The Scientific Study of Personal Wisdom

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In this concluding chapter, we synthesize some of the main themes found in previous chapters in the volume. We pay particular attention to the various dimensions, exemplars, and paradoxes that contributors raise about wisdom as a topic for scientific inquiry. In the second half of this chapter, we consider what the diversity of opinions presented about wisdom imply for the scientific study of personal wisdom, how to reconcile these approaches, and possible future directions that such a science might take to advance our understanding of wisdom.

What Is Personal Wisdom?

Current Western understandings of wisdom can be traced back to two strands of ancient thought: one from the Ancient Near East (which includes biblical "wisdom literature"[1]) and the other to Ancient Greek philosophers (i.e., lovers of wisdom). In fact, these two traditions are not completely distinct from each other. Both the Hebrew term *hochma* and the Greek term *sophos* originally refer to a practical skill or know-how. They can apply to material crafts like blacksmithing or boat building but also to a general skill in living a good life. Broadening our focus to include ancient Mesopotamia, we find that the god of wisdom, Ea, was said to have brought all the arts and crafts of civilization to mankind. Taken together, wisdom can be understood as living the best life possible through the use of all of the skills that civilization has accumulated (Curnow, 2010). While in some ways these ancient

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[1] Usually including *Proverbs, Job, Ecclesiastes* (*Qoheleth*), and, among the Apocrypha, *The Wisdom of Solomon* and *Ecclesiasticus* (*Ben Sirach*).

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traditions are very different from modern science, it is striking how well this original understanding of wisdom resonates with the understanding of wisdom developed by different contributors to this book.

Personal wisdom, as approached by science, exemplifies the oldest wisdom traditions, which claim to provide insight and advice into how to live a good life—it is the hope of many contributors that scientific methods can either confirm or advance insights from these wisdom traditions to help people live more fulfilling lives. Perhaps the current distinction between scientific and religious wisdom traditions (i.e., whether wisdom is knowledge derived from lived experience or is the product of a secret revelation known only to scribes or those who are literate) traces its roots to confidence or skepticism over whether human reasoning and personal effort can contribute to a better life or whether one must rely on some higher divine power to fully accomplish this. But at least for the science of wisdom described in the chapters of this book, wisdom is seen as squarely emerging out of a deep knowledge and appreciation of lived experience, which we will explore more fully in the next section.

What Do Our Contributors Mean by Personal Wisdom?

Staudinger and Glück (2011) reflect a majority view of researchers studying wisdom scientifically when they write that wisdom concerns good judgment that is confined to questions dealing with the uncertainty of life, existential or otherwise. This definition connects to the ancient wisdom traditions just mentioned, but the chapters in this volume show that it is certainly incomplete. In fact, we find a range of approaches to personal wisdom within the chapters of this volume including:

1. Wisdom as decision-making ability (Staudinger; Sternberg)
2. Wisdom as pragmatically relevant insight (Vervaeke & Ferraro)
3. Wisdom as self-transcendent insight (Levenson & Aldwin; Rosch; Takahashi)
4. Wisdom as a set of traits or personality characteristics (Ardelt, Achenbaum, & Oh; Glück & Bluck)
5. Wisdom as a social phenomenon (Edmondson)
6. Wisdom as a narrative process (Ferrari, Weststrate, & Petro)
7. Some combination of these viewpoints (Sanders & Jeste; Wink & Dillon; Yang)

This wide range of approaches reveals that the definition of wisdom, and how to gather evidence for it or to foster it, is far from settled. In his 2005 book, *Wisdom of Ancient Sumer*, Brendt Alster devotes the first 6.5 pages of his introduction to a discussion of various efforts to define wisdom literature as it applies to the writings of the ancient Sumerians, the first civilization to produce what we now consider wisdom writings about the gods and rulers. Likewise, Gammie and Perdue (1990) in their influential edited volume on *The Sage in Ancient Israel and the Near East* conclude by providing a general scheme that is also useful for sifting through the various approaches to wisdom in this volume. The oldest wisdom tradition is

"prudential" (e.g., Proverbs), or parenetic (i.e., exhorts, advises, councils) and can be further divided into instructional or hortatory; the more recent ancient wisdom is skeptical and can be further divided into disputations (e.g., Job) and reflections (e.g., Qoheleth).

Building on Gammie and Perdue's (1990) basic scheme, the following section proposes two ways to meaningfully organize the approaches to wisdom advanced by contributors to the volume. The first approach is to consider a variety of dimensions on which definitions of wisdom might be situated. The second is to consider exemplars from the historical traditions that inform our understandings of wisdom today and thus relate directly to how our contributors conceive of personal wisdom.

Dimensions Along Which Approaches to Wisdom Can Be Situated

Why is wisdom so difficult to define and to explain? Edmondson suggests, we think rightly, that wisdom is a "range concept," that is, there may be a family of types of wisdom that share interconnections but not a common analytic definition. Nevertheless, it is still possible to imagine a multidimensional space in which conceptions of wisdom might be situated along a set of dimensions. The following dimensions seem to capture many of the different ways of thinking about personal wisdom described in this book:

- *Interpersonal activity to intrapsychic state of mind.* This first distinction effectively captures the original distinction Staudinger (Mickler & Staudinger, 2008; Staudinger, Dörner & Mickler, 2005) makes between general and personal wisdom: General wisdom is said to be interpersonal, whereas personal wisdom is said to be intrapersonal. Interpersonal wisdom is also central to Edmondson's ethnographic findings about wisdom in Ireland and other countries.
- *Subjective experience to objective artifact.* This distinction captures Ardelt's (2004) critique of Baltes' Berlin Wisdom Paradigm (see Baltes & Smith, 2008; Baltes & Staudinger, 2000): Ardelt is interested in the ideal subjective experience of wise people, while Baltes believed wisdom can be contained in objective artifacts like books or legal codes. As this is a book about personal wisdom, most of the contributors emphasize the experiential end of this dimension.
- *Self-concern (prudential coping and flourishing) to self-transcendent (selfless concern for all known reality)*—reminiscent of the Aristotelian distinction between phronesis and sophia, respectively. This distinction is foundational to the ideas of Rosch, and Levenson and Aldwin in their chapters.
- *Rational reflection on lived experience to contemplation of experience itself ("intellective" or "mystical" experience).* This distinction is what some contributors feel divides the ordinary wisdom needed to live a successful life in one's community from the extraordinary wisdom of self-transcendence. It is

in this sense that Rosch and others believe the deepest wisdom must be accessed by a new kind of mind or spirit.

- *Imperfect to (perhaps inhumanly) perfect*. This distinction is often characteristic of the theological distinction between human and divine wisdom and does not really make an appearance in this volume, except perhaps in considering the religious source of wisdom in the figure of Jesus in chapters by Wink and Dillon and Ferrari et al.

Given this conceptual range, no one should expect an analytic definition of wisdom. Rather, wisdom is more of an ideal of which particular exemplars like Jesus or the Buddha are considered perfect examples. Indeed, several chapters rely on exemplars and detailed case studies to understand personal wisdom rather than try to establish an analytic definition of it.

Approaches to Wisdom Illuminated by Historical Exemplars

As Ferrari et al.'s chapter shows, dimensions tend to cluster together in exemplars and master narratives about wisdom and wise individuals. Assmann (1994) has distinguished four fundamental types of wisdom referred to by Wink and Dillon in their chapter:

1. Solomon: Judicial wisdom of the ruler and judge
2. Polonius: Traditional and conservative humanist wisdom of the fathers
3. Jaques: Reflective and critical wisdom of the outsider
4. Prospero: Productive and instrumental wisdom of the scientist or magician

Three of Assmann's four fundamental types are Shakespearean characters, but actually she could have easily and perhaps more appropriately drawn her exemplars from the Ancient Near Eastern and Ancient Greek wisdom traditions that inspired them. But what is important here is the realization that certain fundamental types or stock characters are considered personally wise in both literature and in historical documents, consistent with Ricoeur's (1992) claim that personal identity (including the identity of being a wise person or behaving wisely) always draws from literature and history.

Several exemplars of wise people are put forward in this volume, including but not limited to those identified by Assmann (1994). We review some of these exemplars here and describe how they relate to various definitions of personal wisdom as presented in the chapters of this book. These exemplars are organized according to Assmann's taxonomy. Readers with no interest in these historical examples may choose to skip this section and proceed to the next main later section that discusses the plausibility of a science of wisdom today. Simply note that exemplars of wisdom cited by chapter authors almost inevitably draw from established philosophical and religious traditions that date back over 2,000 years.

Judicial Wisdom

Solomon (died 931 BCE) is a common exemplar of the wise ruler from the Ancient Near East wisdom tradition. In fact, he is the preeminent exemplar of biblical wisdom and traditionally said to been the author of three of the five wisdom books in the Bible (Proverbs, Qoheleth, and the Wisdom of Solomon). Solomon's wisdom involved good judgment that manifests the will of God on earth but also included a vast knowledge of proverbs, psalms, and general knowledge. Ironically, biblical scholars like Kugel (2007) and Crenshaw (2010) find that the historical Solomon was not particularly wise nor even strongly associated with the wisdom tradition of his time. For example, Solomon's kingdom collapsed a few years after he died because of the massive taxation he imposed on his northern subjects. A better example of this tradition might be the Mesopotamian king *Assurbanipal* (c. 685–627 BCE), who was accomplished in the scribal arts, assembled a vast library in his palace at Nineveh, and was hailed as an exemplary king (Zamazalová, 2011).[2]

The *Buddha* (c. 563–483 BCE), from the Eastern wisdom tradition, is prototypical of a ruler who renounces his throne and worldly power to pursue spiritual power and wisdom (a choice that returns again in the figure of Jesus). Closer to Solomon and Assurbanipal in the Eastern tradition would be the Emperor *Ashoka* (c. 304–232 BCE) who converted to Buddhism, according to legend, after seeing the carnage of a great battle and spent the rest of his reign engaged in great and charitable deeds designed to improve the lives of his subjects. Curiously, although Edmondson mentions this master narrative of the wise ruler, no chapters really draw on it—Takahashi, Ardelt et al., and Ferrari et al.'s chapters do discuss the Buddha within a more democratic view of personal wisdom in which people learn to better govern themselves by drawing on the example of historical figures like Christ and Buddha.

Conservative Humanist Wisdom

The Greco-Roman humanist tradition is exemplified by *Isocrates* (436–338 BCE)—a rhetorician who influenced *Cicero* (106–143 BCE) and *Seneca* (4–65 AD). This view of wisdom addresses the sort of characteristics a wise person should have (i.e., "a knowledge of things human and divine"[3]) in order to live a good life (i.e., act as an ideal citizen). Within this tradition, to contribute effectively to one's political community, the wise are said to require wide-ranging expert knowledge, a passionate commitment to the common good, emotions schooled to virtue, and the rhetorical skills needed to convince others. Edmondson introduces this master

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[2] The Mesopotamian king *Sulgi of Ur* (c. 2094–2047 BCE) was the first to describe himself as accomplished in the scribal arts, saying through in royal hymns that he was knew Sumerian, Akkadian, and was fluent in several other languages, understood mathematics, and was an accomplished musician and excelled at interpreting the signs in the entrails of sacrificial animals (Frahm, 2011).

[3] Cicero Tusc IV 26.57, de Officio II.2.5, Seneca Letters to Lucilius 89.5.

narrative of wisdom, but it is perfectly consonant with the ideas of Sternberg and Staudinger. It also seems to inspire defining wisdom as an expertise in the fundamental pragmatics of life characteristic of the Berlin paradigm but also adopted by Glück and Bluck, and Vervaeke and Ferraro. More specifically, it encompasses Sternberg's understanding of wisdom as living ethically within a community. Relatedly, this wisdom is associated with the ability to cope with life and live life to its fullest, mentioned by Sanders and Jeste.[4]

This tradition seems closely related to the wisdom of Shakespeare's *Polonius*—characterized by practical advice-giving in everyday life contexts—since this advice is designed to allow people to live successfully and flourish in society. The view that wisdom is a set of instructions given by one generation to the next (parent to child or master to apprentice) is perhaps the oldest wisdom tradition (Alster, 2005), and yet it is not one that is much referred to in the volume.

Reflective and Critical Wisdom

Plato's *Socrates* (469–399 BCE) saw wisdom as acquired through a continuing critical and reflective self-interrogation engaged in through dialogue and dialectic interaction with others within one's political community (or, by the time of Plato, with other students in his academy). Wisdom here sought better "care of the soul," but although manifesting a love of wisdom, the Socratic never claims to be "wise" (Edmondson, 2012). This is perhaps a better exemplar of critical wisdom than is the Shakespearean jester, *Jaques*—although the character of Jaques also includes aspects of doubt and melancholy characteristic of an outsider. Such wisdom allows people to adopt an unconventional perspective on reality that seems integral to the understanding of wisdom in many chapters, especially those of Ardelt et al., Glück and Bluck, and Ferrari et al. For Vervaeke and Ferraro, in particular, wisdom is not an inert knowledge, but an ability to realize the relevance of information makes wisdom transformative knowledge. And indeed self-transformation is central to wisdom for most contributors, making wisdom inherently *personal* wisdom.

With Neoplatonist philosophers and especially in the approach to wisdom adopted by *Augustine* (354–430 BCE), wisdom involves an inner contemplation of experience that leads us to see through illusion and into a higher or deeper self-transcendent reality.[5] Such authentic self-insight is often the result of having experienced suffering and having grown from it. Using another metaphor, we find Desert Fathers such as *Anthony the Great* (c. 251–356 AD) whose radical retreat

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[4] About the same time, Epicurus (341–270 BCE) and his followers imagined the wise as a hedonic apolitical individual untroubled by the negative and irrational emotions, thoughts, and actions that cause human suffering; such a wise person becomes almost god-like among a small circle of friends. Edmondson proposes this ideal of wisdom, but no contributors seem to draw on it in their proposals for a personal science of wisdom, and it does not seem to fit Assmann's categorization very easily.

[5] A view also associated with Buddhism.

from society was considered a precondition for the purification essential to a personal wisdom—a wisdom that, as Sanders and Jeste put it, is the human embodiment of God. While contributors do not directly address this wisdom tradition, the emphasis by Levenson and Aldwin, Rosch, and others on the contemplative traditions as leading to self-transcendent wisdom seems closest to it.

Productive and Instrumental Wisdom

Finally, the wisdom of Shakespeare's *Prospero* is associated with knowledge of the rules governing the cosmos world, leading to an ability to control it through magic or sorcery (or today, science). This view of wisdom, characteristic of ancient Mesopotamian sages or of Einstein today, is only marginally addressed in the volume. But if understood intrapsychically, as Jung (1921/1971) understood the ancient alchemical pursuit of wisdom, then this wisdom seems to ally itself to self-transcendent wisdom.[6] As Edmonsdon points out, the Jungian understanding of wisdom expresses the modern expectation that intrapsychic (rather than interpersonal or social) processes are central to personal wisdom, expressed as an authentic and deep understanding of oneself.

There are clearly a wide variety of theoretical models and exemplars of personal wisdom. What does this mean for a science of personal wisdom?—A question that we return to momentarily. Despite this wide array of dimensions and exemplars, or perhaps because of them, wisdom remains paradoxical in a way that defies easy definition.

Paradoxes that Obscure a Unitary Definition of Wisdom

Wisdom is paradoxical—a point that is central to Ardelt et al.'s chapter. The paradoxical nature of wisdom could in part explain why we observe such a diversity of definitions. Here are some of the central paradoxes of wisdom.

Wisdom is both subjective and objective. The objective actions of the wise—or even historical documents describing them—carry traces of their subjective experiences of wisdom. For example, the words of the Buddha reflect his experiences, but paradoxically our subjective experiences refer to or critique culturally existing models of what it means to be wise (a point made by Ferrari et al. in their chapter).

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[6] The Daoist alchemist conception of the wise as one who is able to transform himself into an immortal is also far from the contemporary view of what is means to be personally wise. Even if most contributors would agree with the importance of living in harmony with nature that is at the core of this wisdom tradition, their notion of self-transformation is psychological, not physical.

Wisdom involves both knowledge and uncertainty. Wise people know what they do not know and act accordingly, either to seek out new information or to accept that some outcomes are inherently uncertain and unknowable. This point is essential to the Berlin and Bremen models of wisdom developed by Staudinger.

Wisdom is both timely and timeless. Wisdom is concerned with timeless human predicaments (suffering, death), and yet it is designed to suit particular contexts. It often emerges through reflection on immediate and deeply contextual personal experiences. Both Glück and Bluck and Ferrari et al. emphasize this in their chapters, but it is seen most clearly in the ethnographic descriptions of wisdom presented by Edmondson.

Wisdom involves both loss and gain. We gain wisdom sometimes through failed expectations and loss of illusions, attachments, and aversions—losses that can be a source of joy, as Ardelt points out, or at least of personal growth as we see in the cases presented by Wink and Dillon.

Wisdom involves self-development through selflessness (or self-transcendence). Awareness of one's subjective bias overcomes it. There is a dialectical relationship between selflessness and self-development (Levenson & Crumpler, 1996; Levitt, 1999): Only people with a deep knowledge of themselves and how their identity is socially constructed (including meaningful obligations and responsibilities) can develop personally to the point of overcoming their self-centeredness, a point made by Rosch, Takahashi and by Levenson and Aldwin in their chapters.

Wisdom requires involvement through detachment. Lacking egocentric self-centeredness, the wise have a concern for collective well-being that allows them to be both personally detached and collectively engaged in their actions. Levenson and Aldwin make this point in their chapter, but it is perhaps most strongly evident in Sternberg's discussion of teaching to promote ethical leadership.

Wisdom involves both willful (deliberate) surrender and active nonaction. Positional/situational power can achieve maximum effect with minimum effort; thus, the freedom to be one's authentic self requires self-transcendence (selflessness). By living in the moment and seeing its potentials clearly, action then becomes personal without being egocentric. This is a point made by Rosch and Takahashi and especially by the life of the Buddha discussed by Ardelt et al.

Wisdom requires change through acceptance. By accepting how things are, one's perspective changes, and with that, often possibilities for action arise, something integral to Glück and Bluck's understanding of wisdom.

Finally, *we need wisdom to understand wisdom*. This is a point Sternberg has made elsewhere (Sternberg, 1990b). And here we might consider constructivist approaches to human development, especially Vygotsky's (1934/1987) notion of the zone of proximal development according to which we perform better when supported by more expert or more knowledgeable peers or even by externalizing cognitive functions that were originally social. On this view, we should not be surprised if we are wiser when we have a chance to discuss with others or even if we imagine we are doing so (Staudinger, 1996).

Can There Be a Science of Personal Wisdom?

Can the study of wisdom be its own science—we might call it sophiology—and is such a science to be desired? Contributors to this volume seem to believe we need to study wisdom scientifically. They do not pronounce on the question of needing a separate science but are all convinced that the existing social sciences of sociology, anthropology, political science, and psychology—including the psychology of intelligence and developmental psychology—do not fully address how people can develop optimally or how such development can be put to use to make a better world. We suggest that even positive psychology, as understood by Seligman (2011) is what Maxwell calls "inquiry-based," not wisdom-oriented. This is why Sternberg, in his chapter, is dissatisfied with theories of intelligence that do not look at actual successful living, and Maxwell, in his chapter, calls for a full-scale reform of university education, one that requires a paradigm shift in how we understand science and human development.[7]

While one might grant that wisdom is a legitimate theoretical and practical problem for science, the question remains of how to study it systematically through a scientific method. Contributors propose a wide variety of approaches to a science of personal wisdom reflecting the different subdisciplines of the social and natural sciences. Here are some of the main ways the science of personal wisdom has been investigated within this volume:

- Self-report scales that assess dimensions associated with wisdom (the Three-Dimensional Wisdom Scale for Ardelt et al.; MORE dimensions for Glück & Bluck; the Adult Self-Transcendence Scale for Levenson & Aldwin)
- Task performance that demonstrates exceptional judgment or insight (Staudinger; Sternberg; Vervaeke & Ferraro)
- Intellectual history of (e.g., Buddhist) wisdom (Ardelt et al.; Rosch; Takahashi)
- Life history/autobiographical narrative analysis (Ferrari et al.; Wink & Dillon; Yang)
- Ethnography (Edmondson)
- Brain imaging (Sanders & Jeste)
- Institutional critique (Maxwell)

One might despair at the diversity of exemplars and definitions of personal wisdom proposed by contributors to this volume and of the wide varieties of methods used to study it. How can there be anything like a science of wisdom amidst all of this diversity?

We believe that having such a divergent, seemingly incoherent, field is not a problem; in fact, the diversity of approaches is a strength. Perhaps a good analogy is the famous 1921 symposium on intelligence that generated 14 different definitions

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[7] Wisdom is not mere knowledge about successful living, it is a skill that allows the wise to live well in community (including the problem, following Howard (2010), that modern societies are characterized by *paradexity*—i.e., the convergence of paradox and complexity).

of intelligence (and a 1986 follow-up symposium organized by Sternberg generated another set of definitions with only 0.5 correlation to these earlier ones; Sternberg, 1990a). This diversity has not undermined the importance of intelligence as an area of inquiry for over 100 years. If the chapters in this volume are any indication, the science of wisdom seems to be in a very similar situation to the scientific study of intelligence: Not only do definitions of wisdom differ but so do methods of studying it scientifically.

Trading Zones for a Science of Wisdom

In order to effectively address such diversity, it is worth drawing on a notion proposed by Peter Galison (1997) in philosophy of science as it relates to the history of physics—usually considered one of the most stable and fruitful of the sciences and the one that early psychologists like Fechner took as a model for his own efforts at a truly rigorous science of psychology. According to Galison, in order to understand the science of physics, it is important to look at how "trading zones" were established between theory, instruments, and experimenters—an idea he borrows from anthropology.

The idea of trading zone also makes possible a science of wisdom without obliging everyone interested in that science to agree on a common method or even a common understanding of wisdom. Instead, ideas about wisdom and particular research findings become boundary objects that can be traded among different groups in their common pursuit of a science of wisdom, one whose central goal is understanding and promoting human flourishing.

Theories of wisdom necessarily draw on ancient theories and exemplars of wisdom, which is why almost every chapter in the volume mentions ideas and figures from Ancient Greek and Near Eastern traditions or contemporary religions that were founded by figures from that time. Indeed, we expect modern theories of wisdom to refine or challenge these ancient theories of wisdom, assessing them with new instruments in order to document, provoke, or foster particular kinds of experience (or identify the people disposed to have such experiences).

For example, the Berlin paradigm presents a comprehensive theory of factors that contribute to pragmatic wisdom, clearly drawing on the Greek humanist tradition. In so doing, it challenges the Eriksonian "wise-old man" as an object of study for the science of wisdom—a theory with its roots in the Ancient Near East. These two different theories of wisdom both deserve to be investigated. However, the question of method is important. Even if the connection between age and wisdom may ultimately be best understood in terms of expertise, the Berlin paradigm has the problem that the pragmatic expertise it associates with wisdom lacks ecological validity as assessed in vignette tasks (Ardelt, 2004). For this reason, not everyone is ready to accept the Berlin data as an object of trade. By contrast, Bluck and Glück (2004), working generally within the Berlin paradigm of wisdom as life expertise, seem to have more ecologically valid data in the form of

autobiographical narratives. This new source of data for the Berlin theory provides new material to trade and allows a better challenge to Erikson's theory of wisdom as resolving a psychosocial crisis. Staudinger's work on personal wisdom as self-insight characteristic of personal maturity (Mickler & Staudinger, 2008; Staudinger et al., 2005) uses essentially the theory of wisdom proposed by Erikson and Jung but nicely articulated in ways that allow a parallel comparison to the original Berlin data.

Trade disputes can also occur over different self-report instruments to assess wisdom. For example, should Ardelt's Three-Dimensional Wisdom Scale (3D-WS) or Webster's Self-Assessed Wisdom Scale (SAWS) be used to assess wisdom (see Ardelt, 2011; Taylor, Bates, & Webster, 2011; Webster, Taylor, & Bates, 2011)? The notion of a trading zone shows this question to be misguided. Self-report questionnaires are a particular kind of instrument developed in light of particular theories of wisdom. If different theories are used to construct these instruments, different dimensions and different factors will necessarily be found associated with wisdom. For example Jason and colleagues (Jason et al., 2001; Perry et al., 2002) ultimately identify three wisdom factors (intelligence, harmony, and spirituality) based on the implicit theories of their participants, dimensions that only partially overlap those of Ardelt's (2003) 3D-WS: cognition, reflection, and compassion. Jason's dimensions draw more directly from the Near Eastern strand of Western wisdom as *transcendental* (ultimate, intuitive, spiritual wisdom), captured by Jung's theory of wisdom, while Ardelt's is closer to *prudential* (circumstantial, experiential) wisdom that ironically is the same humanist wisdom tradition targeted by the Berlin paradigm, but using very different instruments. Webster's (2007) SAWS proposes five aspects as essential to wisdom (experience, emotional regulation, reminiscence [reflection], humor, and openness) that overlap those in Glück and Bluck's MORE model and also seem to consider wisdom prudential.

Likewise, the only partially overlapping list of "neural pillars of wisdom" identified by Hall (2010) and Jeste (Jeste & Harris, 2010; Meeks & Jeste, 2009; Sanders & Jeste, 2012) are all taken from ancient and modern theories of wisdom. The pillars themselves are boundary objects between these theories and the instruments developed by neuroscience to explore them in terms of individual brain function. Neural correlates for wisdom attributes can inform those original theories explaining how wisdom-theory attributes are embodied, but they must be in constant trade with the original theories themselves.

Put another way, the diversity of approaches seen in this volume represents a plurality of methodologies and perspectives and thus requires what Wilber (2006) calls an Integral Methodological Pluralism, since no one approach can measure all aspects of what interests us scientifically about wisdom. Certainly, it is important to measure EEGs or other data associated with "neural pillars of wisdom," as do Sanders and Jeste (2012) or Hall (2010), but still learn nothing about:

1. The phenomenology of the actual experience of wisdom or wise people
2. The developmental knowledge structures required to experience wisdom
3. The specific kinds or styles of judgments wise people make

4. The hermeneutics of how different cultures interpret wisdom insights
5. The formal and informal institutionalization of wisdom insights within different cultures and societies, and how these affect the chances of particular people becoming wise (something that requires social systems analyses)
6. The different time scales that Yang (2012) identifies for wisdom: (a) immediate successful resolution of life's problems and challenges, (b) long-term successful and satisfying management of one's life overall, and (c) generational actualizing of new possibilities for human civilization

Thus, we need to consider many supporting approaches to the science of wisdom without trying to reduce them to a single unitary view.

Advantages of Free Trade Across Scientific Approaches to Wisdom

Adopting the notion of trading zones allows both Ardelt and Baltes to be shown right in their understanding of wisdom from within their own perspectives: Our personal disposition make us more or less likely to be wise in familiar circumstances (Ardelt), but expertise in life matters will determine the stability of our personal disposition to wisdom in times of crisis or novelty (Baltes). Likewise, the question of how such traits and performances are embodied as "neural pillars of wisdom" is a legitimate trading object for neuroscience. However, all these approaches need to be understood in light of ancient wisdom traditions that date back to our earliest historical records and are still best captured by stories and maxims that have the remarkable power to inform our lives when we reflect on them and take them to heart.

To the extent that these disputes over scientific data remain a source of cooperative trading, these different approaches are all to the good, but sometimes it seems that, for example, neuroscientists claim that the correct language of science is at the neural level, a problem that Sanders and Jeste avoid in their own chapter. Still, if everyone has a working brain that uses the pillars of wisdom identified, but not everyone is wise, it is worth examining how the particular operation of wise brains makes them wise. The neuroscience answer to this question can be traded with the answers provided by other research programs, like the Berlin program, or those of Ardelt or Glück and Bluck that also set out to answer it.

Likewise, trade disputes can occur over whether or not the contemplative traditions discussed by Levenson and Aldwin, Rosch, and Takahashi identify practices associated with the development or maturity necessary for "extraordinary wisdom." This may be very different from the "ordinary wisdom"—what Charron (1601) called "humane wisdom"—needed to live a successful life described in chapters by Glück and Bluck, Sternberg, Staudinger, and others. Meditation and other practices are said to lead the practitioner toward wisdom defined as a *higher or deeper level of consciousness*. As Levenson and Aldwin, Vervaeke and Ferraro, and Ardelt et al. all agree, meditation is an instrument of choice to promote *insight* or awakening to our own habits of thinking and reacting needed to transcend this

life or see through its illusions. However, even if true, the adequacy of the scientific instruments to assess such insight can be debated. For example, Rosch disputes the scientific usefulness of existing scientific measures of mindfulness.

For Glück and Bluck, wisdom from life experience develops through MORE—mastery, reflection, openness, emotion regulation, and empathy—skills required to nurture and consolidate insights considered essential building blocks to wisdom that may differ at different ages. Wisdom from life experience will require very different skills and capacities from those needed to develop extraordinary wisdom, perhaps through the core features of wisdom identified by Curnow (1999) and Levenson and Aldwin (2012): self-knowledge, detachment, self-integration, and self-transcendence. A theory of extraordinary wisdom also brings in new metaphors such as the notion of decentering the self or of a vertical dimension suggested by the term "self-transcendence." These concerns may in turn be very different from those that will bring about the sort of wisdom inquiry Maxwell advocates or the self-insight and ethical behavior needed to live well in community that are the focus of chapters by Sternberg, Staudinger, and Maxwell. These "ordinary" forms of humane wisdom can perhaps be developed by reflection on life experiences, as proposed by Staudinger—not unlike the suggestion by Ardelt et al., Ferrari et al., and Glück and Bluck that we learn from our experience through autobiographical reasoning. Ferrari et al. note that such reasoning will necessarily make reference to cultural master narratives that are historically embodied in specific people whom we consider to be exemplars of wisdom, a point that resonates with that of Yang in her discussion of wisdom as involving "real-life experiences." Importantly, such experiences are also bound up with particular religious and spiritual traditions, as Wink and Dillon show in their chapter for this volume.

What this means is that, while questions about the development of wisdom are legitimate objects for trade, particular practices (e.g., mindfulness meditation, or other contemplative practices) will necessarily be instruments designed to provoke experiences that are associated within a certain understanding of wisdom—whether one in line with the Ancient Near Eastern conception of an extraordinary wisdom revealed by God, with the Greek humanist wisdom, or with Buddhist theories of wisdom as insight into the ultimate nature of realty.

Future Directions for a Science of Wisdom

Over 30 years ago, Clayton and Birren (1980) noted that our technological society places a greater emphasis on the cognitive skills necessary for productivity than on the personal wisdom needed to live a good life and create a better world. This led to the paradox that we are materially better-off in Europe and North America than we were 50 years ago, but we are not happier. A main goal of wisdom traditions from ancient to modern times has been to help people better understand human nature and its relationship to the rest of the known cosmos, with all of the paradoxes and

contradictions this entails, and the causes and consequences of human suffering and human flourishing.

Acquiring wisdom is considered essential to optimal human flourishing because it is wisdom that should allow us to live the best life possible—a life in which human potential is actualized and the highest values of human truth, love, and freedom are manifest. Wisdom is what Schwartz and Sharpe (2006) call a "master virtue" that coordinates and calibrates all other virtues. Thus, as Sternberg notes in his chapter, personal wisdom is also essential for ethical behavior, something equally essential to creating a society in which we look out for the common good.

Wisdom is an ideal, but can we chart progress toward it scientifically? We might adapt positive psychology's notion of a gross happiness product (GHP rather than GDP) that can apply to whole nations (Seligman, 2011) but more modestly to school reform—what we might call, awaiting a better name, a gross wisdom product or GWP. In other words, we need a way to judge what Vervaeke calls the "wisdom to foolishness" ratio of a society—an idea echoed by Walsh (2011), who writes, "The wisdom to foolishness ratio may well be one of the most important cultural factors determining individual and collective wellbeing, and will also determine how much cultures support or suppress the search for wisdom (i.e., whether they are *sophiatrophic* or *sophiatoxic*)" (p. 113). But how should GWP be measured and assessed?

Developing such a measure would precisely be an object of trade within a trading zone set up by different approaches to studying wisdom. GWP assessments of wisdom might be refinements of existing wisdom scales but could also include short answer questions to vignettes modeled on the Berlin tasks and examples of life reflection in light of autobiographical stories or stories of the wisdom of others—not just the extraordinary wisdom of a Buddha or Jesus, but the ordinary wisdom of relatives, friends, and neighbors. And just as Binet and Simon (1905) envisaged intelligence tests that were indicative of school performance, and not an ultimate measure of personal capability, we might imagine measures and assessments of wisdom designed to assess whether people have core insights acknowledged as important to a successful life (ordinary wisdom) and perhaps even point them toward what is needed to achieve extraordinary wisdom, without claiming to judge individual differences in the ability to become wise.

For Maxwell, wisdom will ultimately be developed by transforming institutions of higher learning to improve the quality of social life itself—making a *better world*, not better *knowledge* of the social world. Transforming schools and universities such that they integrate wisdom inquiry into educational and research practice will help personal and social wisdom flourish. According to Maxwell, the intellectual, institutional, and cultural revolution that he envisions would have an equivalent impact to the Renaissance, the scientific revolution, or the Enlightenment in transforming the traditions and institutions of learning. What is also needed is a strategy of knowledge mobilization to help get these wisdom insights and practices to people who can use them to solve the problems they face in their lives.

A science of wisdom aims to be a science that promotes human flourishing, which, as the chapters in this volume reveal, must acknowledge a spiritual side to wisdom. This is in line with historical understanding of wisdom that predates the split between science, art, and religion. Such a science of personal wisdom can be both personally important and practically useful. It can provide ways to measure and assess (and perhaps improve upon) insights from the world's wisdom traditions and find ways to develop formative assessments to help seekers advance along the path to a better life for themselves and for the communities that nurture and sustain them.

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