

Eastern and Western contributions to «contemplative science»

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Abstract

Even the most casual survey of the various professional journal articles and books dedicated to the study of the nature, value, use, and benefits of meditation, in general, as well as the emerging field of the scientific study of contemplation reveals that this is one of the most active and promising arenas in the comparative study of Eastern and Western thought and practice. Yet, even though there are many facets of meditative practices that are common to both traditions, the contemporary Western tradition may be distinguished, in one way, from its Eastern counterpart by its current and ongoing collaboration with both the hard sciences and the social sciences. Recently, however, this openness to cooperation and working with the sciences has begun to spread to Eastern practitioners. In fact, Buddhist scholar B. Alan Wallace observes in *Contemplative Science*, «[...] there are [...] historical roots to the principles of contemplation and of science that suggest a possible reconciliation and even integration between the two approaches».

Assuming, for the sake of argument, that Wallace is correct about this, the purpose of this paper is to offer an analysis and critique of the speculative/theoretical and practical/scientific possibilities of «contemplative science» and the unique contributions of both the Eastern and Western traditions to this emerging science.

Keywords: Meditation; contemplative science; Alan Wallace.

Resumen. *Contribuciones de Oriente y Occidente a las «ciencias contemplativas»*

Incluso la revisión más casual de los artículos de revistas especializadas y de libros dedicados al estudio de la naturaleza, valor, uso y beneficios de la meditación, en general, así como el emergente campo del estudio científico de la contemplación, revela que se trata de uno de los espacios más activos y prometedores en el estudio comparativo del pensamiento oriental y occidental. Sin embargo, a pesar de que hay muchas facetas de las prácticas de meditación que son comunes a ambas tradiciones, la tradición occidental contemporánea se puede distinguir de su homólogo del Este por su colaboración actual y permanente tanto con las ciencias duras como con las ciencias sociales. Recientemente, esta apertura a la cooperación y el trabajo con las ciencias ha comenzado a extenderse a los profesionales del Este. De hecho, el erudito budista B. Alan Wallace observa en *Ciencia contemplativa* lo siguiente: «[...] hay [...] raíces históricas de los principios de la contemplación y de la ciencia que sugieren una posible reconciliación e incluso la integración entre los dos enfoques».

Partiendo de la premisa de que Wallace tiene razón, el propósito de este trabajo es ofrecer un análisis crítico a las posibilidades teóricas y prácticas de la «ciencia contemplativa» y establecer las contribuciones únicas de las tradiciones occidentales y orientales a esta ciencia emergente.

Palabras clave: meditación; ciencia contemplativa; Alan Wallace.

Summary

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Introduction

It does not take an extensive internet search, or even a cursory survey of either popular magazines or the various professional journal articles and books dedicated to the study of meditation, in general, as well as the emerging field of the «scientific» study of contemplation, for one to realize that this is one of the most active and promising arenas in the comparative study of Eastern and Western thought and practice. In fact, a closer study of these materials reveals that each hemisphere has its own long and venerable traditions of adepts and practitioners who have created, developed, and extended their own meditation techniques and contemplative practices. Each tradition has a rich and fascinating history of first-person accounts of the assorted methods, techniques, and supposed benefits of various kinds of meditative and contemplative practices. Yet, even though there are many facets of meditative practices that are common to both traditions, the contemporary Western tradition may be distinguished, in one way, from its Eastern counterpart by its current and ongoing collaboration with both the hard sciences (i.e., physics, biology, chemistry, neuroscience, etc.) and the social sciences (i.e., psychology, sociology, anthropology, religious studies, etc.). Recently, however, this openness to cooperation and working with the sciences has begun to spread to Eastern practitioners. Moreover, Buddhist scholar B. Alan Wallace observes, «[...] there are [...] historical roots to the principles of contemplation and of science that suggest a possible reconciliation and even integration between the two approaches».¹

Assuming, for the sake of argument, that Wallace is correct about this, the purpose of this paper is to offer an analysis of both the theoretical and practical possibilities of «contemplative science» and the unique contributions of both the Eastern and Western traditions to this emerging science. The paper begins with a bare nuts and bolts account of the basic elements of «contempla-

1. Wallace (2007), p. 1.

tive science» —the multi-disciplinary field of the scientific study of contemplation and contemplative practices— as it is presented in the works of one of its leading proponents, B. Alan Wallace. It continues with a conceptual analysis of the terms of the discipline and a critique from the point of view of Western philosophy and theology. I then turn to a practical consideration of the possibilities and pitfalls of «contemplative science» from the point of view of contemporary Western psychology, with particular attention given to its potential impact within both the *practice* and *science* of psychology. Finally, I conclude with an assessment of the prospects of «contemplative science».

The basic elements of «contemplative science»

In order to help simplify and focus my discussion of the concepts, definitions, and principles of «contemplative science», I shall be limiting my analysis to B. Alan Wallace's recent works *Contemplative Science: Where Buddhism and Neuroscience Converge* (2007) and *Mind in the Balance: Meditation in Science, Buddhism, and Christianity* (2009). I do this for two reasons: first, Wallace does a rather good job presenting, explaining, and clarifying the basic ideas of this new «science», and second, his work includes all of the essential conceptual tools necessary to understand the field while also recognizing the work of other «contemplative scientists» (i.e., Antonio Damasio, Sharon Begley, Daniel Goleman, Richard Davidson, Paul Ekman, Shauna Shapiro, and Jon Kabat-Zinn, to name just a few).

Wallace's account of «contemplative science» begins, appropriately enough, with an etymology of «contemplation» and «science». According to Wallace, «The Latin term *contemplatio*, from which «contemplation» is derived, corresponds to the Greek word *theoria*. Both refer to a total devotion to revealing, clarifying, and making manifest the nature of reality. Their focus is the pursuit of truth, and nothing less». ² He also notes, in passing, that nowadays «contemplation» usually means thinking about something. ³

Wallace then quotes the Thomist philosopher and theologian, Josef Pieper, who claims, «The first element of the concept of contemplation is the silent perception of reality». In order to help clarify Pieper's claim, Wallace points out that for Pieper, «the silent perception of reality» is a form of knowing arrived at not by abstract thinking but rather by a kind of mental «seeing». In fact, he points out that the original meaning of «contemplation» and «theory» had to do with a direct perception of reality, not by the five physical senses or by thinking, but by mental perception ⁴—a kind of mental «seeing» or beholding. In other words, the fundamental difference between ordinary «objective» knowledge and contemplation is that the former involves an active movement on the part of the knower (with his brain and bodily sense organs) toward its

2. Ibid.

3. Wallace (2009), p. 7.

4. Ibid.

proper object, while in the latter the knower (with his mind) already rests in the possession of its object.

Finally, Wallace distinguishes meditation from contemplation. He points out that the Sanskrit word *bhavana* corresponds to the English word «meditation», and literally means «cultivation».⁵ According to Wallace, to meditate means to cultivate an understanding of reality, a sense of well-being, and virtue or excellence in character and action. So on his understanding, meditation is a gradual process of training the mind and its powers of mental perception, and it leads (when appropriately practiced) to the activity and goal of contemplation in which one gains insight into and «sees» the nature of reality.⁶

These are important and crucial distinctions in Wallace's account of contemplation, and their roots in Western thinking can be traced all the way back to the philosophical ideas of Pythagoras, and later to Plato, and, more clearly and unambiguously, to his student Aristotle—from whom we learn about the Pythagoreans. Wallace then traces the Western understanding of contemplation from Plato to Plotinus and the Desert Fathers, and from the Pythagoreans to the Essenes to John the Baptist and Jesus of Nazareth.⁷

His account of contemplation in the East, on the other hand, focuses almost exclusively on the Buddha and the development of his own meditative practices—from *samadhi* to enlightenment—when he achieved «direct knowledge» of the nature of consciousness and the roots of suffering and how to realize genuine well-being through purifying the mind of its afflictions, cultivating moral and intellectual virtue, and gaining contemplative insight into the nature of reality (i.e., realizing the Four Noble Truths and the Eightfold Path).⁸

Wallace's definition of «science» begins with his recognition that the term «has long been affiliated with the **active** (emphasis added) exploration of objective, physical, quantitative phenomena», but that it also may be viewed «in a broader context».⁹ Interestingly enough, that «broader context», which is supplied by *Webster's Ninth New Collegiate Dictionary*, defines «science» in terms of both its method and activities—«principles and procedures for the systematic **pursuit** (emphasis added) of knowledge involving the recognition and formulation of a problem, the collection of data through observation and experiment, and the formulation and testing of hypotheses».¹⁰ Wallace then goes on to note that there is nothing in the «broader context» of the dictionary definition to preclude the possibility of first-person observations of mental phenomena and their relation to the world. In fact, he immediately draws an analogy between a scientist who makes observations and conducts experiments with the aid of technological devices and the contemplative who

5. Ibid.

6. Ibid., p. 7-8.

7. Ibid., p. 11-13.

8. Wallace (2007), p. 11-13.

9. Ibid., p. 1.

10. Ibid., p. 1-2.

makes her own observations and runs her own experiments with the aid of enhanced attentional skills and the tools of the imagination. Based on this analogy, Wallace concludes, «In principle, then, there is nothing fundamentally incompatible between contemplation and science».¹¹

In fact, after carefully considering the history of the scientific externalization of meditation¹² (i.e., the typical third person approach to the mind and meditative practices —from the Renaissance with Galileo to Descartes' dualism and onward to William James, Sigmund Freud, and contemporary psychologists, and cognitive and neuroscientists) Wallace then proceeds to show exactly how various «scientific» studies of the mind and meditation are paving the way for a paradigm shift from the solely, outwardly directed, objective, physical approach of the past to a more unified approach that includes the earlier third person approach and an inwardly directed contemplative, first person inquiry. According to Wallace, there are at least seventeen¹³ different «scientific» studies of meditation that move beyond the older, limited, third person, objective approach and now consider the mind, consciousness, and meditation from the first person point of view. These studies include: 1. Neuro-plasticity studies of the brain's ability to change neurons in response to experience; 2. Neuro-genesis studies of the brain's ability to generate new brain cells and neuron connections; 3. Epi-genetic studies of how genes, the environment, and behavior affect the brain; 4. Anxiety and stress management studies involving meditation; 5. Studies of the effects of meditation practices on terminally ill patients; 6. General Mindfulness studies; 7. Mindfulness based stress reduction (MBSR); 8. Emotion-brain-meditation studies; 9. Meditation and brain cortex studies; 10. Executive attention in children studies; 11. Meditation and IQ impact studies; 12. Focused attention studies; 13. Emotional balance studies; 14. Meditation and Refractory period studies; 15. Meditation and Virtue studies; 16. Psychology-neuroscience-physiology studies; and 17. Consciousness studies at the Santa Barbara Institute. Taken as a whole, then, these studies form the foundation of the newly emerging field of «contemplative science».

A critique of Wallace's conception of «contemplative science»

There is obviously much to consider in Wallace's accounts of both «contemplation» and «science». I will begin with a critique of his understanding of contemplation and then turn my attention to his account of science.

What is particularly important and yet problematic in Wallace's definition of «contemplation» is his failure to clearly distinguish (or even note) the differences between the *active* pursuit of ordinary objective knowledge and the *passive* reception of contemplative vision or insight. In fact, even though

11. Ibid., p. 2.

12. Wallace (2009), p. 15-25.

13. Ibid., p. 27-36.

he quotes Josef Pieper's claim that «Intuition is without doubt the perfect form of knowing»,¹⁴ his own focus on the active **pursuit** of truth in *contemplatio* and *theoria* (and meditation, as well) causes him to overlook one of the most important elements in the traditional Western conception (at least for thinkers like Aristotle and Augustine and Aquinas) of contemplation; that is, that its ultimate realization is a *passio* or undergoing, and quite literally, an informing, a taking on, or a becoming the other through the passive reception of the form of the object of knowledge, in an intellectual vision and spiritual becoming of its being. In short, contemplative insight is a kind of vision or passive seeing or beholding of the way things really are, and not, as Wallace seems to insist, the active intellectual pursuit of or uncovering of or «making manifest» the nature of reality. A similar oversight can be seen in his definition of «science».

As far as his account of science is concerned, I shall concentrate on just four points. First, his definition and description of science and the scientific enterprise, like his account of «contemplation», focus almost exclusively on both as **activities** or **methods** of acquiring knowledge. In this respect, at least, he fails to distinguish (as Aristotle and Aquinas do) the pursuit of knowledge from the body of facts or truths that are the result of the activities of science. Second, he also fails to distinguish the scientific pursuit, and the resultant body of knowledge, from a third sense of «science» —as the intellectual habits or virtues of the mind or soul— that were clearly distinguished by both Aristotle and Aquinas. Third, there are important and essential differences between a scientist and her uses of technological devices and instruments in her third person pursuit of knowledge, and a contemplative and her uses of attentional skills and imagination in the first person approach. These differences open Wallace to the charge of committing the fallacy of employing a false analogy. Fourth, Wallace's failure to distinguish the other possible senses of «science», as well as the inappropriateness of his analogy and comparison between the scientist and contemplative, both undermine or at least seriously weaken, his conclusion about there being «in principle» nothing fundamentally incompatible between contemplation and science.

Each of these points also relates to a more general historical criticism of Wallace's presentation of the terms «contemplation» and «science». For those familiar with the thought of Aristotle and Aquinas, *episteme* and *scientia* are the Greek and Latin names for one of the intellectual virtues or habits of the soul. According to both Thomas and Aristotle, the human soul has certain cognitive (and moral) capacities, dispositions, or excellences (with respect to both theoretical/speculative matters as well as practical/productive matters) that when perfected through repeated practice allow the person to actualize their intellectual (and ethical) potencies. In the theoretical realm both Aristotle and Aquinas recognize three intellectual virtues: *noûs* or understanding and the intuitive grasp of first principles of a subject (understanding that «S is P»);

14. Wallace (2007), p. 1.

episteme or science and knowledge within a discipline that is rooted in syllogistic demonstrations (M is P. S is M. So S is P); and *sophia* or wisdom and the comprehensive «vision» of the whole of reality. Each intellectual virtue extends our cognitive grasp of reality from its first principles up to what philosophers pursue as their final end—an ultimate explanation of and insight into why things are the way they are. Understood in this way, philosophy (*philo* and *sophia*) as the «love of» or «concern for» wisdom is a life seeking *eudaimonia* or happiness/flourishing through the proper engagement in activities of the soul in accordance with virtue or excellence. For Aristotle, this kind of life was realized initially in the active, moral life outlined in the first nine books of the *Nicomachean Ethics*, and finally or ultimately in the life of intellectual contemplation discussed in Book Ten of the same work. For Aquinas, on the other hand, this kind of life was realized in two ways: first, in the (partial) natural happiness of this life—just as Aristotle had claimed; and second, in the (complete) supernatural happiness of the next life in the beatific vision and union of the soul with God. Understood in these ways, «contemplation» and «science» in their traditional Western conceptions connote a richer and more complex understanding of both the good human person and the nature of reality than Wallace's rather partial and limited description would seem to indicate. As a result, they point to another area of concern with his view.

In addition to the conceptual criticisms and historical oversights of the idea of «contemplative science» noted above, there is also a broader difficulty with Wallace's conception of «contemplative science» as the process or activity of reintegrating the pursuit of genuine happiness, truth, and virtue—what he refers to as three essential elements of a meaningful life—«in a thoroughly empirical way, without dogmatic allegiance to any belief system, religious or otherwise».¹⁵ Not only does he falsely compare the disintegration of the pursuit of genuine happiness, truth, and virtue to the modern dissolution of the medieval fusion of religion, philosophy, and science,¹⁶ but he also fails to note or indicate that the goal of «contemplative science» he has in mind is really nothing other than the original goal of Western philosophy (described above)—at least as it was practiced by philosophers like Plato, Aristotle, and even theologians like Augustine and Aquinas.

Finally, there is a set of objections that may be raised with respect to the logical consistency of Wallace's claims themselves, as well as in relation to certain Buddhist ideas. First, his goal of reintegrating the pursuit of genuine happiness, truth and virtue in a thoroughly «empirical way, without dogmatic allegiance to any belief system, religious or otherwise», presupposes that all three can in fact be so integrated. This goal also appears rather paradoxically (if not contradictorily) to be dogmatically committed to empiricism in

15. *Ibid.*, p. 2.

16. *Ibid.* (However, there was in fact no such fusion, or the fusion he has in mind was more accurately between religion, philosophy, and *technology*—because the term 'science' as it is ordinarily understood refers to the collection of activities that were not formally identified and distinguished until at least the Renaissance, if not later).

ways that any classical skeptic would question. Second, the general Buddhist commitment to the uniqueness of each «particular individual» or event/process/happening raises serious questions about the very possibility of a «science»—what is true of all particulars—of such. Third, if science really is (as it is in at least some thinkers in the West, for example, Aristotle and Aquinas) about the universal (that is, the form as abstracted from matter) and not the particular sensible thing, and there are no universals, i.e., Platonic Forms (as some forms of Buddhism maintain), at least not universal minds (as most forms of Buddhism maintain), then a «contemplative science» of particular minds appears to be conceptually incoherent. Fourth, even if such a thing as a first-person science of a particular mind is conceptually coherent and possible, there still is the problem of induction from what is true of a particular mind to what is true of all minds, that is, a genuine «science» of contemplation. Fifth, given the objections that have been raised against Wallace's conception and account of the principles of «contemplative science», and assuming for the sake of argument that they could be deflected, it nevertheless seems more appropriate, at least with respect to the historical forms of Western philosophical practices and usages, to designate his proposed discipline as the «introspective science of the mind» or the «science of the mind» or even the «science of introspection», the «science of meditation», or simply the «science of contemplation». For as Socrates once said, «to express oneself badly (or misuse words) is not only faulty as far as the language goes, but it also does harm to (or has a bad effect on) the soul». (*Phaedo*, 115e6)

Psychology and «contemplative science»

The previous suggestions with respect to both the possible designations of the discipline under consideration and its effects on the soul or mind clearly have a certain «family resemblance» to the current Western definition of psychology as the scientific study of behavior, mind, and mental processes. In fact, in a recent paper highlighting the developing connection between Eastern and Western approaches to mind, behavior, and consciousness, Walsh and Shapiro¹⁷ provide a useful heuristic for thinking about this relationship. In their view, the East-West connection is undergoing a three-stage evolutionary process. The first stage is one of *mutual ignorance*, in which each tradition remains blissfully and/or willfully ignorant of the other. The second stage is a stage of *paradigm clash*, in which practitioners in each hemisphere dismiss or pathologize the other using their own unquestioned assumptions. Finally, the third stage they describe is one of «*assimilative integration*», in which practitioners from both traditions exhibit mutual respect, appreciation, and work collaboratively. While particular individuals may be at different stages in their own understandings of the other tradition, there can be little doubt that Eastern thinking about the mind, consciousness, and meditative practices is making

17. Walsh and Shapiro (2006).

inroads in both the Western *practice* of psychology (with its increasing use of meditative and contemplative practices) and the Western *science* of psychology (recall Wallace's list of studies). At the same time, as we have already seen with Wallace, Walsh and Shapiro also note that Western practice and science hold promise for Eastern theorists and practitioners. Again, there can be little doubt that the West's growing understanding of psychopathology, brain function, and brain plasticity (to name just a few areas of study), has important implications not only for Eastern contemplative practices, but also for the pursuit of physical and mental well-being.

A careful examination of Wallace's list of the complex physiological and psychological studies currently being conducted indicates that Western psychology's interest in Eastern meditation has been concerned primarily with using meditative *practice* as a clinical intervention. Anxiety and stress management studies involving meditation, studies of the effects of meditation on terminally ill patients, mindfulness based stress reduction, brain cortex studies of those engaged in meditation, as well as other forms of consciousness studies all clearly show that Eastern contemplative practices have made significant inroads as a treatment for psychological illness. More specifically, *samatha*, *vipassana*, and mindfulness meditation techniques, have been integrated into therapeutic approaches in Western psychology. In fact, ongoing scientific studies indicate that mindfulness meditation techniques are associated with the reduction of stress, moderation of anxiety and depression, strengthening of immune function, and decrease in reports of pain in chronic pain patients.

Given the obvious physiological and psychological benefits of meditative techniques in alleviating stress, depression and anxiety, it seems quite clear that Eastern and Western approaches to clinical psychological practice have progressed beyond «mutual ignorance» and «paradigm clash», and have entered the stage of «assimilative integration». In fact, there can be little doubt given the ever-increasing number of scientific studies that at least some Western psychologists are fully convinced that the two approaches are mutually enriching.

Moreover, this growing integration is reflected in the psychological literature. My colleague and psychologist, Greg Robinson-Riegler, and I have found that searches of Western Psychological literature using PsycINFO reveal a veritable explosion in research and articles on both the clinical and practical applications of mindfulness in therapeutic settings. In the last twenty years, the number of citations involving «mindfulness» and «therapy» have skyrocketed from a few in the late 1980's to more than four hundred in the last six years—a hundred-fold increase!

A similar, though somewhat more gradual, increase can be found in citations related to literature concerned with «first-person», «Eastern», «meditative», and «contemplative», studies of «consciousness». As we have already seen, these terms are basic to the field of «contemplative science». However, there is an important and fundamental difference between the Western scientific and psychological study of meditative and contemplative practices and the prevailing Eastern approaches to the same activities. Western psychology's

scientific study of meditative and contemplative practices has been reported primarily through «third-person» methods and perspectives, in which an «objective, scientific» researcher observes the phenomenon of meditation «from the outside» by performing brain-imaging or electrophysiological recordings on meditation practitioners, or by performing some other type of brain comparison between meditators and non-meditators. Eastern approaches to the same practices, on the other hand, tend to focus almost exclusively on first-person reports (in conversations with one's teacher or master) of the various states realized in the practices. As far as Western scientists and psychologists are concerned, meditation has been typically viewed as an object, rather than as a method, of study.

Recently, however, there has been increasing interest among some Western scientists and psychologists in the use of first-person methods, such as introspection during meditative states, to understand the nature of consciousness. These same researchers, including B. Alan Wallace, reject the prevailing materialist scientific view that consciousness can be accounted for solely in physical terms. Accordingly, they advocate first-person introspective means as a method of studying and understanding both the mind and its states of consciousness. In fact, one particularly interesting hybrid of first —and third-person methods, termed *neurophenomenology* was proposed by Francisco Varela in his article, «Neurophenomenology: A methodological remedy to the 'hard problem'». ¹⁸ His technique involved using «first-person» introspective reports as a complement to the neuro-scientific data collected by brain-imaging techniques. Varela's idea was that first-person phenomenological reporting might help identify complex regularities in brain activities that would not have been noticed by simple, third-person (i.e., outside or external) inspection of the brain images.

Nevertheless, most mainstream cognitive neuroscientists and psychologists have not embraced the concept of an introspective, «first-person» science of the mind and consciousness, nor its combination with third-person methods. Although there certainly has been a marked resurgence of interest in consciousness as a topic of study, and some interest in how introspective methods might inform us about it, either in isolation, or in combination with neuro-scientific methods, the movement toward genuinely «first-person» methods —a genuine «contemplative science» in line with Wallace's conception of it— has been slow to gain momentum in both psychology and the hard science study of the mind, brain, and consciousness. In view of these facts, it would appear that we have moved beyond «mutual ignorance» to a «paradigm clash» —at least in the area of the *science* of psychology and meditation and contemplation— as opposed to the *practice* of the same.

Yet, there are some promising signs that things may be changing. For example, the Mind and Life Institute is devoted to the union of Eastern and Western approaches in the exploration of consciousness. Conferences spon-

18. *Journal of Consciousness Studies*, 3, 330-50.

sored by the Mind and Life Institute have featured leading scholars from both Eastern and Western traditions in serious conversation. However, true collaboration is rare, and seems to consist mostly of Eastern practitioners serving as objects of study for Western investigators. The converse collaborative relationship —Western scientists serving as subjects within an «Eastern research paradigm» (that is, as contemplative practitioners)— is exceedingly rare. Though even here, things are beginning to change as more and more Western scientists and psychologists learn about and engage in meditative and contemplative practices. As previously indicated, the more gradual increase in citations —from approximately a hundred or so to more than a thousand (a ten-fold increase)— associated with the first-person approach advocated by Wallace and his colleagues, may in fact be read in at least two ways: first, positively, as a sign of increasing awareness, concern, and curiosity with the Eastern, first-person approaches to contemplative and meditative practices and the study of consciousness; or second, negatively, as indicative of the dominant, and largely materialist perspective of most Western scientists and psychologists. According to this prevailing view, since consciousness can in fact be reduced to brain activity only, no other brain functions or subjective mental states are necessary to explain it and/or its functioning.

The future of «contemplative science»

Despite the criticisms and objections of materialist scientists and psychologists, I think it is possible to offer a charitable and optimistic reading of «contemplative science» that is both sympathetic to Wallace's conception of the discipline and simultaneously mindful of the philosophical traditions behind both Eastern and Western conceptions of «contemplation» and «science». According to this reading, «contemplative» refers to the first-person meditative technique of introspection of the mind, soul, or intellect that is seeking *sophia* or the «wisdom» pursued by philosophers. As a first-person activity, this kind of introspection and meditative practice is obviously personal and subjective, but the results of its pursuit of wisdom and/or enlightenment may become interpersonal and objective when they are presented for third-person review and evaluation via careful definitions, and rational arguments and demonstrations. One goal of this highest human activity is, as Aristotle and Aquinas argued, *eudaimonia* —human flourishing, or living the good human life. «Science», on the other hand, and more specifically in the forms of cognitive psychology and neuroscience, refers to the third-person empirical study of the brain, consciousness, and the various internal and external senses. This third-person study, however, is actually a first-person activity when particular scientists engage in it. In addition to the pursuit of knowledge for knowledge's sake, the other goals of this activity are the application of science/knowledge to physical and mental health and one's overall well-being.

When these two terms are united in the discipline and field of «contemplative science» that Wallace envisions, the result is a union (or perhaps better, a

sublation in Hegel's sense) via dialogue between scientists and meditative practitioners who are trained in both philosophical contemplation (i.e., first-person practices and perspectives) and hard science (i.e., third-person practices and perspectives). As Wallace sees things, the union of these distinct practices and perspectives will produce a richer and more complex «second-person» account that includes intersubjective and interdependent knowing and knowledge whose ends are genuine happiness, truth, and virtue.

While the actual achievement of reliable results in the emerging field of «contemplative science» is currently rather sketchy at best, it seems that the ongoing studies and dialogues engaged in and supported by scholars like Wallace, Richard Davidson, and others, as well as the Santa Barbara Institute for Consciousness Studies, and the Mind and Life Institute, appear to be promising. At a minimum, Wallace's conception of a «contemplative science» of consciousness based on a highly trained faculty of attention that can investigate the mind from a first-person perspective ought to challenge (or at least give pause to) the dominant and prevailing materialist view of the Western scientific and psychological communities that consciousness and its functions and activities are reducible to brain states only. It is obviously too early in the development of «contemplative science» to predict with any certainty its possible outcomes and discoveries, but if the history of science in the West is any indication, it is often new ways of looking at the same old problem and object that eventually lead to breakthroughs in our understanding of things. Perhaps it is not too optimistic to think that the combined first-person and third person, Eastern and Western perspectives and practices of «contemplative science» will eventually help us better understand our minds, our world, and ourselves.

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