. The emotions of “awe, reverence, wonder, amazement, and fascination” are frequently associated with the wise person. Wisdom affects and reflects both the heart and the mind, and it also exhibits the quality of compassion – both an emotional and ethical trait. Compassion is felt for the other.<sup>27</sup>

Copthorne MacDonald from the *Wisdom Page* highlights five key attributes of wisdom commonly cited in the wisdom literature: A reality-seeking attitude, non-reactive acceptance, holistic seeing, the realization of oneness, and behavior that benefits others. This list reinforces and further clarifies a variety of themes already introduced. Wise people are seekers of knowledge and not egotistically attached to their present beliefs – thus a connection is made here between a cognitive and a personality trait. Further, this idea of “seekers of knowledge” underscores the motivational-emotional qualities of wonder, curiosity, and love of learning, as well as open-mindedness and non-egocentricity. Again, in MacDonald’s list there is the emphasis on seeing the whole and how all the pieces of life and existence fit together. Finally, there is the quality of benevolence toward others – one important piece of the ethical dimension of wisdom. This ethical quality follows from seeing the connection between the self and others and feeling compassion and empathy. The wise person both sees

and feels that “no man is an island” and acts accordingly. Heart and mind are synthesized in wisdom.<sup>28</sup>

Following up on the ethical dimension and its connection with the holistic and synthetic cognitive capacity of wisdom, Don Cochrane distinguishes three types of wisdom: Individualist, civic, and cosmic. Individualist wisdom, which Cochrane derisively describes as actually “egoistic utilitarianism”, attempts to maximize individual happiness and power through knowledge. Civic wisdom, in the spirit of Plato and Aristotle’s theory of wisdom, contributes to social harmony. Finally, in cosmic wisdom, the “horizon of concern” is further broadened and the goal is to use wisdom to live in harmony with the world. Cosmic wisdom requires a “world view” or cosmic vision of how the universe fits together, and then using this comprehensive and synthetic understanding to live in harmony and respect with nature, with others, and the totality of things.<sup>29</sup> Hence, at the cosmic level, wisdom is the capacity and desire to live in resonance and harmony with all of existence, and thus producing the good life. This emphasis on harmony with nature and fellow humans clearly aligns with the Chinese visions of wisdom as espoused in the writings of Confucius and Lao-tzu, with their emphasis on living in resonance with the *Tao*. It also aligns with Spinoza’s view that virtue is founded on understanding of God.<sup>30</sup>

One other point to make which relates to the holistic and synthetic nature of wisdom is that wisdom is not restricted in any one academic discipline or area of study. Wisdom requires gaining the big picture – it is integrative and transcends individual disciplines. It can not be taught or communicated in a fragmented curriculum of study. Further, although deep learning can clearly occur in any particular discipline, it will not lead to wisdom unless there is also deep learning across disciplines of study. Wisdom involves thinking about how various areas of study fit together – of how concepts and themes from all aspects of life can be integrated into a coherent whole.

A final piece to this present description of wisdom concerns both the personality dimension of wisdom and the connection of wisdom to other ethical values and virtues. MacDonald suggests that “self-actualizing” individuals studied by the psychologist Abraham Maslow reveal a great deal about the character and personality of wise people – they exemplify the character trait and virtue of wisdom. Self-actualizing people experience awe and wonder, respect the individuality of others, and do not conform to the general social expectations of their culture. They live by a set of values, including wholeness, truth, honesty, justice, goodness, beauty, and even playfulness. Thus, MacDonald not only argues that a certain type of personality is associated with the virtue of wisdom, but that the virtue of wisdom is connected with a distinctive set of other values and virtues within the wise person.<sup>31</sup>

In summary, the following elements and qualities are integral or closely connected to the virtue of wisdom:

- **Product of Deep Learning**
- **Love of Learning and Thinking**
- **Critical Thinking**

- **Self-Awareness and Awareness of Others (Social-Personal Intelligence)**
- **Accomplishment**
- **Open-mindedness and Engagement with Reality**
- **Cognitive Dimension: Connection of Abstract/Cosmic View and Decision Making/Practical Dimension**
- **Synthetic Dimension: Past and Future – Whole and Parts – Self and Others – Self and Cosmos/Nature - Social and Cosmic Harmony**
- **Emotional – Motivational Dimension**
- **Inquisitive – Seeking Dimension**
- **Synthesis of Heart and Mind**
- **Ethical Dimension – Civic and Cosmic Wisdom**
- **Inter or Trans-Disciplinary**
- **Self-Actualizing Personality**

Having put together a general description of wisdom, and connected this virtue to both deep learning and critical thinking, I will next examine a set of additional related topics and themes, such as enlightenment, education, knowledge, and modes of human understanding, highlighting certain ideas in each of these areas and further enriching and expanding the concept of wisdom.

## **Enlightenment**

*“Enlightenment ...is an evolutionary project,  
one that was begun long before evolution itself was understood.”*

*Walter Truett Anderson*

Having explored the topics of deep learning, critical thinking, and wisdom, I was naturally led to consider and ponder the nature of enlightenment. At an intuitive level it seemed to me that wisdom and enlightenment were somehow connected. I had read the year before Walter Truett Anderson’s *The Next Enlightenment*, which had struck a resonant chord in me given my longtime interests in the original European Enlightenment, as well as future psychological evolution. I decided to go back to Anderson’s book and compare his description of enlightenment with the qualities of deep learning and wisdom.

Anderson views enlightenment as an expansion of consciousness – a liberation from mental constraints. He also sees it as involving the experience of “oneness” and connectedness, where the conceptualized boundary between the self and the world is transcended. Enlightenment is a form of transcendence – of the capacity to stand back from everyday experience and gain a broader view of things. Enlightenment obviously impacts self-consciousness – in standing back, the self is put in perspective. For Anderson, enlightenment transcends the ego-centric and frees the person from the mental constraints of the self. Taking an evolutionary point of view on enlightenment, Anderson sees a new and globally

pervasive enlightenment as the next cognitive stage in evolutionary development of the human species. Enlightenment is not a state reserved for a privileged few, but actually may be a direction toward which the entire species is heading. In the past there have been “enlightened ones” who attempted to communicate their discoveries to others, and over the centuries, as Anderson recounts, there have been a series of enlightenment movements that offered liberation, transcendence, and more advanced modes of experience and cognition. But this may simply be a prelude to a more general evolutionary advance for all humanity.<sup>32</sup> Because the state of enlightenment brings with it a sense of “oneness”, it involves the quality of openness to reality. To recall from above, in enlightenment the boundary between the self and the world is transcended. As Anderson notes, this boundary is frequently a protective and defensive posture, as a way to preserve stasis and prevent change within; enlightenment is the overcoming of this ego-defensive state. Finally, enlightenment involves being more present – here and engaged with reality.<sup>33</sup>

There are many interesting and suggestive parallels between Anderson’s description of enlightenment and wisdom. Both are types of mental liberation. Practicing wisdom means opening up one’s beliefs to change and growth. In particular, wisdom involves the ongoing questioning of one’s particular point of view – perpetually transcending the egocentric. This also correlates with the argument that critical thinking, a necessary component of wisdom, is the opposite of egocentric thought. The capacity to question and think about the self is a form of transcendence. Instead of assuming without reflection one’s beliefs and values, one stands back, becomes aware of and considers the validity of one’s views. But perhaps most significantly, both the wise and the enlightened person experience the big picture and have a sense of connection with reality. As I noted earlier, many of the cognitive aspects of wisdom revolve around the theme of synthesis and integration, and “holistic seeing” as MacDonald refers to it. Consciousness of a holistic oneness is at the core of the experience of enlightenment.<sup>34</sup>

There are though different views regarding how enlightenment is realized. Eastern or mystical views of enlightenment emphasize intuition or “holistic seeing”. The intuitive experience of oneness is presumably difficult, if not impossible, to put into words. Further, in that the holistic experience is intuitive and often occurs as a sudden “Gestalt switch” in how the world is seen, it may occur without any logical sequence of thoughts preceding or supporting it. Logic, in fact, may get in the way. The Western view of enlightenment though, articulated during the eighteenth and nineteenth centuries, emphasized reason and science as the means to enlightenment. Reason and science would liberate the mind from the constraints and mental darkness of superstition, bias, subjectivity (egocentricity), and dogmatism. The critical thinking movement in contemporary times is an outgrowth and expression of this rational – empirical view of enlightenment. This contrast between intuition and logic is significant for it points to two different modes of understanding reality within the human mind. How do these two different modes of understanding relate to the general capacity of wisdom? I will address this question later in the paper.

Anderson's evolutionary perspective on enlightenment is relevant toward understanding both the future of human psychology, as well as the future of education. Anderson not only thinks that a new mental capacity is emerging within the human species, he sees this new development as an advance over our previous level of consciousness and intelligence. In this paper I have proposed that wisdom should be the central focus in the future of education, and one reason for proposing this idea is that the increasing complexity and rate of change in our world requires the enhancement of such a general capacity in order for the species to flourish in the years ahead. The pursuit of wisdom is a "preferable future" for education and our mental evolution, since our changing world seems to require it of us. Anderson also believes that the emergence of his hypothesized "next enlightenment" will be of great benefit to the species – in fact, it will be necessary, since he believes that attachment to ego-identity and ego-centric thinking is the biggest cause of problems in the world today. We need to become enlightened. In a similar vein, I would say we need to become wise. In a later section of this paper, I will return to this issue of why wisdom and a new enlightenment seem called for in order to address the challenges and problems facing us in the world.

One especially important theme regarding wisdom, enlightenment, and critical thinking is the role of courage and the negative effect of fear. Fear closes off the human mind and inhibits learning and personal growth. People can learn new behaviors or even ways of thinking where they are motivated by fear or anxiety, but the behaviors learned are ways to escape or avoid the threatening reality. A significant example of this mode of behavior and thinking is the egocentric thinker who is defensive and motivated by fear. New ideas, new information, and different points of view are perceived as a threat to the ego and ways are learned to avoid or counter what is different or new. It requires courage to confront and challenge one's beliefs and values. It requires courage to grow as a person. It requires courage to engage reality – to open one's mind to the world. It requires courage to face the mystery and adventure of it all. To quote Ann Rice, "Very few people seek knowledge in this world...few really ask. On the contrary, they try to wring from the unknown the answers they have already shaped in their mind...To really ask is to open the door to the whirlwind. The answer may annihilate the question and the questioner." Overcoming the power of fear is a necessary condition for enlightenment, as well as deep learning, critical thinking, and wisdom.

## **Courage, Connectedness, and Being “In Truth”**

*"To educate is to guide students on an inner journey toward more truthful ways of seeing and being in the world."*

*Parker Palmer*

One writer and teacher who emphasizes the importance of courage in learning and education is Parker Palmer. In his book *The Courage to Teach*, Palmer presents a variety of ideas on teaching and the nature of knowledge that are relevant to the topic of wisdom.<sup>35</sup> Reading *The Courage to Teach* clarified my understanding of the “big picture” of learning, education, and the pursuit of wisdom. It is an inspiring and philosophically illuminating book.

A central theme in Palmer is “connectedness”. Courageous and authentic teachers connect with their inner self and connect their inner self with the subject matter being taught; finally they connect their inner self with the inner selves of students. Courage and love support connectedness, whereas fear produces alienation and disconnectedness. Fear comes from within the person and takes many forms - fear of an encounter with others and otherness, fear of diversity, fear of conflict, and fear of losing one’s identity in an encounter.<sup>36</sup> The central theme of connectedness aligns with similar ideas in my previous discussions of wisdom, enlightenment, and deep learning. The wise person understands the connection between the self and the other; the enlightened individual becomes part of the whole rather than separate from reality and others; “deep learning” only occurs when a person connects new information with his or her inner beliefs and values. Connectedness facilitates growth – a self that retreats and disconnects remains static.<sup>37</sup>

Palmer examines different philosophical theories of knowledge and argues that these different theories are a result of whether reality is approached through fear or courage. Further, Palmer believes that our mode of teaching as educators and our expectations of student learning reflect the theory of knowledge we assume. As his starting point, Palmer discusses and critiques what he believes are the two prevalent views of knowledge in contemporary times: the objective and subjective views of knowledge, both of which are motivated out of fear and lead to ineffectual teaching.

According to Palmer, the objective theory of knowledge implies that we can possess an understanding of the world that is untainted by subjective coloring or bias and embodies the true and absolute state of affairs of the world. The knower, through rigorous training in the scientific method and logical reasoning, can achieve a position of detachment and examine and describe reality as it actually is. Palmer argues that the objective theory of knowledge, which dominates academia, is a way to disconnect and distance the knower from the subject matter. Presumably college textbooks and teachers, as repositories of authoritative truth, are sources of objective truth. According to Palmer, this view of knowledge protects and isolates the self from real knowledge and is motivated out of fear.<sup>38</sup>

The subjective theory of knowledge is the opposite view. This theory entails that all human beliefs and ideas reflect a subjective point of view and hence, objectivity is impossible. Since objectivity is impossible, one viewpoint is, in essence, as good as the next, since there is no objective or unbiased standard relative to which different points of view can be judged. Subjectivism is an expression of epistemological nihilism; if there is an objective reality it lies forever beyond our grasp. In summary, for the objectivist there is an absolute “Truth” and we can possess it; for the subjectivists, there are many “truths”, all personal and all equal.

If we assume an objectivist or absolute theory of knowledge, it is the responsibility of the teacher to communicate (without bias) the absolute truths of the discipline and it is the student’s responsibility to absorb without subjective distortion these absolute truths. Neither the teacher nor the student can bring his inner self into the act of knowing; both must remain detached. If we assume a subjectivist theory of knowledge, the teacher does not impose any truths or epistemological standards on the student; nor does he bring his or her own views into the arena of discourse; the teacher simply helps the students to find their own particular truth within themselves.<sup>39</sup>

Palmer finds both the objective and subjective theories of knowledge, and the views of teaching that these theories imply, lacking. In both cases, there is a lack of acknowledgement that there is something that transcends our beliefs – both the teacher’s official version of the truth or the student’s own ideas. In both cases, the self and the world are disconnected. Either the “Truth” is known by being personally detached from the world, or the “Truth” can not be known because there is no way to connect with it.

In opposition to these two views of knowledge, Palmer argues that reality always goes beyond belief but that we can, to different degrees, make contact with it. For Palmer, reality has an independent existence beyond the human mind; it is transcendent. Yet we can reach out and engage it; knowledge is an interaction between knower and known. Reality, in fact, also engages and stimulates us. Reality is not a passive thing waiting to be discovered. At times it will surprise us and correct us. Reality will entice us and draw us into its beauty and complexity. We can encounter it, explore it, and interact with it – see more of it - but we can never get the complete picture. Palmer goes so far as to describe reality as “sacred”. The word “sacred” denotes an “ineffable immensity” – of something deserving of respect.<sup>40</sup>

Consequently, for Palmer, truth is a journey more than a destination. Objectivists and subjectivists alike treat knowledge and truth as static. You can possess the answer – whether it is an absolute answer or your particular version of the answer. But for Palmer, truth is not conclusions about static objects. Instead, Palmer uses the expression “in truth” and by that he means over-coming bias, self-deception, and ignorance (which he believes, contrary to the subjectivists, one can achieve, but never in an absolute sense), and consequently understanding more and more about the subject of study but never the total picture. Further, being “in truth” does not deliver certainty, as the

objectivist theory of truth promises. Being “in truth” is a process of unending discovery rather than a completed state.

Hence, for Palmer, in education we should focus neither on the teacher (with his or her presumed repository of absolute truths) nor the students (with their variety of different personal points of view) but rather on the subject of study. The subject transcends both teacher and students. We need to become open to the subject and the subject will reveal itself to us and at times surprise us.<sup>41</sup>

Palmer’s view that knowledge is an ongoing interaction with reality aligns with similar themes in the earlier discussion of the nature of learning. Learning comes through the interaction of the mind and the world. Further, his view follows from his general emphasis on the idea of connectedness; in knowing we connect with the other. But Palmer goes further with the themes of interaction and connectedness, and argues that learning requires social connectedness and interaction. In particular, knowledge or being “in truth” is a process that takes place in social interaction – in dialogue, conversation, and mutual inquiry. Knowledge is a disciplined and passionate conversation among seekers of the truth as they interact with reality. Individuals need to know the contemporary conclusions within a discipline to participate in the conversation, but it is the ongoing commitment and involvement in the conversation that keeps one “in truth”.<sup>42</sup>

According to Palmer both knowledge and reality are relational. Reality is not a set of distinct and independent objects or entities. Reality is interconnections – everything is relational. Further, knowledge is a type of relation – a relation between the knower and the known. In knowing, we engage our selves with the world, rather than standing back from it, as the objectivist theory would propose. We know reality through community with it. Further, knowing is a social communal activity; as humans we participate in a “community of inquiry” involving dialogue and partnership. Knowing is communal thinking – a bouncing and reflecting back and forth of ideas.<sup>43</sup> In teaching, we attempt to produce a “community of truth,” where teacher and students interact in an attempt to connect with the object of study.

In Palmer’s vision of education, the teacher and the student mutually stimulate each other and draw each other out. The inner selves of both teacher and student need to make contact. It must be the teacher’s inner self that communicates and explores the subject matter in the presence of the student and the student must bring forth his or her own inner self to encounter the subject matter with the teacher. Both the thinking about and the active exploration of the subject matter by the teacher must become visible to the students and the students’ thinking and exploration must become visible to the teacher. (The visibility of thinking, for purposes of assessment and evaluation, is a key theme in deep learning.) Good teaching comes from within, and good teachers, exhibiting an intrinsically motivated passion and interest in the subject matter, replicate the process of knowing by engaging students in the dynamics of the community of truth – that is, creating an atmosphere of thinking, exploration, questioning, and dialogue.<sup>44</sup> In particular, I should note that in so far as the teacher demonstrates

the spirit of exploration, the teacher undercuts the objectivist vision that he or she “knows it all.”

According to Palmer there is a set of virtues associated with the ideal educational community:<sup>45</sup>

- **Inviting Diversity**
- **Embracing Ambiguity**
- **Welcoming Creative Conflict**
- **Practicing Honesty**
- **Experiencing Humility**
- **Becoming Free**

These virtues could just as appropriately be applied to the quality of wisdom within the individual. Inviting diversity refers to the eagerness to hear different points of view; embracing ambiguity is an acknowledgement of our uncertainty and the unending mystery and depth of reality; welcoming creative conflict underscores the importance of dialogue, debate, and the critical comparison of alternative points of view; practicing honesty is an ethical necessity in the pursuit and communication of truth; humility again underscores our humanity and fallibility in the face of reality; and freedom highlights how knowledge and truth overcomes all forms of mental tyranny.

What Palmer provides is a theory of knowledge, reality, teaching, and learning that supports and enriches the previous ideas discussed on the nature of wisdom and related concepts. Knowledge involves connection; it is a journey rather than a destination; it requires courage; it is an active process involving both thinking and questioning, both within ourselves and among ourselves. Reality must penetrate into the self and it is the self that must reach out to encounter reality. All told, what is especially important in Palmer’s message is that the road to wisdom is both a personal and an inter-personal journey.

### **The New Science and the New Enlightenment**

*“Believe those who are seeking the truth;  
doubt those who find it.”*

*Andre Gide*

Palmer’s ideas on reality and knowledge align closely with contemporary scientific theory and thinking. In particular, his views that knowledge is a contingent process rather than an absolute or completed state and that knowledge is relational and interactive agree with contemporary ideas in epistemology, philosophy of science, and cognitive psychology. His general thesis that reality is relational rather than a plurality of distinct and independent entities is also in line with modern views in the natural sciences.

Another area I want to explore, then, and connect with the topic of wisdom is contemporary scientific thinking on reality and knowledge. Two of my longest standing interests have been contemporary theoretical science and philosophical theories of scientific knowledge and I have found it fascinating to see how recent thinking in deep learning, critical thinking, and enlightenment parallel themes in science and the philosophy of knowledge. In examining some of the key ideas in modern science and explaining how such ideas align with the concept of wisdom being developed in this paper, I will be able to show how the capacity of wisdom has direct functional relevance and value for addressing the social and psychological challenges facing the world today. In the final analysis wisdom has great practical worth.

First, let me begin with a little history. The rise and spread of the modern way of life, beginning in Europe in the sixteenth and seventeenth centuries, was associated with the emergence of modern science and the rational, empirical, and secular philosophy of the Age of Enlightenment. The modern age brought with it a new way of thinking and a new way of understanding nature and the world.<sup>46</sup>

The center piece of modern science was Newton's theory of physics. This theory fit very well with the industrial mindset of modern Europe. As the popular science writer Sally Goerner describes it, Newtonian physics provided a "clockwork" model of the universe that was enthusiastically and pervasively applied to many aspects of human society.<sup>47</sup>

Yet, beginning in the nineteenth century, various aspects of the Newtonian world view came into question, and as we moved into the twentieth century, a different scientific way of thinking about reality and knowledge subsumed and replaced Newtonian science.<sup>48</sup> An argument frequently made is that our contemporary world, with its numerous challenges, pervasive changes, and complex-fast paced way of life requires a new way of thinking and a new form of social order.<sup>49</sup> The futurist Rick Smyre, for example, calls for a "Second Enlightenment," involving new concepts and principles of thinking, in order to successfully live within the world today and thrive in the future.<sup>50</sup> The new ideas in science, so Smyre, Goerner, and others argue, provide the basis for this new way of thinking about our world as well as a new way of dealing with our contemporary problems and challenges.<sup>51</sup> We will see that in some important ways Smyre's theory of a "Second Enlightenment" correspond with Anderson's view of the "Next Enlightenment".

In describing the new ideas of science I want to highlight four key themes which I think are central to Post-Newtonian science. Each of these four themes represents an anti-thesis or rejection of a key idea in Newtonian science.

First, whereas Newton envisioned nature as a stable harmony, contemporary science views nature as evolutionary and dynamical. Where Newtonian science saw truth in absolutist, objective, and static terms, we now more fully realize that knowledge is evolutionary and transformative. In the new science, reality and knowledge are both dynamic and growing.

Second, although Newtonian science described how the physical objects in nature interacted and influenced each other through physical forces, at the

same time it viewed the objects of nature as having a discrete existence and possessing intrinsic qualities. Newtonian science emphasized analysis of nature into discrete parts. Twentieth century science has done a turn-around and describes the entities of nature in relational terms. The entities (or systems) of nature are interdependent. Nature is a vast multi-leveled ecological network of reciprocities. Nothing stands alone and everything is entangled and interpenetrating with everything else. If all of nature is interdependent, then the knower can not stand back from reality and observe and describe it from some detached position. The ideal of absolute objectivity is a chimera and impossibility. Knower and known are reciprocal realities, intertwined in the act of knowing.

Third, coupled with its emphasis on analyzing and segmenting nature into parts, Newtonian science saw both reality and knowledge as summative aggregations. Bigger wholes in nature are simply collections of parts. Knowledge grows by simply adding more facts and principles on top of what already is known. Yet, contemporary science has come to realize that growth and evolution often involve re-organization and re-definition of the parts – the parts do not simply add together. Because the parts are networked together and derive many of their qualities through relationships with other parts, as well as the whole, the hierarchical organization of nature is not simply a summative arrangement. Knowledge also often grows through conceptual re-organization – old “facts” and “theories” are frequently re-defined, if not rejected. Nature evolves through extinction, emergence, and re-organization.

Fourth, whereas Newtonian science aspired to certainty, in fact, reflecting the Western religious and Platonic heritage which also aspired to certain truth, modern science realizes that even its laws of nature and presumed facts are contingent propositions. Contrary to the hope of Newtonian science and some Enlightenment philosophers, we can not predict the future with absolute certainty.<sup>52</sup>

How do these new scientific ideas connect with the previous discussion of wisdom? First, as we have seen, wisdom is neither static nor detached. From the above discussion on contemporary science, we see that knowledge is inherently dynamical, growing, and evolutionary, and that knowledge entails active engagement with the “other”. Referring back to Palmer’s ideas, knowledge is a process – truth is a dynamical reality.

Second, to borrow a term from the new science, wisdom is an “open system.” Because all human knowledge is contingent, the wise person remains open to new perspectives, new information, and conceptual change. Further, going back to the first point, we may attempt to close off or remain detached from the world, but this does not facilitate the pursuit and development of wisdom – wisdom is open to the world. If detachment promised pure objectivity, we now see that absolute objectivity is an impossible goal. The personification of wisdom as a guru sitting on top of a mountain needs to be jettisoned and replaced.

Third, because the knower brings to the act of knowing a set of assumptions, concepts, and beliefs that impact the experience of “what is known”, the wise person pursues heightened self-consciousness and self-reflection. To recall, self-assessment and thinking about one’s thinking is an

essential activity within good critical thinking. Understanding and deep learning grow not simply through digging deeper into the world, but equally through digging deeper into the knower and the self.

On this third point, I am reminded of a vision of the nature of the growth of knowledge proposed by Walter Truett Anderson that also accords well with Paul and Elder's conception of critical thinking. In self-reflection on our assumptions and beliefs, we are able to put such ideas into perspective. We can stand back from these ideas and ways of thinking and assess how our perspective may be biased or limiting. But in becoming self-aware of our assumptions, we are no longer necessarily entrapped by them. We may consider alternative approaches or viewpoints. While we can not absolutely escape from our subjective or egocentric stance, for we will be always standing someplace to view the workings and structures within our mind, we can broaden our perspective and widen our view of things.<sup>53</sup> So our consciousness literally expands outward, enveloping earlier, more limiting perspectives.<sup>54</sup> This view of the growth of knowledge aligns with the psychologist J. J. Gibson's description of how perceptual awareness becomes increasingly objective and veridical. According to Gibson, perception becomes less subjective the more different perspectives are taken on the physical world.<sup>55</sup>

Finally, the idea in contemporary science that growth often occurs through re-organization and knowledge through re-conceptualization supports the research finding that deep learning involves penetration into core beliefs and often significant modification and re-organization of such core beliefs. The development of deep learning, wisdom, and enlightenment is not simply cumulative and a layering of more information on top of what already was there – this, in fact, is surface learning. As frequently is noted by people who have experiences of enlightenment, the world as a whole is seen differently.

One could conclude from the above points that a true understanding of reality is impossible, given the contingent, evolving, and subjective qualities of human knowledge. In actuality, though, what has been abandoned in these new ways of thinking is that we can be absolutely certain that we possess the complete and absolute truth about reality. We may never be able to totally transcend our subjectivity, but that doesn't mean that we don't encounter reality or that our understanding of it doesn't evolve over time. The reciprocity and connectedness of knower and known implies that in fact we do make contact with the world and can learn from it. Palmer, for one, is a realist, believing that there is a reality that can be known, but it is known through engagement rather than detachment.<sup>56</sup>

Another contemporary theme connected both to modern science and the nature and value of wisdom is "consciousness expansion." A frequent criticism of modern society and culture is that individuals are too egocentric and narrowly focused and too concerned with the immediate "here and now."<sup>57</sup> This localized and restrictive consciousness runs counter to the increasing need to understand the big picture in our contemporary times. (As noted earlier, egocentricity is also at odds with sound critical thinking.) In order to understand both ecological and global issues, highly important and pressing concerns of our time, we need to

expand and enrich our spatial consciousness into the world around us. Further, the rapid rate of change in our world requires that we become more thoughtful and conscious of the future, as well as the past (in order to better understand patterns and trends of change), yet we seem to be increasingly lost in a mesmerizing present. We also need to expand our temporal consciousness. Hence, our contemporary challenges require the big picture type of understanding that typifies wisdom.

As noted above, evolutionary change and reciprocal interdependency are two key themes in contemporary science, and consequently, a “new way of thinking” derived from these ideas would necessarily involve an expansion in both temporal and spatial consciousness. Evolution provides a principle for understanding the interconnectedness of all things across time. Reciprocity provides a principle for understanding the interconnectedness of all things across space. Thus, the new science supports the expansive and integrated type of knowledge that characterizes wisdom. MacDonald, in fact, specifically cites the ideas of evolution and interdependency in his discussion of the holistic nature of wisdom.<sup>58</sup>

So both modern science, as well as social thinking, indicate that we should broaden our conscious horizons beyond the “immediate here and now” to gain a better understanding of the world we live in, as well as to more effectively deal with the problems that face us as a species.<sup>59</sup>

The development of wisdom is clearly connected with the expansion of both spatial and temporal consciousness. Wisdom, grounded in historical consciousness, facilitates future consciousness. Earlier I pointed out that one key feature of wisdom involved an understanding and reverence for nature and the cosmos. Further I noted that wisdom entailed the development of an integrative understanding of the totality of reality. Getting the big picture in both space and time and understanding the connectivity of all things is integral to the nature of wisdom.

The new view of science, as noted above, also entails a need to expand self-consciousness. This, of course, is another key dimension of wisdom – heightened self-awareness. As I have argued, all the capacities I have described from deep learning to enlightenment involve heightened self-awareness. But we should keep in mind that heightened self-awareness does not necessarily contradict heightened awareness of the world around us. Heightened self-awareness is often facilitated by a heightened awareness of the “other” – I see the biases in my own thinking by encountering another person’s way of looking at things. It is best to think of self-awareness and awareness of the other as a reciprocal reality. To recall, wisdom not only entails enhanced self-awareness and knowledge of the whole, but an understanding of how the self and the whole are connected.

This discussion of the new ideas of science, our contemporary challenges, and the need to expand consciousness has direct implications to our educational curriculum. If the development of wisdom is the key to a more valid and practical understanding of the world and ourselves, then education needs to become more integrative and much less fragmented. Courses that examine the grand

panoramas of space and time need to provide the core of our curriculum. The pieces of the whole must be put together. Education also needs to connect the big picture with the self. How are we affected by the world and what should be our responsibilities toward the world? Education can not simply serve the perceived individual needs and desires of students or the needs of any special interest groups, such as business and economy – it must discuss the whole and the relationship between the individual self and the whole. We need an “integral” educational system.<sup>60</sup>

If I compare this general review and comparison of key ideas in contemporary science and the study of wisdom with Smyre’s principles for the second Enlightenment, there is considerable overlap. Smyre compares and contrasts principles of the first European Enlightenment (which was strongly connected with Newtonian thinking) with a proposed set of 14 principles of thinking for the second Enlightenment. At least seven of his new principles revolve around the theme of connectedness and interdependence (contrasted with the first Enlightenment emphasis on independence and autonomy). Also, the themes of mystery, uncertainty, and change and transformation each show up in a couple of his principles.

One of Smyre’s main sources of inspiration is Sally Goerner’s book *After the Clockwork Universe*. Goerner argues that a pervasive shift in both scientific and social thinking is occurring in modern times, away from the Newtonian model of reality as a machine, toward the idea of reality as a web of interdependencies. Goerner’s central idea is connectedness which, in her mind, is pivotal to the emergence of a new “integral culture.”<sup>61</sup>

There are various parallels between Smyre-Goerner’s ideas and Anderson’s view of the “Next Enlightenment”. Anderson highlights the theme of connectedness and critiques the psychological stance of maintaining a sense of ego-separateness with the world. Further, he supports an evolutionary perspective on reality and the development of the human mind. And he believes that the challenges and problems facing our world today call for a new way of perceiving and understanding the world.

What I particularly wish to highlight about Smyre and Goerner’s ideas is that what constitutes an appropriate and empowering framework of knowledge is contingent upon the unique challenges and issues of the time. During the first European Enlightenment, the principles of rationality, autonomy, and mechanism provided a framework of thinking that advanced human society and human understanding of nature and the universe. Yet, as our understanding of nature has grown and our social problems and issues have evolved, a different framework of thinking is called for. In essence, what constituted sound knowledge and good thinking three centuries ago may today be outmoded and maladaptive.

There may be certain relatively constant qualities connected with wisdom, but it is important to consider that human knowledge is an evolutionary process and that new critical dimensions may emerge over time. Belief systems that seemed valid in earlier times may be contradicted by new evidence and improved modes of thinking. What constitutes knowledge and wisdom is

connected with the best theories of reality we have at a given period of time. One can not participate in the “community of truth” – in the ongoing dialogue of discovery – if one’s mindset is locked in beliefs that do not acknowledge or appreciate the ongoing advances of science and contemporary thought. The argument of Smyre, Goerner, and numerous other contemporary writers, futurists, and scientists is that the theory of knowledge and reality based on principles such as connectedness and interdependency, evolution and transformation, and mystery and uncertainty provides the best present conceptualization of reality, and appropriately and constructively addresses the practical challenges of today. Since an essential feature of wisdom, according to MacDonald and other writers on wisdom, is a valid and comprehensive understanding of the big picture of reality, as best as can be determined at a given time, then the framework and content of knowledge underlying wisdom should reflect the newest advances in science and the study of human society and humankind.

### **Multiple Modes of Thinking and Understanding**

*“Almost every wise saying has an opposite one,  
no less wise, to balance it.”*

*George Santayana*

A common argument presented in psychology, philosophy, and social-anthropological research is that there are different modes of thinking and understanding in human beings. The psychologist Howard Gardner, for example, has hypothesized that there are at least seven or eight relatively distinct types of intelligence.<sup>62</sup> One frequently expressed view is that the most fundamental difference in human thinking can be described as a polarity between holistic – visual and analytic – linguistic modes of thought. This basic polarity (or similar models) has also been described as the difference between right and left cerebral brain functioning, as well as the difference between “feminine” and “masculine” modes of thought.<sup>63</sup> I have already noted that there seem to be at least two different views concerning the path to enlightenment, one involving intuition and “holistic seeing,” and a second one emphasizing reason, language, and logic.<sup>64</sup> It appears that enlightenment can occur through either reason or intuition. Recently, the psychologist Richard Nisbet, in his *The Geography of Thought*, has proposed a basic contrast in modes of thinking between Eastern and Western people and cultures and supports his view with a huge amount of experimental data collected over the past couple of decades across several continents.<sup>65</sup> The basic contrast in human thinking that Nisbet describes aligns closely with the other bi-polar models of human cognition mentioned above. Whether there are as many as seven or eight modes of intelligence, it seems clear that there is at least a fundamental polar contrast of two modes of thinking that shows up across the globe.

How does this basic contrast in modes of human thinking connect with wisdom? Is there more than one kind of wisdom, perhaps mirroring the two basic types of human understanding and human thinking? What I suggest is that the broadest, most encompassing form of wisdom integrates the two polarities of human thought, drawing upon the strength of each mode of understanding. Further, it appears that this synthetic and more flexible mode of cognition aligns very well with ideas and principles described by Smyre as key elements for a second Enlightenment and described by Anderson in his vision of the “Next Enlightenment.” In fact, it is a common argument that human cognition is best served if the two fundamental modes of understanding can be balanced and integrated in the human mind.<sup>66</sup>

First, let us consider in more detail Nisbet’s description of Eastern versus Western thinking. According to his research, Easterners tend to see reality as a circle, prefer dialectical logic, look for balance, see the whole and the context of things, and arrive at both/and conclusions. Westerners see reality more as a line, prefer linear logic, take a side, isolate the object from its context, analyze the whole into parts, and arrive at either/or conclusions. The West emphasizes individuality and autonomy; the East emphasizes community and interdependency. There are many other differences besides these basic contrasts and Nisbet provides an extensive compendium of such differences between Eastern and Western thinking, which include social, psychological, and general philosophical variables.

Nisbet’s research reveals a general continuum of thinking with two opposite geographical and cultural extremes. The polarities in thinking and behavior, listed by Nisbet, are general differences and although there is variability within populations, there is a highly significant statistical difference along the lines described above as we move from East to West. The polarities in thinking are most extreme when comparing the far East with the far West, notably Japan/China/Korea with the United States. As one moves from East to West, there is a gradual shift from one end of the polarity to the other end.

Many of the features of the Western end of this continuum correspond with basic principles and themes in first Enlightenment thinking, for example, an emphasis on analysis, individuality, independence, competition, and progressive change. At least some of the key features in the Eastern end of the continuum, especially those involving connectedness, reciprocity, and balance correspond with ideas expressed in Smyre’s vision of second Enlightenment thinking. At least in some respects, the new ideas in Western science and philosophy align with themes and principles traditionally found in the far East and move away from influential themes found in the traditional West. Further, to a degree the contrast of Eastern versus Western thinking parallels the two modes of enlightenment – the Eastern view of enlightenment highlights intuition and visualization, the Western view highlights linear logic, analysis, and language.

Nisbet argues that each mode of cognition has both strengths and weaknesses and that human thinking and understanding are best served if both modes of cognition are utilized in problem solving, decision making, and the quest for knowledge. Similar arguments have been presented regarding right

versus left brain thinking, visual-holistic versus linguistic-analytical, and feminine versus masculine modes of cognition.<sup>67</sup> The human mind has broader and richer capabilities when it utilizes both modes of understanding and human society would function better if the two fundamental modes of cognition achieved a greater balance and integration in human affairs. Smyre, in fact, after contrasting first European Enlightenment thinking with second Enlightenment ideas, suggests a third set of principles that would integrate both modes of thinking. In so far as the idea of enlightenment implies a liberation of the mind, the incorporation and integration of both modes of cognition into human understanding and behavior captures the spirit of enlightenment since it expands one's consciousness and adds flexibility to thinking.

From a social and practical standpoint, the incorporation and integration of both fundamental modes of cognition addresses a variety of contemporary challenges and issues. First, it supports a balanced process of ongoing globalization, in that it reflects both Eastern and Western modes of thinking and values. It is a culturally balanced and encompassing mode of cognition.<sup>68</sup> Second, to whatever degree these two modes capture gender preferences in cognition, it supports a more balanced representation of the different modes of understanding between men and women. Third, with the increasing emphasis on visual media and imagery in popular culture, as well as the presumed corresponding decline in the importance of complex linguistic understanding and communication, it is important to understand the strengths and weaknesses of each mode of cognition and see how best to integrate and balance them in our contemporary world.<sup>69</sup>

Turning specifically to the topic of wisdom, it seems clear that wisdom should encompass cultural diversity and global awareness, cognitive balance, and flexibility in modes of understanding. If wisdom entails getting the big picture of things, then understanding both Eastern and Western ways of thinking is essential. If wisdom involves enhanced self-awareness, then tapping into both modes of cognition within ourselves brings increasing self-understanding. If wisdom entails integration and synthesis, then clearly intuition and reason, holism and analysis, vision and language, individuality and community, and harmony and progress need to be brought together into a coherent whole. And finally, if wisdom is grounded in the past but points toward the future, then bringing together the heritages of East and West to create a way of thinking that serves our global future provides such a synthesis of past and future.

## Teaching Deep Learning, Critical Thinking, Enlightenment, and Wisdom

*"I do not know how to teach philosophy  
without becoming a disturber of the peace."*

*Benedict de Spinoza*

How does one facilitate the development of the cluster of capacities, character traits, and virtues connected with deep learning, critical thinking, enlightenment, and wisdom? There are a variety of answers to this question, some of which have already been mentioned. As Palmer argues, the teacher needs to bring his or her own inner self to the learning experience and attempt to connect with the inner selves of the students. Further, students and teachers alike need to participate in a “community of truth” – of dialogue and conversation. Deep understanding requires some level of psychological intimacy. Wisdom is a personal and interpersonal journey. I have also noted that deep learning requires thinking – in fact, critical thinking – about the subject matter. Students need to be moved into examining and questioning the meaning of concepts, the validity of different viewpoints, and the connections among various ideas; assessments too need to focus on this type of activity, rather than simple regurgitation of material. As Spinoza states in the above quote, though specific to the teaching of philosophy, as a general principle for all education, the student’s beliefs must be brought out in the open and challenged. The student needs to think about and assess what he or she already believes and compare it to the new ideas being presented if any deep and permanent understanding is going to occur.

Based on various themes and arguments in this paper, plus additional ideas derived from *How People Learn*, let me outline a set of initial key principles for facilitating deep learning, critical thinking, enlightenment, and ultimately wisdom. This list is by no means intended to be complete, for there is a vast amount of teaching and research on how to develop all of these human capacities.

- Clearly define the nature of deep learning, critical thinking, and wisdom for both teachers and students. Make the ultimate goal of wisdom as explicit and clear as possible. Clearly identify for students, what the virtues, capacities, and values we as educators hope to develop within them. Provide concrete examples.<sup>70</sup>
- Establish a culture and community of deep learning and wisdom in the educational setting, creating a learning environment that supports one’s educational goals. Define the educational culture through clearly identifying a set of values and goals for the learning experience.<sup>71</sup>
- Teachers need to be oriented and educated in the philosophy of deep learning and critical thinking and the value of wisdom. Teachers need to

self-assess their own beliefs and articulate their values and goals as educators. Teachers need to articulate a plan for their own continued development. Teachers need to participate in on-going re-assessment and discussion on their goals and progress.<sup>72</sup>

- Teachers should model all the qualities they wish to instill in students. They should demonstrate courage, passion, the love of thinking and learning, open-mindedness, and other virtues connected with wisdom and critical thinking. Students should be provided with various notable role models – of people who have devoted themselves to the pursuit of wisdom, enlightenment, and life-long learning.
- Teachers should provide ongoing feedback and require students to incorporate this feedback into their activities and assignments. Establish a loop of interaction and communication between teacher and student.
- Through curriculum, instructional activities, and assessments, facilitate student engagement with the course material, with each other, and with the teacher.
- Teachers should facilitate student self-awareness, making thinking and belief systems visible for the purpose of assessment and teacher feedback. Require self-reflective activities and student self-assessments. Require that students provide reasons and evidence for their beliefs and require them to critically compare their beliefs with other students. Assess students' beliefs about the subject matter at both the beginning and end of course.
- Teachers should facilitate the development of not only cognitive skills and content knowledge but of motivational and attitudinal qualities in students, including character traits and virtues. Do not be hesitant to discuss, debate, and evaluate values and ideals.
- Teachers should repeatedly explore the possible connections between the subject matter and the personal and professional life of the student.
- Teachers should provide “Big Picture” outlines, diagrams, and descriptions, connecting the individual topics examined with the overall conceptual geography of the discipline and subject. Connect main themes in the discipline with related ideas in other disciplines and areas of study. Work toward integration and synthesis. Whenever possible, new knowledge needs to be connected with other disciplines and broader issues pertaining to life, humanity, society, and the cosmos.

- Teachers should incorporate critical thinking activities in both instruction and assessment. Assignments should include analysis, synthesis, compare and contrast questions, and logical inference.
- Teachers should provide assignments and activities that engage and assess multiple modes of thinking and understanding. Emphasize vision, intuition, imagination, and “holistic seeing” as much as analysis, language, and logic.
- The curriculum and instructional activities should include interactive activities, involving dialogue, debate, questioning, and collaboration. Develop a social “thinking space.” The learning environment must involve back and forth, give and take, argument and counter-argument processes and not simply be a forum for delivering answers and facts.
- Teachers should establish a sense of mystery, wonder, and exploration, where it is acceptable to make mistakes and to admit perplexity, confusion, and lack of understanding.
- Instruction and assessment should balance depth with breadth of coverage. Establish a sufficient amount of surface learning as a foundation for deep learning and critical thinking.
- Teachers should provide activities and assignments where students have to apply knowledge to problem solving, novel situations, and real life challenges. Provide activities and assignments that test the ability to transfer.

### **Summary and Conclusion**

*“Life isn't a mountain that has a summit. Nor a game that has a final score. Life is an endless unfolding, and if we wish it to be, an endless process of self-discovery, an endless and unpredictable dialogue between our own potentialities and the life situations in which we find ourselves.”*

*John W. Gardner*

My exploration of the virtue of wisdom has taken me through such related topics as deep learning, critical thinking, enlightenment, the nature of knowledge and reality, the new views of science, and different modes of cognition across human culture. I have looked at wisdom from a theoretical and abstract perspective, as well as from educational and social perspectives. Why is wisdom a good thing? How does it give meaning and purpose to teaching and learning? How does it relate to the various challenges facing the world today? I have also examined wisdom and enlightenment from historical and futurist perspectives.

How have our ideas changed, and how may our ways of thinking need to change again?

One important and central conclusion I reached, which I think is captured in the quote above by John Gardner, is that the spirit of wisdom is not some smug conceit in having all the answers (an objectivist or fundamentalist view of knowledge), but rather it involves a sense of adventure, growth, and continued openness of the self to the awe-inspiring mysteries and wonders of reality. If the West has embraced the ideas of unending progress and evolution, whereas the East has embraced reciprocity, connectedness, and interdependency, then the new vision of wisdom and knowledge sees how these two great themes are connected together. One does not grow unless one is open and connected to others and to the world.

Another important conclusion is that wisdom is a character trait, involving not only a cognitive dimension but an emotional and motivational dimension as well. Wisdom unites the heart and the head. One can not be wise unless one loves the quest for knowledge and finds uplifting the experiences of learning and thinking. Wisdom involves courage in the face of fear, a love of the depth and the mystery of reality, and a desire to grow as a person. Finally, wisdom includes compassion for others.

Ultimately wisdom is a value pursued and a virtue lived. There are standards of good thinking, as the critical thinking movement reveals, and there are a variety of other character virtues such as courage, fairness, and humility that are absolutely necessary for wisdom. Wisdom is a virtue which integrates many of the other virtues.

The wise person embraces the ever-growing, ever questing, system of human knowledge. The wise person participates in the global "community of truth." The wise person does not cut himself or herself off from the contemporary issues and challenges facing the world today. Wisdom connects the heritage and lessons of the past with the thoughtfulness, openness, and creativity needed for the future. Wisdom by definition is an applied and practical virtue, as well as a mind-expanding capacity. The virtue of wisdom is essential for dealing with the complexity of our times. Though grounded in the past and informed by the present, wisdom ultimately points toward the future, and in particular the future of our educational aspirations.

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- <sup>1</sup> Seligman, Martin Learned Optimism: How to Change Your Mind and Your Life. New York: Pocket Books, 1998; Seligman, Martin Authentic Happiness: Using the New Positive Psychology to Realize Your Potential for Lasting Fulfillment. New York: The Free Press, 2002.
- <sup>2</sup> 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>3</sup> DeGraaf, John, Wann, David, and Naylor, Thomas Affluenza: The All-Consuming Epidemic. San Francisco: Berret-Koehler Publishers, Inc., 2001.
- <sup>4</sup> Lombardo, Thomas "The Psychology and Value of Future Consciousness" in Odyssey of the Future - <http://www.odysseyofthefuture.net/listing/ValuesPsychFutConscious.pdf>.
- <sup>5</sup> Postman, Neil Amusing Ourselves to Death: Public Discourse in the Age of Show Business. New York: Penguin Books, 1985; Postman, Neil Technopoly: The Surrender of Culture to Technology. New York: Vintage Books, 1992.
- <sup>6</sup> Cochrane, Don "Wisdom: A First Approximation" in The Wisdom Page - <http://www.isn.net/info/dc-essa.html>.
- <sup>7</sup> DeGraaf, John, Wann, David, and Naylor, Thomas, 2001; Gitlin, Todd Media Unlimited: How the Torrent of Images and Sounds Overwhelms Our Lives. New York: Metropolitan Books, 2001; Barber, Benjamin Jihad vs. McWorld. New York: Ballantine Books, 1995, 2001.
- <sup>8</sup> Bransford, John, Brown, Ann, and Cocking, Rodney (Ed.) How People Learn: Brain, Mind, Experience, and School. Washington, D.C.: National Academy Press, 2000, Pages 4 – 5, 130 – 133.
- <sup>9</sup> Smyre, Rick "Futures Generative Dialogue for 2<sup>nd</sup> Enlightenment Clubs" in Communities of the Future - <http://www.communitiesofthefuture.org/>
- <sup>10</sup> Weigel, Van B. Deep Learning for a Digital Age: Technology's Untapped Potential to Enrich Higher Education. San Francisco: Jossey-Bass, 2002, Page 139.
- <sup>11</sup> Gardner, Howard The Disciplined Mind: What All Students Should Understand. Simon and Schuster, 1999; Weigel, Van B., 2002.
- <sup>12</sup> Bransford, John, Brown, Ann, and Cocking, Rodney, 2000, Pages 234 – 239; Weigel, Van B., 2002, Pages xiv, 6; Deep and Surface Learning - Learning and Teaching Theory - <http://www.ltsneng.ac.uk/er/theory/learning.asp>; Approaches to Study Deep and Surface Learning - <http://www.dmu.ac.uk/~jamesa/learning/deepsurf.htm>
- <sup>13</sup> Myers, David Psychology: Seventh Edition in Modules. New York: Worth Publishers, 2004, Modules 20 – 22; Wade, Carole, and Tavris, Carol Psychology, 7th Edition. Upper Saddle River, NJ: Prentice Hall, 2003, Chapter Seven; Hilgard, Ernest and Bower, Gordon Theories of Learning 4<sup>th</sup> Edition. Englewood Cliffs, NJ: Prentice-Hall, Inc., 1975.
- <sup>14</sup> Bransford, John, Brown, Ann, and Cocking, Rodney, 2000, Chapter One, Page 234; Weigel, Van B., 2002, Chapter One.
- <sup>15</sup> Seligman, Martin, 2002, Pages 137 – 145.
- <sup>16</sup> Paul, Richard and Elder, Linda The Miniature Guide to Critical Thinking: Concepts and Tools. Foundation for Critical Thinking, 1999.
- <sup>17</sup> American Philosophical Association - <http://www.insightassessment.com/dex.html>
- <sup>18</sup> American Philosophical Association - <http://www.insightassessment.com/dex.html>
- <sup>19</sup> Critical Thinking Consortium - <http://www.criticalthinking.org/University/intraits.html>
- <sup>20</sup> Dean, Ben "Openmindedness" Authentic Happiness Coaching Newsletter, Vol. 2, No. 15.
- <sup>21</sup> Foundation for Critical Thinking - <http://www.criticalthinking.org/University/gloss/c.html>
- <sup>22</sup> Paul, Richard and Elder, Linda The Miniature Guide to Taking Charge of the Human Mind. Foundation for Critical Thinking, 2002.
- <sup>23</sup> MacDonald, Cophthorne "What is Wisdom" in The Wisdom Page - <http://www.isn.net/info/wisdompg.html>; Cochrane, Don "Wisdom: A First Approximation" in The Wisdom Page - <http://www.isn.net/info/dc-essa.html>.
- <sup>24</sup> Seligman, Martin, 2002, Pages 137 – 145.
- <sup>25</sup> Deep and Surface Learning - Learning and Teaching Theory - <http://www.ltsneng.ac.uk/er/theory/learning.asp>; See also Dean, Ben "Wisdom" Authentic Happiness Coaching Newsletter, Vol. 2, No. 19; Dean, Ben "Curious About Curiosity" Authentic Happiness Coaching Newsletter, Vol. 2, No. 13; and Dean, Ben "Learning about Learning"

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Authentic Happiness Coaching Newsletter, Vol. 2, No. 17 for further discussions of traits and processes connected with wisdom.

<sup>26</sup> The Wisdom Page - <http://www.isn.net/info/dc-essa.html>; Dean, Ben "Wisdom" Authentic Happiness Coaching Newsletter, Vol. 2, No. 19.

<sup>27</sup> MacDonald, Copthorne "What is Wisdom" in The Wisdom Page - <http://www.isn.net/info/wisdompg.html>; MacDonald, Copthorne, "Toward Wisdom" in the Wisdom Page - <http://www.isn.net/info/tw-ch01.html> ; Cochrane, Don "Wisdom: A First Approximation" in The Wisdom Page - <http://www.isn.net/info/dc-essa.html>.

<sup>28</sup> MacDonald, Copthorne, "Toward Wisdom" in the Wisdom Page - <http://www.isn.net/info/tw-ch01.html>.

<sup>29</sup> Cochrane, Don "Wisdom: A First Approximation" in The Wisdom Page - <http://www.isn.net/info/dc-essa.html>.

<sup>30</sup> Lombardo, Tom "Ancient Myth, Religion, and Philosophy" in The Odyssey of the Future - <http://www.odysseyofthefuture.net/listing/ReadingAncientMythReligion.pdf>

<sup>31</sup> MacDonald, Copthorne, "Toward Wisdom" in the Wisdom Page - <http://www.isn.net/info/tw-ch01.html>; Maslow, Abraham Toward a Psychology of Being. New York: D. Van Nostrand Co., 1968.

<sup>32</sup> See Hubbard, Barbara Marx Conscious Evolution: Awakening the Power of Our Social Potential. Novato, CA: New World Library, 1998 for a similar view.

<sup>33</sup> Anderson, Walter Truett The Next Enlightenment: Integrating East and West in a New Vision of Human Evolution. New York: St. Martin's Press, 2003.

<sup>34</sup> Cohen, Andrew "Advaita: An Introduction" in What is Enlightenment? - <http://www.wie.org/j14/advaita.asp> .

<sup>35</sup> Palmer, Parker The Courage to Teach: Exploring the Inner Landscape of a Teacher's Life. San Francisco: Josey-Bass, 1998.

<sup>36</sup> Palmer, Parker, 1998, Page 11.

<sup>37</sup> Palmer, Parker, 1998, Page 37.

<sup>38</sup> Palmer, Parker, 1998, Pages 17-20, 51-54.

<sup>39</sup> Palmer, Parker, 1998, Pages 115, 119.

<sup>40</sup> Palmer, Parker, 1998, Pages 110 -113.

<sup>41</sup> Palmer, Parker, 1998, Pages 102 – 106.

<sup>42</sup> Palmer, Parker, 1998, Page 104.

<sup>43</sup> Palmer, Parker, 1998, Pages 51-55, 97-98.

<sup>44</sup> Palmer, Parker, 1998, Pages 2, 21, 29, 31, 115.

<sup>45</sup> Palmer, Parker, 1998, Pages 106-108.

<sup>46</sup> Lombardo, Thomas "Science, Enlightenment, Progress, and Evolution" in Odyssey of the Future - <http://www.odysseyofthefuture.net/listing/ReadingSciEnlightProgress.pdf>

<sup>47</sup> Goerner, Sally, 1999.

<sup>48</sup> Lombardo, Thomas "Science and the Technological Vision of the Future" in Odyssey of the Future - <http://www.odysseyofthefuture.net/listing/ReadingSciTech.pdf>

<sup>49</sup> Lombardo, Thomas and Richter, 2004; Goerner, Sally After the Clockwork Universe: The Emerging Science and Culture of Integral Society. Norwich, Great Britain: Floris Books, 1999.

<sup>50</sup> Smyre, Rick "Futures Generative Dialogue for 2<sup>nd</sup> Enlightenment Clubs" in Communities of the Future - <http://www.communitiesofthefuture.org/>

<sup>51</sup> Goerner, Sally "Creativity, Consciousness, and the Building of an Integral Society" in Loye, David (Ed.) The Great Adventure: Toward a Fully Human Theory of Evolution. Albany, New York: State University of New York Press, 2004.

<sup>52</sup> There are many excellent overviews of contemporary science. See the previous reference "Science and the Technological Vision of the Future" for an extended list of books and articles. But I would highlight the following references as especially good resources on the evolutionary, reciprocal, and contingency/possibility themes: Goerner, Sally Chaos and the Evolving Ecological Universe. Luxembourg: Gordon and Breach, 1994; Kelly, Kevin Out of Control: The Rise of Neo-Biological Civilization. Reading, MA: Addison - Wesley, 1994; 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. Smolin, Lee The Life of the Cosmos. Oxford: Oxford University

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Press, 1997; Prigogine, Ilya The End of Certainty: Time, Chaos, and the New Laws of Nature. New York: The Free Press, 1997; Sahtouris, Elisabet EarthDance: Living Systems in Evolution. Lincoln, Nebraska: IUniverse Press, 2000; Morowitz, Harold The Emergence of Everything: How the World Became Complex. Oxford: Oxford University Press, 2002.

<sup>53</sup> Anderson, Walter Truett Reality Isn't What It Used To Be. New York: Harper, 1990, Chapter 11.

<sup>54</sup> See Lee Smolin, 1997 on the ecological and subjective dimension to all scientific knowledge.

<sup>55</sup> Gibson, James J. The Senses Considered as Perceptual Systems. Houghton Mifflin, 1966; Gibson, James J. The Ecological Approach to Visual Perception. Boston: Houghton Mifflin, 1979.

<sup>56</sup> See Bell, Wendell Foundations of Future Studies: Human Science for a New Era. Volume I. New Brunswick: Transactions Publishers, 1997, Chapter 5 for a balanced discussion of the objective and subjective dimensions of human knowledge and a spirited defense of the epistemological position of "critical realism."

<sup>57</sup> Lombardo, Thomas and Richter, 2004.

<sup>58</sup> MacDonald, Copthorne, "Toward Wisdom" in the Wisdom Page – <http://www.isn.net/info/tw-ch01.html>.

<sup>59</sup> See the following two articles for discussions of the value of future consciousness, its evolution through history, and how the overall trend in the evolution of consciousness and the mind is the increasing capacity to grasp larger and larger expanses of space and time: Lombardo, Thomas "The Psychology and Value of Future Consciousness" in Odyssey of the Future - <http://www.odysseyofthefuture.net/listing/ValuesPsychFutConscious.pdf> and Lombardo, Thomas "The Evolution of Future Consciousness" in Odyssey of the Future - <http://www.odysseyofthefuture.net/listing/ReadingEvolFutConscious.pdf>.

<sup>60</sup> See Foundation for Global Community - <http://www.globalcommunity.org/>; Integral Naked - <http://integralnaked.org/> ; Spayde, Jon "The New Renaissance" Utne Reader, February, 1998; and Goerner, Sally, 1999 for a variety of statements and descriptions of the concept of "integral culture."

<sup>61</sup> Goerner, Sally, 1999.

<sup>62</sup> Gardner, Howard Frames of Mind: The Theory of Multiple Intelligences. New York: Basic Books, 1983.

<sup>63</sup> Shlain, Leonard The Alphabet Versus the Goddess: The Conflict Between Word and Image. New York: Penguin Arkana, 1998; Myers, David, 2004, Pages 84 – 88; Carole, and Tavis, Carol, 2003, Pages 126 – 130.

<sup>64</sup> See Anderson, Walter Truett, 2003, Introduction and Part I for a description of the various enlightenment movements throughout history.

<sup>65</sup> Nisbett, Richard The Geography of Thought: How Asians and Westerners Think Differently ...and Why. New York: The Free Press, 2003.

<sup>66</sup> Hampden-Turner, Charles Maps of the Mind: Charts and Concepts of the Mind and its Labyrinths. Collier Books, 1982, Pages 20-21, 44-47, 86-89, 100-107, and 162-165; Koestler, Arthur The Act of Creation. New York: Dell, 1964; Koestler, Arthur Janus: A Summing Up. New York: Random House, 1987.

<sup>67</sup> Shlain, Leonard, 1998; Eisler, Riane Sacred Pleasure: Sex, Myth, and the Politics of the Body. San Francisco: HarperCollins, 1995.

<sup>68</sup> Nisbett, Richard, 2003.

<sup>69</sup> Shlain, Leonard, 1998; Gitlin, Todd, 2001; Naisbitt, John High Tech - High Touch: Technology and our Accelerated Search for Meaning. London: Nicholas Brealey Publishing, 2001.

<sup>70</sup> Bransford, John, Brown, Ann, and Cocking, Rodney, 2000, Chapter 10.

<sup>71</sup> Bransford, John, Brown, Ann, and Cocking, Rodney, 2000, Chapter 6.

<sup>72</sup> Bransford, John, Brown, Ann, and Cocking, Rodney, 2000, Chapter 8.