HOW SCIENCE CAN HELP TO SOLVE THE ENNEAGRAM'S CREDIBILITY PROBLEM

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1. Introduction

The mission of the IEA is to create a world in which the Enneagram is widely understood and constructively used. So many in our community were delighted that CNN recently carried a report on the Enneagram[1] because of the visibility such an article affords. However some, including the authors of this article, also rolled their eyes in despair because the article opened with the question, "Can a quasi-mystical system rooted in ancient philosophies bring enlightenment, efficiency and a better bottom line to organizations?" In the article the author notes "But the system is not without its hitches, and its mystical background does raise some eyebrows." This is no secret within the Enneagram community. While a number of gifted and creative Enneagram teachers have made significant inroads, there remain many obstacles in the path to wider interest and use, particularly in the business, scientific and engineering communities.

There is more to our own eye-rolling and the broader skepticism of many more "mainstream" disciplines and communities than quasi-mystical origins, however. We suggest the CNN report highlights two kinds of gaps that the Enneagram community can focus on as it seeks to reach out to a wider audience: credibility and languaging. First, the Enneagram lacks the kind of empirical and scientific evidence about validity and efficacy which many people look to as a measure of credibility. While this is particularly true in the worlds of business, science, and engineering, it is also true for much of the general public. Second, the dialect or jargon of the Enneagram is not easily accessible to outsiders.

Our contention is that it will be important for the Enneagram community to bridge these gaps proactively, by integrating scientific approaches with teaching and practice, and that doing so will foster practitioners' personal growth and ability to reach broader audiences. By learning to communicate with and address some of the concerns of those skeptical of the Enneagram, we will help to strengthen its "brand". An improved dialogue with scientists will lead more readily to a broader acceptance within the broader professional and business communities for the Enneagram. It may also help a wider range of health professionals improve their practice in many different ways. For example, knowledge about and use of the Enneagram can undoubtedly enhance provider-patient relationships; and it is a highly plausible hypothesis that the Enneagram

[1] "What's your type? Ancient personality system enters corporate mainstream" by Susanne Gargiulo on March 13, 2013
http://edition.cnn.com/2013/03/13/business/enneagram-personality-types (accessed on March 24, 2013)

can help psychologists and neuroscientists better understand the workings of personality.

In the next section, we discuss the two gaps the Enneagram community needs to bridge when reaching out to wider "mainstream" audiences. In the rest of this essay, we discuss concrete steps to that end:

- Understanding and appreciating the paradigms and methods of science, including their strengths and weaknesses,

- Adopting methods and tools from science to strengthen Enneagram credibility and practice, and

- Seeking opportunities to interact and collaborate with the scientific and other communities the Enneagram has struggled to reach

These steps have been distilled from our own thinking and discussion about our personal experiences – one a mathematician and engineer and the other a medical research scientist – and also Enneagram practitioners and teachers in a variety of settings. In other words, we have feet planted firmly in both worlds and in that regard have perspectives from both. To what extent the fact that we also both identify with Type Nine influences our perspectives is an interesting, if peripheral inquiry. But from these vantage points we offer these steps as a starting point for discussion and healthy debate in the community so that we can all contribute to a world where the Enneagram is more widely understood and constructively used.

2. The two gaps the Enneagram community needs to bridge

The Enneagram exists today mainly in backwaters of the mainstream of contemporary psychological science and mental health practice. However, most in the Enneagram community probably believe it has something of value to add to "mainstream" science-based disciplines and models of mental health and illness. Why, then, has it not been widely embraced? The first and most obvious reasons relate to its alleged roots in ancient wisdom traditions, and its more contemporary development which has taken place in popular and transpersonal psychology circles. There can be no doubt that some degree of academic snobbishness looks at these facts and turns its attention elsewhere. However, we think that is an overly simplistic explanation.

The main obstacle, we suggest, is the credibility gap due to the lack of scientific evidence about the validity of the system across the general population, and its efficacy in promoting personal development and growth. This is not surprising, given its origins and development in distinctly non-scientific circles that give great credence to assimilated experience and wisdom. We recognize that assimilated experience and wisdom are valuable; they are at the root of how

the human mind is capable of navigating the body in which it resides through the world on a day to day basis. However, they carry risks of certain kinds of bias. Science as a discipline can provide checks on the objectivity of what we see and believe, and also for helping us to see what we are missing or do not know. In this way of illuminating unconscious bias, science is very much like the Enneagram, though it is focused on different aspects of experience.

For example, an open-minded scientist who first looks at the Enneagram might be impressed with how much of it rings intuitively true, at the countless individual and collective testimonials of its value. If she works with it she might also become a whole-hearted believer in its value as a platform for personal growth and building better interpersonal relationships. (This has certainly been both authors' experience.) At the same time, she might also wonder about the Enneagram's broader validity, given that virtually everything we know about it has been learned from an extremely tiny fraction of the world's population – i.e. the people who have been exposed to and immersed themselves in it. What do we know about all the rest of humanity, including the many who attended one introductory workshop and never came back, or the many, many more who have never been exposed to it? A scientifically honest answer is that we actually know very little about how Enneagram wisdom applies to those people. More to the point, it is vital that we as a community acknowledge the validity of and be curious about such questions, which are natural aspects of a scientific perspective, if we are to have credibility with science.

So, if a long-term goal is to bring mainstream attention to the Enneagram, then taking steps to subject some key Enneagram concepts to scientific investigation and to develop empirical data helping people cross-walk mainstream theory and Enneagram is essential. Of course, this carries risks because good science goes where it goes. Indeed there is a reasonable likelihood that good science will undercut some of what many of us as Enneagram teachers and students hope or believe. But as long as we are as open to things about the Enneagram being up-ended as Tenzin Gyatso (2005), the Dalai Lama, is about Buddhism, it is a worthwhile path to pursue. It is also a necessary one if a goal is to share what we have learned.

The second major obstacle to greater acceptance by mainstream disciplines is a big gap in communication. All fields of human engagement have and use jargon in which words or phrases are packed with levels of meaning. Jargon is extremely valuable because it facilitates communication within a field. However it can and often does impair communication with others.

To "mainstream" ears much of our Enneagram jargon sounds not just "odd" or "new age", but wrong or uneducated. Just two of many examples include our use of the words "social" and "sexual", both of which have very different meanings to biologists or psychologists. Again, the point here is not that our jargon is bad *per se*; it simply gets in the way of clear communication of concepts. The reality is that we have to take the initiative to translate for others if we want them to pay attention to what we have found. We simply cannot expect them to

immerse themselves in our very complicated system in order to see that, in reality, it is just jargon that is in the way and not fundamental concepts.

Many in the Enneagram community deeply want to help others receive the benefits they've enjoyed from using the Enneagram. The price of not facing the challenge to build the bridge is to keep this great system a secret from large swathes of mankind. By crossing the bridge, we gain access to an array of models and tools, which we explore in the next section, that help us to see ourselves more clearly and understand and improve our relationships.

3. Appreciating the different paradigms that science and the Enneagram use leads to greater understanding between the communities

While many methods for gaining knowledge exist, they may be roughly divided into two main families: experiential and scientific. The former can include much of our everyday experience of navigating the world and learning by experience, intuition, observation, dialogic enquiry (conversation). Enlightenment (meditation), and illumination (which includes prayer or revelation) can also reasonably be considered part of this family. The cardinal features of the latter include incorporation of disciplines such as reason and logic, mathematical proof, trial and error, and the scientific method.

The experiential approach is rooted in what the individual experiences as true. This is an approach that works most of the time in daily life, and underpins many spiritual traditions. It leads to a subjective form of truth. This builds on a chain of reasoning that can be summed up in St. Paul's words, "Now faith is the substance of things hoped for, the evidence of things not seen." (Heb 11:1) In other words, a statement is true for me if I have for me plausible or believable reasons for accepting it. This is the approach most people take in investigating questions that do not lend themselves to other forms of investigation. In the words of John 20:29, "Jesus said to him, 'Thomas, because you have seen Me, you have believed. Blessed are those who have not seen and yet have believed.'" A limitation to the experiential approach is when experience suggests truths that are at odds with independent observable data or, *how can I know that what I experience is really out there as well*?

In his *Pensées*, Blaise Pascal (1669) formulated the link between the physical world and the transcendent: "Indeed, faith tells us what the senses cannot, but it is not contrary to their findings. It simply transcends, without contradicting them." (#162)

Scientific inquiry is based on questioning. It capitalizes on another cardinal feature of the human mind: the tremendous capacity to question, and to ask, *is this real*? Scientific inquiry adds *evidence* to the chain of reasoning, i.e. something is considered true if there are reasons for accepting it, and these reasons are supported by independently verifiable evidence. This crucial difference between

the two approaches can lead to huge misunderstandings due to their very different ways of seeking after truth.

At heart, science offers powerful methods in the search for truth, and seeing what actually is. It involves conducting experiments to test your hypotheses. And then, it involves systematically checking against all the ways you might fool yourself, to be sure about what you have found out; and indicating potential weaknesses in methods or flaws in conclusion. We return to this later in the essay, in Section 4.2. Sir Karl Popper (1963) distinguished between science and pseudo-science not by whether something is true, but rather whether it is testable. He developed this distinction while considering the theories of Marx, Freud, Adler and Einstein as a young philosopher in Vienna just after the First World War. Only Einstein's were testable.

When using this scientific approach, you need to hold two important perspectives at the same time: one is to find evidence that supports your hypotheses, and the other is to build evidence that what you have seen or concluded does not have a wholly different explanation. It is almost always very easy to generate experimental evidence that supports what you believe you are seeing or what you know (or want to prove is right). However, a hallmark of some of the strongest of all science evidence comes from lines of investigation which seek to disprove the investigator's hypothesis, and that line of investigation fails. Sherlock Holmes[2] summarized this most succinctly, *How often have I said to you that when you have eliminated the impossible, whatever remains,* however improbable*, must be the truth?*

The needs for independently verifiable evidence, an ability to measure accurately and objectively, and limiting the number of variables affecting the outcome of an experiment create obstacles for science, and place limits on the kinds of questions that science can tackle. For example, it is much easier to construct an experiment which measures a blood test (which is objective) than a feeling (which is subjective.)

In his essay *Mere Christianity,* C.S. Lewis described how *"Science works by experiments. It watches how things behave. Every scientific statement in the long run, however complicated it looks, really means something like, 'I pointed the telescope to such and such a part of the sky at 2:20 a.m. on January 15th and saw so-and-so,' or, 'I put some of this stuff in a pot and heated it to such-and-such a temperature and it did so-and-so.' Do not think I am saying anything against science: I am only saying what its job is. And the more scientific a man is, the more (I believe) he would agree with me that this is the job of science – and a very useful and necessary job it is too. But why anything comes to be there at all, and whether there is anything behind the things science observes – something of a different kind – this is not a scientific question. If there is 'Something Behind,' then either it will have to remain altogether unknown to men or else make itself known*

[2] Arthur Conan Doyle *The Sign of the Four* (1890) Available to download at http://www.gutenberg.org/ebooks/2097

in some different way. The statement that there is any such thing, and the statement that there is no such thing, are neither of them statements that science can make. And real scientists do not usually make them. It is usually the journalists and popular novelists who have picked up a few odds and ends of half-baked science from textbooks who go in for them. After all, it is really a matter of common sense. Supposing science ever became complete so that it knew every single thing in the whole universe. Is it not plain that the questions, 'Why is there a universe?' 'Why does it go on as it does?' 'Has it any meaning?' would remain just as they were?" Science is one very important **tool** for knowing. At its core, it is a **method** of investigating what we "see" or "know" which asks us to test our conclusions and seek proof that what we are seeing or knowing is accurate. Like all tools it has its limits, and there are things which cannot be subjected to scientific investigation, as Lewis points out.

Max Perutz's search to understand the structure, behavior and purpose of hemoglobin is littered with possible explanations[3] that he withdrew as new evidence (often provided by himself) came to light. Scientific journals carry, as a matter of course, retractions from authors who have erred in their work. In some sad cases, the authors have perpetrated a fraud that was subsequently uncovered – which just demonstrates that scientists suffer from the same frailties as non-scientists. However, science contains an active mechanism to counteract this. For example, science demands that researchers disclose not only their results, but also how these were achieved, in sufficient detail that another scientist could reproduce these results.

The boundaries between the two families of ways of knowing are not sharp, but as a general rule it is fair to say that wisdom traditions place considerable value on experiential knowing – particularly on the assimilated wisdom of human experience over time. Both approaches have their strengths and their limitations. And from both perspectives some things are simply unknowable, as the Austrian mathematician Kurt Gödel (1931) proved, at least in the area of Number Theory.

Science and the Enneagram converge on the conclusion that all approaches to knowing confront a common challenge: human minds come equipped with a variety of biases in their mechanisms of perception, attention, and information processing. Neuroscience provides mechanistic explanations rooted in the simple principle that the brain is constantly looking for familiar patterns of sensation, emotion, or thought, and modifying itself in the moment-to-moment experience of daily living[4]. And of all the things we can learn from the Enneagram, one über-lesson is that we see what we are looking for because biases of attention and reactivity are embedded in our personality structures.

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[3] See Georgina Ferry's (2007) biography of Max Perutz, in which this search is vividly and honestly documented – warts and all.

[4] Siegel, Daniel J. (2012) *The Developing Mind: How Relationships and the Brain Interact to Shape Who We Are. 2nd Edition* Guilford Press

To summarize, the Enneagram happens to have emerged primarily form a wisdom tradition of people seeking after truth; indeed this impulse has given rise to the name of Claudio Naranjo's school. It provides us with one set of tools to see through some of our inherent biases. Science does exactly the same, but uses a different set of tools for different biases. The challenge is in knowing when to use which tools.

3.1 Science vs. Scientists

Before moving on it is important to note a couple of things about the difference between science and scientists. The former is a discipline. The latter are human beings. Carl Sagan (1987) summed it up well when he said, "In science it often happens that scientists say, 'You know that's a really good argument; my position is mistaken,' and then they would actually change their minds and you never hear that old view from them again. They really do it. It doesn't happen as often as it should, because scientists are human and change is sometimes painful. But it happens every day. I cannot recall the last time something like that happened in politics or religion." The *principles* of science are summed up in first four sentences of this quote. Carl Sagan's *humanity* is exposed in the latter.

4. Adopting methods and tools from science strengthens Enneagram credibility and practice

In this section, we explore how adopting tools and ideas from the scientific method can help Enneagram practitioners to strengthen the Enneagram's credibility with people who look for empirical and scientific evidence about validity and efficacy. We begin by considering the different paradigms in use when members of the Enneagram and science communities are in dialog. Then, we outline different ideas from science that can help to strengthen Enneagram theory and practice.

4.1 The different paradigms underpinning the conversation between the research and Enneagram communities have limited the opportunities so far

According to Arif Jinha (2010), about 50 million scholarly and research articles have been published in the scientific literature since the first Journal in 1665, *Le Journal des Sçavans*. A recent SCOPUS search by one of us identified only 27 papers from psychology and medicine that referenced anything about the Enneagram, the vast majority of which were not research studies. Anna Sutton (2012) discussed 24 articles in her survey of the literature from a business and psychology perspective. These numbers reflect the small amount of published scientific research conducted on the Enneagram. There is a chicken vs. egg problem in these numbers – e.g. it is impossible to know the extent to which this

reflects authors' failures to get papers accepted in research journals, but it is clear that there is a paucity of research evidence contributing to the Enneagram's credibility problem. To help counteract this credibility gap, the *Enneagram Journal* was founded to promote the search for evidence, encourage scholarly thought and foster respectful debate.

In addition, as already discussed the jargon of the Enneagram does not align with commonly accepted jargon of biology, psychology, and neuroscience. For example, the language used to discuss and describe the Instincts of Enneagram theory does not mesh with how ethologists discuss instincts. Arguably bridging such gaps in communication can lead to a strengthening of Enneagram theory. For example, the notion of the Inner Observer or Inner Witness is extremely important in developmental and spiritual work with the Enneagram. Most Enneagram teachers talk about it based on their personal experiential evidence and the wisdom of contemplative spiritual traditions. Such evidence is, by its nature, subjective, quite "weak" as a form of persuasion to scientists. However, it can provide a basis for generating hypotheses as a basis to test or confirm Enneagram theory. Interestingly, In *Self Comes to Mind*, Antonio Damasio (2010), a renowned neuroscientist who has devoted his entire career to the science of emotion, discusses at length how human consciousness might have emerged in the human mind. He offers scientific insights that are beginning to explain the existence and emergence of the Inner witness, one role that the self assumes in the mind. From a scientific perspective an extremely intriguing hypothesis is that Enneagram teachers and Damasio are talking about the same thing.

4.2 Science offers help to strengthen Enneagram theory and practice

Wiltse and Palmer (2011) recount the work of Evagrius, whose job was to support the Desert Fathers and Mothers, early Seekers after Truth, and help them to identify what was coming between them and God. Since not everyone can have an Evagrius dropping by, one solution is to adopt useful ideas from the set of approaches scientists have developed to help keep themselves and their work straight.

Science can inform and help to further develop the Enneagram. Perspectives from many scientific disciplines (e.g. psychology, sociology, ethology and neurobiology) cannot help but enrich our understanding of the Enneagram.

Science provides methods and tools to counteract natural biases and thus help us to clear the lens of seeing, which we discuss in the rest of this section. As Tenzin Gyatso (2005) , the 14th Dalai Lama, wrote, "If science proves some belief of Buddhism wrong, then Buddhism will have to change**.** In my view, science and Buddhism share a search for the truth and for understanding reality**.** By learning from science about aspects of reality where its understanding may be more advanced, I believe that Buddhism enriches its own worldview**."**

4.2.1 Shift from certainty to hypothesis

Due to its naturally skeptical nature, science is reluctant to claim "proof" or use the verb "prove" (that belongs to mathematicians and carries the connotation of absolute rigor). Instead, it seeks to clarify how claims are or are not consistent with currently available information, and is willing to drop beliefs in the face of strong contradicting evidence. In a very real way, science practices the advice of the Buddha "Do not accept my Dharma merely out of respect for me, but analyze and check it the way a goldsmith analyzes gold, by rubbing, cutting and melting it." For example, when introducing scientists to the Enneagram, I (CJ) encourage them to build a first working hypothesis about their own Type and to hold it lightly as new evidence comes to the surface. The same attitude holds for when they are thinking about interactions in their relationships.

4.2.2 Strengthen the quality of our claims

Scientists are keenly interested in both the quantity and quality of data upon which claims are based. They ask exactly how did you test your ideas and claims? How did you set up your study? How big a group of people have you tested? How representative was the group of the population as a whole? How representative was the group of the sort of people about whom you're making a claim? What did you measure, and how did you measure it? How confident are you of your measures? What further tests or controls did you conduct to check your results and exclude other possible explanations? What are the limitations of your data? These are representative of the questions on the minds of scientists when they consider a study. These are the kinds of questions on the minds of scientists when they consider a study.

Therefore, it is important to be able to cite and qualify sources for claims. For example, when I (CJ) am asked by clients about the distribution of Types among the population, I can point to Markus Becker's Ph.D. in Tübingen University, and add the caveat that the sample size was only 320 Germans. Becker summarized his work in Rohr and Ebert (1992). When we draw on findings from science, e.g. about neurobiology or psychology, it is important that we use the accepted terminology.

4.2.3. Question Authority Figures

Sometimes people say things that are ridiculous, but which are taken at face value because of the person saying them. For example, many people trace the origin of the Enneagram to some Sufi brotherhoods. For example, Charles Tart (1975, P.285) wrote "The central symbol of the Gurdjieff work, the Enneagram, is almost certainly of Sufi origin". Phyllis Beauvis (1973) wrote a Ph.D. titled Claudio

Naranjo and SAT: A Modern Manifestation of Sufism? Don Riso[5] wrote an essay where he questions these roots. More recently, in a video-taped interview, Claudio Naranjo (2010, at 3:17 in the interview) admits he made up the story about the Enneagram being developed in Babylonian times and being later transmitted by the Sufis.

Scientists have learned that when they slip-up (and they are human), it slows down progress. The Central Dogma in Molecular Biology, formulated by Francis Crick[6] and subsequently restated by James Watson[7], was intended to be something to be questioned. However, the use of the word "dogma" seemed to induce people to believe it, rather than to question it. This, in turn, slowed down the development of the field of epigenetics, a field that is greatly enhancing our understanding of how we tick (biologically).

A practical approach to questioning statements by authority figures is to notice when they make statements such as "it is so" (the descriptive principle) or "it has to be so" (the normative principle). Test or challenge these statements by asking "is it so?" (the explorative principle), or "how would it be, if ...?"[8] (the curative principle).

4.2.4 Apply lens cleaners

To catalogue the ways in which the human mind is able to fool itself would take more space than this article allows. Instead, we illustrate a few of the common ones and give some pointers to accessible literature so that you can sate your curiosity.

Pierre Casse (1977) encapsulated Confirmation Bias, the tendency to discount things that contradict our worldview, in two of his theses on communication,

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[5] Riso, Don Richard "Romancing the Enneagram" essay on www.enneagraminstitute.com/articles/ (accessed on 5 May 2013)

[6] In his autobiography, *What Mad Pursuit*, Crick wrote "I called this idea the central dogma, for two reasons, I suspect. I had already used the obvious word hypothesis in the sequence hypothesis, and in addition I wanted to suggest that this new assumption was more central and more powerful. [...] As it turned out, the use of the word dogma caused almost more trouble than it was worth. [...] Many years later Jacques Monod pointed out to me that I did not appear to understand the correct use of the word dogma, which is a belief that cannot be doubted. I did apprehend this in a vague sort of way but since I thought that all religious beliefs were without foundation, I used the word the way I myself thought about it, not as most of the world does, and simply applied it to a grand hypothesis that, however plausible, had little direct experimental support." Adapted from http://en.wikipedia.org/wiki/Central_dogma_of_molecular_biology (accessed on 13 March 2013)

[7] Prof. Laurence Moran provides a clear history of the development of the Dogma on his blog http://sandwalk.blogspot.co.nz/2007/01/central-dogma-of-molecular-biology.html (accessed on 13 March 2013)

[8] Adapted from Varga von Kibéd, Matthias and Sparrer, Insa (2005): *Ganz im Gegenteil* Heidelberg (Carl-Auer), 5. überarbeitete Auflage, P. 239

namely *we see what we expect to see* and *we don't see what we don't expect to see*. Popper (1963) provides a lucid exposition of the phenomenon.

Another common distortion is the Correspondence Bias, described by Gilbert and Malone (1995), as the tendency to draw inferences about a person's unique and enduring dispositions from behaviors that can be entirely explained by the situations in which they occur. In the article they also describe four mechanisms, including lack of awareness and unrealistic expectations, that lead to this bias.

Michael Shermer (2009) outlines how a combination of Patternicity (an over-expression of the life-saving ability to see patterns that we have inherited from our fore-parents from the savannah, so that we can see patterns in what is noise, e.g. detecting satanic messages coded into rock music) and Agenticity (attributing causation to an agent, rather than allowing that the event simply occurred) can seduce us into believing that agents, visible or invisible, are responsible for big events.

Rolf Dobelli (2011/13) published a collection of short essays, based on his articles for the *Neue Zürcher Zeitung*, on 50 different ways we can cloud our own thinking. Maria Konnikova (2013) uses the Sherlock Holmes stories to illustrate traps in skewed observation and logical deduction. Massimo Pigluicci (2010) takes a philosopher's approach to distinguishing between science and pseudo-science.

4.2.5 Make logic our friend

Scientists base a lot of their conversations on logic and expect those with whom they converse to be able to do so too. Some of the ideas and references in the previous subsection can help us to improve our capacity for logical thinking. In addition, some of the recent insights from logic can support us in our own development.

Chen and Starosta (2005) discuss the different forms of logic that underlie different languages. These differences can lead to everyday misunderstandings between people of different cultural backgrounds. Where the form of logic differs from that used in scientific discourse, it can give rise to further levels of complexity in communication. Science, on the other hand, uses the same form of logic, going back to Aristotle, irrespective of language. It helps to be mindful of these differences when discussing with others, not just scientists.

One Type-based logic trap is to think in particular either/or categories, which are familiar with from Greek logic. A hard choice is offered between two possibilities: A or B. Each Type has its own set of such limiting dilemmas that constrain its behavior and development. Semitic logic offers one way to clean this particular lens, through both/and logic. How might it be if both A and B were true at the same time? (For example, how could a Type Nine hold both Harmony and Conflict at the same time in a given situation?) Breaking through such a dilemma

is a fruitful area for personal development and has been explored in an Enneagram context by Richard Rohr, for example. Varga von Kibed and Sparrer[9] (2005) have developed a systemic structural constellation form, called the Tetralemma, draws on the cătuškoti form from Indian logic, to help people to move beyond their paradoxes. This approach explores the questions: What if A is true and B not? What if B is true and A not? What is both A and B are true? What if neither A nor B is true? Then it adds a fifth question that helps to give rise to deeper insights, after the first four have been considered: What if none of these four options is true?

4.2.6 Debate robustly and respectfully

In addition to the all-too-human biases related to our Type-based natural focus of attention, another source of potential bias in knowing in the Enneagram tradition is Argument from Authority. This is when a person's reason for believing something to be true is that a leading teacher said it is so.

Debating ideas is one form of Seeking After Truth that scientists engage in. A culture of scientific debate can help to illuminate theory discussions and identify the current limits of what we know. Such debates are sometimes quite rustic in nature, since many scientists have (unfortunately) not been trained in the finer forms of polite communication and emotional intelligence. Indeed, scientific debaters can sometimes exhibit arrogance and ideological blinkers. As a working scientist, and especially in the line of work I (Jack) do in my day job, I can say this with plenty of confidence. As authors who also have feet planted squarely in both science and Enneagram pursuits, we believe Enneagram teachers need to cultivate more respect for debate and questioning in the Enneagram community, as the following example illustrates: I (CJ) once attended a workshop where insights from neuroscience were being used to underpin the Enneagram. Unfortunately the workshop presenter's explanations about the brain (e.g. the brainstem was said to be the seat of justice in the human brain) did not conform with knowledge from contemporary neuroscience. When a participant tried to correct this and other misrepresentations, the presenter countered with "you have your truth and I have mine". Shortly afterward, about a third of the audience used the chance of a closed-eye guided meditation to leave the workshop gracefully.

A presenter more at home with debating ideas might have been able to respond to the participant's challenge in a way that led to an enrichment of the workshop, improved learning for all, and a full participation to the end.

[9] This approach is also discussed in English in *Miracle, Solution and System* by Insa Sparrer and Samuel Onn, Solutions Books (2007), a translation of her 2006 book *Wunder, Lösung und System*.

4.2.7 Foster core scientific values

The scientific community shares two core values: integrity and ethics. They are interwoven into the scientific culture to such an extent that when they are not respected, scientists can respond viscerally. Since these values are so important to scientists, it is important that we foster them in our own behavior, so that we can interact more productively with them. While many Enneagram practitioners also embrace these values, they are not as strongly anchored in the Enneagram community itself.

There is nothing new under the sun, pretty much. All that is now uncovered, builds on someone else's work. Integrity in conducting and communicating their work plays out in three ways for scientists: first, they explain how they obtained any data that they have collected (this allows others to assess the quality of the data itself and the strength of the claims being made on the basis of this data). Secondly, people are careful not to over-egg their claims, based on the quality of their data (most scientists are in fact diffident when it comes to making claims about what they have found through their work). As a result, they expect us to give and respect our sources in articles, talks and conversations.

Scientists have become much more conscious of the need for strong ethical behavior, rather than just paying lip service to it. They've learned from the horrible lapses in the past, e.g. Mengele's experiments on twins in Auschwitz. Therefore, they hold each other to very high standards. Research involving people or other animal life forms has to be approved by an Ethics Commission. Viktor Frankl (2006) wrote a (for me (CJ)) interesting and moving book Man's Search for Meaning. While the Romantic in me wishes for his central thesis of the importance of Meaning in a person's life to be true, I can only base its validity on a few data points (including my own life). Therefore, the Scientist in me was delighted when a Swedish medical researcher[10] told me about his plan to investigate this in a patient study. It made me stop and think when Ethics Commission reviewing his proposal challenged him about the ethics of questioning patients about whether their life had meaning for them.

The Ethics Commission pointed to an important topic for Enneagram practitioners also: to consider the impact of our interventions on our clients, and when working in organizational contexts, the organizations to which we are supplying services.

5. Seeking opportunities to interact and collaborate with the scientific and other communities the Enneagram hopes to reach

In this section, we describe different ways in which members of the Enneagram community can seek to interact and collaborate with the scientific and other communities. In the first part, we look at how scientists themselves seek to

[10] Anders Rosengren *priv. comm.* (2013)

interact with others, in the hope that this might offer some ideas. We then look at how natural Enneagram skills can help in these endeavors. Finally, we outline a strategic approach that could lead to interdisciplinary collaboration.

5.1 Interaction and communication

As the collective body of scientific knowledge continues to grow at an astronomical pace, scientists must pursue two development paths simultaneously: technical specialization, and interdisciplinary collaboration. In addition, as the frontiers of knowledge become more complex and move ever further from what most people learn during their school years, scientists have been faced with the challenge of explaining the meaning, relevance and importance of their work both to scientists in other disciplines and to the non-scientist public that is the ultimate beneficiary of, and often supports, their work

This bridge-building can be classified as outreach-oriented or dialogue-oriented. The former includes platforms such as the traditional Royal Institution Christmas Lectures[11], started by Michael Faraday in 1825, in which an eminent scientist explains their subject area to a lecture hall of school-goers in a series of lectures that are subsequently televised. A more contemporary format is provided by TED, where a scientist such as Antonio Damasio (2011) receives 18 minutes to explain their key ideas from their research. The European Union funds the ELLS project[12] that supplies school teachers across Europe with training and teaching materials to improve their teaching of life sciences in high schools.

The dialog-oriented approach includes Science Cafés[13]. Here scientists and lay people meet in relaxed surroundings to discuss scientific ideas and encourage mutual learning. Many large research laboratories, e.g. the European Molecular Biology Laboratory (EMBL), have a Science and Society officer, whose job is to encourage dialogue between researchers and the local community about the research being conducted at the laboratory and also to debate ethical aspects of research, e.g. limits on the development and use of genetically modified organisms (GMOs) or on the use of animals in experiments. Scientists are also beginning to embrace social media to engage in dialogue with opponents to their research. For example, in when a field trial of a genetically modified strain of wheat at the Rothemsted research centre outside London was threatened, the scientists involved put out a video on YouTube (2012) to explain their research and invite the demonstrators to discuss the trials before destroying them (Mossome (2012)).

These examples illustrate different ways in which scientists are learning to build their own bridges to the general public and explain themselves in ways

[11] http://richannel.org/ accessed on 12 March 2013 The archives contain most of the lectures delivered since Sir David Attenborough on The Language of Animals in 1973.

[12] http://www.embl.de/training/scienceforschools/teacher_training/ accessed on 10 March 2013

[13] http://www.sciencecafes.org/ accessed on 10 March 2013

understandable by the audience. The rest of this section explores two different ways that members of the Enneagram community can benefit from this to interact with other communities and, eventually, to engage in the sort of collaboration through which the Enneagram could enrich scientific research and the results of that research could in turn enrich Enneagram theory and practice.

5.2 Building bridges is at the core of Enneagram practice

A standard approach to improving relationships in Enneagram practice involves one person considering a relationship from the other person's (Type) perspective to attempt to understand their interaction. This helps the person to find ways to adjust their own behavior so that the relationship can be more productive. The behavior exhibited by scientists in scientific discussions and debates is similar to characteristics we might associate with Observers and Skeptics in Enneagram terms. This is not the same as saying that most or all scientists are Type 5 or 6[14]. It is merely to say that scientists question, look for evidence and for holes in the evidence, they probe, they think things through. Indeed, scientists can exhibit at least nine different ways of being skeptical! For example, a Nine might ask, *have we considered all the possibilities*? A Seven might ask, *where's the study upon which you base this statement*? A One, *what's the quality and strength of your data*? The skills that each of us has developed to be better able to engage with Observers and Skeptics can serve us in reaching out to scientists.

As discussed earlier, we must also make specific efforts to "translate" our jargon, rather than wait or expect others to learn a new dialect to speak with us. They won't, for the simple reason that they're busy and don't yet see a need to learn this.

5.3 Bridging the gap with respect could lead to interdisciplinary collaboration

If we look into the future, under the assumption that much of what we have outlined in this essay has come to pass, it is possible to imagine a time when members of the Enneagram and scientific communities have reached a level of mutual comprehension, respect, and curiosity about each other that they fruitfully collaborate. Obviously the authors hold this to be worthwhile, both for the opportunity to strengthen Enneagram theory and understanding, and the chance to enrich scientific research and human well-being.

This picture of the future not as far-fetched as it might seem at first glance, as suggested by progress in the relatively new field of research on complementary

[14] In my (CJ's) experience, from working with scientists in leadership workshops e.g. (professors, principal investigators, heads of departments or groups), Type 5 is not as prevalent as suggested in Enneagram theory. Types 7 and 1 are most common, followed by 8, 9, 3 and 5. Types 2, 4 and 6 rarely surface (Data: ca. 600 participants in EMBO Lab Management courses since 2005 who assessed their own Type during the course.)

and alternative medicine, and the experience of the National Center for Complementary and Alternative Medicine (NCCAM). (NCCAM is the "lead agency of the U.S. National Institutes of Health (NIH) for scientific research on the diverse medical and health care systems, practices, and products that are not generally considered part of conventional medicine.") Consider the last two decades of research on acupuncture for example. For decades following the arising of Westerners' awareness of this ancient Chinese medicine practice, appeals from practitioners and other advocates to mainstream medicine about its efficacy fell mostly on deaf ears. This happened for at least two reasons. First, the forms of evidence at that time (mainly case reports and assimilated clinical experience) were relatively weak in that they are subject to many of the kinds of bias about experiential evidence discussed earlier. An arguably more important second factor was the fact that fundamental concepts such as *qi* and meridian theory lacked a scientific foundation.

However, a few curious, open-minded (some might say intrepid) clinical investigators became intrigued enough by the anecdotal evidence and personal experience to begin scientific investigations. As a result of their interest and hard work, we now have very robust scientific evidence of acupuncture benefit in the treatment of chronic pain associated with a variety of conditions, and for chemotherapy-induced nausea.[15] More to the point, based on the strength of current scientific evidence, acupuncture is now recommended in guidelines of the American College of Physicians and the American Pain Society[16] as one useful option to consider in treating patients with chronic back pain unresponsive to exercise-based approaches and over-the-counter analgesics. The story is even more interesting because as the evidence of clinical benefits began to emerge from carefully designed clinical trials, several world-class neuroscientists began to question how, from a scientific perspective, acupuncture might relieve pain. That research is still unfolding, but it is very clear from state-of-the-art neuroimaging research that acupuncture treatment engages innate brain mechanisms known from other research to be involved in pain processing and pain control. Of at least equal interest is the collateral benefit that this line of investigation on acupuncture has elucidated clearer understanding of these innate mechanisms and the ways in which they might be harnessed through other interventions, both pharmacologic and non-pharmacologic[17].

Several additional points about this experience are noteworthy. First, building a base of scientific evidence stronger than collected anecdotes and assimilated wisdom has been critical in moving an ancient but useful treatment toward greater acceptance by mainstream medicine. Second, that progress has involved bridging enormous conceptual and communication gaps between ancient

[15] Vickers, et al.(2012) " Acupuncture for Chronic Pain: Individual Patient Data Meta-analysis" *JAMA Internal Medicine*; 172(19), 1444-1453

[16] Chou R, et al. Annals of Internal Medicine; 147(7), 478-491. 2007

[17] http://nccam.nih.gov/health/acupuncture (accessed on 19 May 2013)

Chinese medicine theories about *qi* and meridians on the one hand, and contemporary neuroscience on the other. In major ways those gaps remain. For example, from a scientific perspective *qi* or meridians can be regarded as phenomenological explanations, but it is not necessary to invoke them in developing a scientifically coherent theory for acupuncture effects. Third, acupuncture research is a work in progress. There have been many fascinating methodological challenges in pursuing this research, and there is still much we do not know or understand about acupuncture and its place in health care. Moreover not all the research has turned out the way acupuncture advocates had hoped. For example, there is now substantial evidence that many classical teachings about needling technique and acupuncture points cannot be substantiated; and research has failed to confirm benefits for other claims. Fourth, there remain many mainstream scientists and many acupuncture advocates who challenge vigorously the strength, quality, validity, and interpretations of the body of current scientific evidence about acupuncture and its mechanisms of action. While these tensions can be distressing, they are important drivers of ongoing and future research.

Most important, however, has been the fact that development of a rigorous body of evidence has involved interdisciplinary collaboration and partnership between classically trained acupuncture practitioners who are the holders of knowledge and expertise about the practice of acupuncture, and scientists who are the holders of knowledge and expertise about the methods of clinical research and neuro-imaging. This experience has been mirrored in research across the field of complementary and alternative medicine, and key lessons from it are at the heart of the strategic plan of the National Center for Complementary and Alternative Medicine (NCCAM), which the second author helped to formulate.[18] Drawing on this experience[19], we suggest three possible strategies for building bridges between Enneagram practitioners and scientists from fields such as psychology, neuroscience, medicine and ethology:

5.3.1 Encourage cross-pollination through an outreach strategy that embodies curiosity about science

The Enneagram community can amplify efforts to learn from scientists whose research involves areas that touch on or overlap with areas of practical application of the Enneagram. This includes learning about both the results of the work they do, and also HOW they do it. To be clear the goal here is not to entice or convince, just to learn about different perspectives.

We should also seek to hear their impressions – however naïve or uninformed – about the Enneagram, holding the same kind of open-hearted receptivity we preach. This is certainly not to say scientists are always right or that we need to

[18] http://nccam.nih.gov/about accessed on 5 May 2013
[19] http://nccam.nih.gov/about/plans/2011/objective4.htm?nav=gsa

agree with them, but we do need to hear and understand their impressions clearly. For example, that some scientists find it hard to see any substantive differences between the Enneagram and astrology can be hard to hear. Staying present to understand such perspectives clearly, rather than rushing to refute or convince otherwise is even harder, but it is arguably more important if we want to build bridges to greater acceptance of what we have to offer.

5.3.2 Embrace the concept of and need for interdisciplinary collaboration and partnerships

Dr. Josephine Briggs, the Director of NCCAM, is fond of saying that "21st century clinical research is a team sport". In this she is referring not only to the field of complementary and alternative medicine described earlier, but to all of contemporary biomedical research, which today requires collaboration across very disparate disciplines. To the extent that members of the Enneagram community wish to foster scientific research, they would do well to take this lesson to heart, and neither attempt to do science on their own (unless they are card-carrying scientists), nor relinquish completely the reins of scientific investigation to scientists. In other words Enneagram practitioners should think of themselves as the key holders of knowledge and wisdom related to the theory and use of the Enneagram, and scientists are the key holders of research methodology. Designing and implementing valuable, relevant, and robust research about the Enneagram will require the expertise of both at the table

5.3.3 Foster a culture of scientific interest within Enneagram organizations

Enneagram organizations could (and we would argue should) take a larger role in cultivating interest in science within the larger Enneagram community. Scientific interest groups could have responsibilities for developing program content at meetings that would emphasize scientific education. The IEA could develop a clearing house for information on Enneagram-related research. It could also encourage young masters or doctoral degree students who are still attached to research-oriented institutions to develop research projects on the Enneagram. It is even conceivable to imagine a program of *Enneagram Scholars in Residence*, where Enneagram experts spend a reasonable period of time at a research institute with the remit of providing a host investigator with exposure to the Enneagram, and engaging with the researchers about the intersections of their research with the Enneagram insights.[20]

[20] This is not as far-fetched as it might first sound. For example, the director of the motion picture *Errors of the Human Body*, Eron Sheean, developed the film out of his experience as artist-in-residence at Max Planck Institute of Molecular Cell Biology and Genetics in Dresden, Germany.

Conclusion

In this article we have highlighted two gaps that the Enneagram community needs to be able to bridge in its efforts to reach a wider community, namely credibility and languaging. We also suggest steps that will help bridge these gaps and reach the business, science and engineering communities:

- Appreciating the different paradigms that Science and the Enneagram use leads to greater understanding between the communities

- Adopting methods and tools from science strengthens Enneagram credibility and practice

Combining these first two steps helps the Enneagram to reach and interact with the scientific and other communities the Enneagram has struggled to reach the immediate goals of such efforts are highly pragmatic. They include developing better ways to deal with skeptics, and helping to strengthen the Enneagram "brand" in communities where, like it or not, scientific evidence is the coin of the realm. The premise is that an improved dialogue with scientists will lead more readily to a broader acceptance within the broader professional and business communities where we believe the Enneagram has something to offer. For example, it is extremely likely that greater knowledge about and use of the Enneagram by health care providers would enhance provider-patient relationships, and thereby the outcomes of clinical care. The practical reality is that this will not happen without better evidence that speaks to these professionals on their terms. Similarly, it is highly plausible that the Enneagram can help psychologists to better understand the workings of personality, because it adds a level of understanding of the underlying dynamics behind behaviors and traits, which are the basis for the prevalent paradigms for understanding personality. Such longer-term goals, to which many of us in the Enneagram aspire, will require interdisciplinary collaboration between Enneagram practitioners and scientists working together to pose and answer questions with evidence. And reduce cases of eye-rolling strain when reading mainstream media reports about the Enneagram.

Acknowledgements

The authors would like to thank Mario Sikora for his contributions to the topic through his Keynote at the IEA's European Conference in Madrid (2012) and Endnote at the IEA's European Conference in Paris (2013). They would also like to thank Kathy Mallary for her critical reading of early versions of this manuscript with beginner's eyes.

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