

**AT HOME IN THE UNIVERSE WITH MIRACLES AND HORIZONS:
REFLECTIONS ON PERSONAL AND SOCIAL EVOLUTION**

W. Barnett Pearce

The first sentence of every novel should be: Trust me, this will take time but there is order here, very faint, very human. Meander if you want to get to town.

-- *Michael Ondaatje*

Ondaatje didn't follow his own advice. This quotation is found on page 100-something, not page 1, line 1 in his novel *In the skin of a lion*. So I'm breaking new ground by starting this way (although, it should be noted, this paper is not a novel). I have my reasons..."trust me."

A festschrift meeting² in the Fess Parker Doubletree Resort in Santa Barbara, California, January 13-14, 2011 was the specific occasion for this essay, although the content emerges from my ongoing reflections on what I have and have not accomplished in this life, and from my current interests and challenges.

The essay is intended as a heart-felt "thank you" to Frank Barrett, Sheila McNamee, Jack Lannamann, Stan Deetz and Stephen Littlejohn for organizing the festschrift, to Dean Charles McClintock, Associate Deans Nancy Wallis and Katrina Rogers and all the other administrators of the School of Human and Organizational Development at Fielding Graduate University for integrating the festschrift meeting into their annual Winter Session, to the twenty-something provocateurs and responders from four continents who provided intellectual stimulation during the meeting, and to the approximately 150 people who participated in a joyous and productive exploration of its topic, "The Transformative Power of Dialogue." I hope it will also be seen as a love-poem to my wife Kim, the first reader of these pages after they were written and my primary partner in the conversations out of which every paragraph emerged.

The festschrift came at an interesting juncture of reflections on what has been accomplished and the launch of new initiatives. These activities provide part of the context for the thoughts in this essay.

¹ I distributed a copy of v 3.0. The discussion of miracles eight and nine is different in this version.

² Festschrift is a book of essays honoring the work of a person, often but not necessarily (for which I'm grateful!) posthumously. Sometimes those contributing to the volume meet. In this instance, it was a wonderful two-day festival of friendship, good thinking, and good will.

- Kim Pearce just published *Public Engagement and Civic Maturity: The Public Dialogue Consortium Perspective* (Pearce Associates, 2010; available at www.amazon.com and at www.lulu.com).
- Jesse Sostrin, Kim Pearce and I published the *CMM Solutions: Field Guide for Consultants* and *CMM Solutions: Workbook for Consultants* (You Get What You Make Publishing: 2011; available at www.amazon.com and at www.lulu.com).
- I was part of a group that formed the nonprofit organization The CMM Institute for Personal and Social Evolution (www.CMMInstitute.net).

At this stage in my life, I am primarily interested in “personal and social evolution.” Perhaps I always have been, without realizing it or naming it this way.

In the “Introduction” to *Communication and the Human Condition* (1989, p. xiii), I confessed “much of my professional life (and perhaps more of my personal life than I would be comfortable admitting) has been shaped by my unwillingness or inability to ignore instances of ‘poor’ communication. Not only can I not remain oblivious to them, my own ‘moral order’ makes me feel compelled to ‘improve’ them.” In the following pages, I set out a rationale for such an unusual, focused perversion, concluding (pp. xx-xxi) with this heart-felt declaration of faith and intention:

I write with a sense of urgency. There are jeremiads all around warning us of catastrophe if we do not solve a whole series of problems that seem insolvable: ecological pollution, political oppression, economic imbalance, genetic tampering, threats to public health, the population explosion, and escalating militarism. Perhaps these problems can be solved by a new technology here, a vaccine there, and a political reform elsewhere, and I commend those whose energies are aimed in these directions. However, I suspect that these problems will not so much be solved as bypassed by a new socio-politico-economic order. It is not at all certain that the emergence of such an order would be an improvement. A worldwide epidemic would reduce the population problem (for a while) and bypass others; an international economic depression might bypass escalating militarism and the effects of recombinant DNA research. But neither of these is a “solution” and neither is particularly desirable.

The best that can happen is a major step forward in our understanding of ourselves that will reconstruct social institutions as well as informal ways of treating each other. Moral orders evolve (or at least change) just as do physical orders. There was a time when war was considered good sport for kings and when society was thought to require such a sporting monarch. Through a process of increasing social sensitivity, in part fostered by technological innovations, these ideas now seem unfashionable and dangerous. What practices, now taken for granted, should join these as outmoded remnants of a less enlightened age? The patterns of relationships embedded in contemporary society are obviously in flux. What is the shape

of the forms of communication that will emerge as better suited to the material and social conditions of postmodern society?

I believe that the “materials” for a major evolutionary step in patterns of social relationships are now available; it requires only (!) to assemble them, assess their significance, and implement them as viable programs. This social development is the “communication revolution,” where communication is not understood simply as ways of getting messages from one place to another or even as a set of techniques for increasing our understanding of each other, but as the process by which reality itself and with it particular ways of being human are co-constructed in all those events where we interact with each other. As Jürgen Habermas argued in *Legitimation Crisis*, “if the form of life reflected in such system-conforming rewards as money, free time, and security can no longer be convincingly legitimated, the ‘pursuit of happiness’ might one day mean something different – for example, not accumulating material objects of which one disposes privately, but bringing about social relations in which mutuality predominates and satisfaction does not mean the triumph of one over the repressed needs of the other.”

These paragraphs contain many implicit promises, which were easier to make when I wrote them in my early forties and life seemed long, resources abundant, and capacities limited only by the extent to which I was determined to accomplish things. Twenty-something years later, I realize how far I’ve fallen short of redeeming those promises. But in this paper, I renew them, this time with a deeper understanding of their significance, a wiser recognition of my own limitations, and the joyous recognition of the fact that this is a shared enterprise.

Personal and social evolution has always been at the core of CMM (the coordinated management of meaning). It is the “transformative” part of the title of the Festschrift meeting; it is what is meant by “better” in the oft-used phrase “making better social worlds;” it is the referent for the term “right” in the maxim “if we get the pattern of communication right, the best things possible will occur.” The launch of the CMM Institute should not be seen so much as introducing a new theme in the development of CMM as 1) providing a more explicit name for what has been there all along, and 2) emphasizing the importance of this part of CMM.

In my humble opinion, promoting personal and social evolution is the most important task that any of us can do. I can construct a strong argument supporting this opinion in two contexts: humanistic and ... well, something broader.

By “humanistic,” I mean the assumption that what is good for humanity – in particular, you and me; in general, all of us – is good. So let’s think, first, about “us.”

The material conditions of the physical world and of the social world, at both the “macro” level and in our daily lives, are such that we cannot expect to survive, much less thrive, using forms of thinking, acting, and communicating that evolved, as

Joseph Campbell put it, before the taming of the horse and when snakes could still speak. Or, less metaphorically, how can we expect to do well using patterns of thinking, acting, and communicating that “fit” conditions before human agency impacted global climate, physical and political barriers were made obsolete by the internet, knowledge became accessible to anyone with a high-speed internet connection, and anyone could be a producer and publisher of knowledge? It is a brave new world, and it continues to change, and we need to change to keep up – and, hopefully, stay ahead of the curve.

Because extinctions happen. And even individuals and species that survive can be so stressed that their existence falls far short of their potentialities. Think of a tiger in a cage; a polar bear standing on a steadily melting ice floe. How are we, as individuals and as a species, to survive and thrive? In terms of survival, I guess the question is how to postpone the end for as long as possible. But there is also the question of quality. During whatever time we have, as individuals and as a species, how can we live well? To put it bluntly: how can we, as persons, as a civilization, and as a species, do as well as we can for as long as we can?

The other context is broader. There was a time, not so long ago, when none of us as individuals existed; and there will be a time, similarly proximate, when we won't exist. The same thing is true for our species. Will it have mattered that we existed? Or what we accomplished...or failed to accomplish? Or how we lived during our part of the universe's time-span?

Whatever else these questions bring, they remind me of my own limits and set a context in which I can see my own – and our shared -- “horizons” more clearly.

Horizons are funny things...well, they aren't things at all (as my internalized Gregory Bateson reminded me before I finished typing the phrase); they are ratios or relationships between what we can see and cannot see. Bateson taught me that adding another tree to the bunch does not make a forest out of a bunch of trees. Rather, a forest is defined by the spaces between trees and by the relationship between areas where there are trees and where there are not. In the same way, “horizons” are not trees to be climbed, pruned or cut but relationships that shift depending on the perspective from which one looks and the context in which one sees.

Ondaatje's advice legitimates my inclination to meander (“following a twisting route; wandering slowly and aimlessly”). As I near the end of my professional life, I'm very conscious of my horizons, but what I have to say about them will make more sense if we have meandered a bit through multiple contexts.

Ondaatje also gives me permission to speak in his voice when I say, “trust me.” There is an order here. It may seem faint at times and while fully human, it is not wholly human. We will get to town. The path is twisting and narrow in places and while our progress may seem slow, it is not aimless.

BEING AT HOME IN THE UNIVERSE

There are two great questions facing any society: How can healthy persons be developed? And how can a healthy society be developed?
Abraham Maslow

That Maslow nominated these as the “two great questions” makes me laugh (with great respect for him). If we were to do a survey of all people who have ever lived and ask them to identify what they consider to be the “two great questions,” I suspect that these questions would appear on very few respondents’ returns.

OK, so these are far from the most frequently posed questions. But are they “great” questions? Are they the “right” ones to ask?

Hmm. I’ve learned that this way of posing my question isn’t the most productive. It assumes a “yes-no” answer; it does not reflect on the perspective in which it is asked, etc. Robert Kegan would quickly recognize it as coming from a “level 3” form of consciousness.

Here are some more productive ways of asking the question (Kegan would recognize them as a “level 4” form of consciousness):

- For whom are these the right questions?
- Under what conditions are these the right questions?
- What are the possible meanings of the term “the right questions”?
- If these are the “right questions,” what difference would it make, and to whom?

Here are some other productive forms of questions (with gratitude to Gianfranco Cecchin and Luigi Boscolo).

- Of the people you know, who is most likely to think that these are the right questions? Who is least likely?
- When did Maslow first get the idea that these are the right questions? What was going on in his life at that time? Who first noticed that he had taken this idea on board?
- When did you first get the idea that these are the right questions? What was going on in your life at the time? Who first noticed that you had taken this idea on board?
- If you were to give up the idea that these were the right questions, who would be the most impacted by that decision? Who would be least impacted by that decision?
- If you were to take on board the idea that these are the right questions:
 - Who would be the most happy? The most upset?
 - Which of your relationships would be strengthened? Which weakened or changed?
- If you were to act on the basis of believing that these are the right questions:

- What would you do that you are not doing now?
- What would you do more of that you are already doing?
- What would you do less of than you are already doing?

Some very interesting and useful conversations have been generated by the questions listed above, and in the sparks generated by those conversations, I've shamelessly borrowed the title of this section from Stuart Kauffman's book, *At Home in the Universe: The Search for the Laws of Self-organization and Complexity*.

I chose *At Home in the Universe* by a narrow (5-4) vote over the title of an anthology of science-fiction short stories by Alice Sheldon (under the penname James Tiptree, Jr.): *Star Songs of an Old Primate*. Given such a close vote, I feel empowered to reference this metaphor-rich phrase as well.

Both titles evoke a sense of scale; they invite us to think in ways that transcend the horizons³ that our daily lives and genetic inheritance prefigure. Sheldon's title got so many votes because it explicitly reminds us of our nature as an "old primate" as well as our capacity to transcend that nature and thus to sing "star songs." I'll say more about this sense of scale in the next section; in this one, I want to focus on our abilities to identify and perhaps transcend horizons.

Let's start with "horizons." Here are three seeds for thought.

- Einstein said "we can't solve problems by using the same kind of thinking that we used when we created them."
- Wittgenstein warned against being enticed to answer "a confusion expressed in the form of a question that doesn't acknowledge the confusion." Rather than offer candidate answers for the question, he urged us to alter the form in which the question is expressed. The result is that, sometimes, what seemed to be problems are dissolved rather than resolved.
- Presidential-candidate Obama (remember him?) said "But challenging as [the issues confronting our country] are, it's not the magnitude of our problems that concerns me the most. It's the smallness of our politics. America's faced big problems before. But today, our leaders in Washington seem incapable of working together in a practical, common sense way. Politics has become so bitter and partisan, so gummed up by money and influence, that we can't tackle the big problems that demand solutions."

All three of these quotations invite us to reflect on our thinking and the tools we are using to think with. On first reading, the significant issue might seem to be what they are talking about. Einstein: "kind of thinking;" Wittgenstein: "confusion and

³ Remember this phrase and look for its variants as we meander. Later on, I'll quote Michael Sells, who said that the group of people he studied (mystics across cultures and through history) demonstrated how to make "a rigorous and sustained effort both to use and to free [themselves] from normal habits of thought and expression." We will need some of that ability as we meander towards home.

expression;” Obama: the ratio of “magnitude” between problems and politics. But I think that the more important point is the implicit assumption that we can, somehow, if we are skillful enough, do something about the kind of thinking/confusions/ratio of magnitudes that we are using. To use again the term from a few paragraphs above: the ability to transcend horizons.

Let me say this more strongly. We have the limited but important capability to be contextual artists (I owe this phrase to my friend Coco Fuks) who deliberately create and manage the frameworks in which we interpret our experiences. We can develop the ability to shift the boundaries of our thinking and, in that way, change the horizons within which we live. It may be hard; we might have to re-train our minds and our brains; we may have to spend as much time in study and practice as a professional athlete spends in the gym; but we have the ability to do it. In the following section of this paper, I refer to this ability as the “fifth miracle.”

Here are two examples of what I’m talking about.

The game of tic-tac-toe (or “naughts and crosses”) can be great fun to play. When I was at a certain age (in third grade?), I remember thinking very hard about the best strategy. I enjoyed winning and respected people who played skillfully. But, as part of my own conceptual development coupled with some experience with the game, I realized that there is a strategy that guarantees a no-win outcome. The “horizons” in which I thought about the game expanded; I no longer found it interesting to think about strategies within the game for winning; I began to think about what kind of game that this was – one in which a certain level of competence takes away the ability to be caught up in the competitive energy of playing.

Note that my focus here is not on the games we play; it is on the minds we bring to them. At a certain point of development, tic-tac-toe can be an exciting game. At another point of development, it is boring. To what extent can this observation be generalized? Staying for a moment with games: is there a point of development in which chess is no longer a game of skill because the players can clearly see the winning strategy? Moving from games to real life: is there a point of development in which war is no longer interesting because the players can see, not only how to win, but the costs of fighting and the consequences of winning? Is it possible that, with further development, the issues that seem so large, so intractable to us will seem simple or, as Wittgenstein suggested, dissolve without needing to be resolved. Does anyone today really worry about how many angels can dance on the head of a pin? How many other issues that have tied us up in knots are similarly vulnerable to a discretionary shift in our framing?

The second example features a remarkable dance between two levels of development and two frameworks that differently define “us” and “them.”

The movie *Renaissance* (<http://www.dalailamafilm.com/>) records an extraordinary event in which around 50 thought-leaders, mostly from North America, were invited

to Dharamsala, India, to meet with the Dalai Lama and advise him about how to make positive changes in the world. The Dalai Lama was specific: these were not to be small changes responding to specific problems; those invited were to think holistically and long-term.

On about the third day of the session, the invitees met for the first time with the Dalai Lama and presented him with an idea that one of the participants said was revealed to him while he was meditating. The plan was to impose economic sanctions against the People's Republic of China, with the purpose of regaining Tibetan sovereignty, so that Tibetan Buddhism could better be disseminated in the world. Promising the Dalai Lama that they had the moral and economic clout to create such sanctions, they asked him to endorse their plan.

To their consternation and disappointment (watch the movie – they had trouble hearing him say “no”), the Dalai Lama said that he would not support them. He explained that he was guided by compassion for everyone, including the people of China. Pointing out the obvious, he noted that a sizable portion of the world's population is Chinese and that most of these people were already suffering economically. He would not endorse a policy that would hurt them even if it would benefit the Tibetans.

When I watched this portion of the film, two things struck me.

First, the Dalai Lama and those presenting this plan set the boundary between “us” and “them” in different places. For the Dalai Lama, the people of China were a part of “us;” for those presenting this plan, they were a part of “them.”

No one has more “right” than the Dalai Lama to perceive the People's Republic of China as “enemy.” It is he, not these advisors, who lives in enforced exile; who had to sneak out of his country and make a dangerous journey through the Himalaya Mountains to safety. But instead of seeing the Chinese people as “enemy” or as a legitimate target in a conflict, he sees them as ignorant of the profound interdependency of all of us and as people who should be invited to develop wisdom.

The difference between the Dalai Lama and these proponents of economic sanctions has little to do with their long-term goals, but much to do with their perceptual and interpretive horizons as they assessed the situation and evaluated various responses to it. I'm impressed that the Dalai Lama transcended smaller horizons; I'm curious about how he did it (I assume by dint of hard work); and I'm amazed by how much transcending boundaries contributes to what I called (chapter 1 of *Making Social Worlds*) an “upward” movement.

Second, I'm drawn to the gentle but firm way in which the Dalai Lama dealt with the people in front of him who were urging him (surely “tempting” him) to lash out with such weapons as are at his disposal to right a historical wrong, to protect the people

of whom he is the leader, and to advance his own cause. He doesn't confront; rather, he creates a scaffold for them to evolve to a new sense of scale. (Watch the movie and pay close attention to his artistry.)

How did the Dalai Lama develop the ability to transcend frameworks? I don't know, but I suspect there are clues in his many books about the topic. The more relevant question is how can we who are not the Dalai Lama develop this ability? And I suspect there are many ways. But among them is understanding the social worlds in which we live. And in those social worlds, meaning is context-dependent. What is good, important, necessary, etc. changes when we move from one sense of scale to another. We live, simultaneously, in multiple levels of contexts.

To be "at home in the universe" or to be the "old primate" that comfortably sings "star songs" requires us to follow either of two strategies. The first is to willfully and with considerable effort construct and maintain narrow boundaries and be intentionally ignorant of what lies beyond them. This is the form of life that I called "ethnocentric" and "neotraditional" in *Communication and the Human Condition*. The second is to develop the ability to navigate boundaries (transcending them or living within them at will) and to deliberately shift senses of scale. This is the form of life I've described as "cosmopolitan communication" in *Communication and the Human Condition* and as "dialogic communication" in chapter 8 of *Making Social Worlds* among other places.

Clearly, I believe that the second form of life is the better response to the material conditions of the contemporary age. The internet has made physical and political boundaries largely irrelevant. So if we are to erect narrow boundaries, they must be social, grounded in such fabrications as identity (economic class, gender, nationality, ethnicity, etc.) or ideology (religion, politics, etc.) and I think the evidence is sufficient to show that this strategy is a recipe for bad things. And so, focused attention on the ways of developing the ability to navigate boundaries and to shift senses of scale is, or should be, or should become, in a way that it is not now, a major emphasis in our society.

So where is this ability to transcend horizons being cultivated? What tools are being developed? Pause here and sit with this question for a while before reading on.

The "hierarchy model" in CMM (the theory of the "coordinated management of meaning") is one such tool. Ironically, it has more often been used "within" existing, narrower senses of scale than "about" the ability to name and navigate senses of scale.

Meander with me, please: CMM invites us to assume that we are always, in each passing moment, living into and out of multiple stories (e.g., stories about me, about you, about our relationship, about what you just did in response to what I just did, about what we are doing together, about the organization[s] of which we are a part, about how things work, about the grand scheme of things, etc.). Further, these

stories have varied and variable relations to each other. The hierarchy model invites you to sort out which of those stories are the most important in that moment, the next most important, and so on. For example, is our “relationship” more important in this passing moment than “what you just did,” or is it the other way around? This ordinal relationship among the stories that interpret and guide our lives matters, and will prefigure what we do in the next moment.

Used this way, the hierarchy model has become the most frequently used of all of CMM’s tools.

But the ordinal relationship along a continuum of perceived importance is only part of what inspired the development of the hierarchy model. That model suggested that the difference among stories is one of asymmetrical contextualization. That is, some stories function as the context for others, and those others are contextualized by the first. Whether this makes any sense, or is significant, depends on our concept of what “context” means, of course, and “context” is not a term that suffers from a too-precise definition.

In our early work, we used two ways of developing the concept “contextualization.” First, we looked at parts and wholes, noting that the difference between a series of nonsense sounds and a grammatically correct sentence cannot be determined by anything at the level of sounds. “Phones” and “phonemes” are parts and (oral) “language” is the whole. There is a similar difference between “what is said” and “what action is performed by saying it.” Again, the logic of meaning and action of “speech acts” is at a higher level than that of the grammar of sentences. Continuing, the appropriateness of performing a particular speech act cannot be determined by anything having to do with the mechanics of performing the speech act itself; “appropriateness” derives from the grammar of the language game (to borrow Wittgenstein’s term) or speech community (to use the language of sociolinguistics). For example, I may know very well how to perform the speech act of “compliment” in a men’s locker room but, if I’m in church, a graduate seminar, or a funeral, even an elegant performance of “compliment-in-a-men’s-locker-room” will be understood as something other than what was intended.

Once this is said – and once we have an unpretentious graphic model with which to depict it – this is pretty obvious stuff. But one of the surprising things is how helpful this concept has been in so many situations. Reflecting on its usefulness, I think the hierarchy model addresses something important, and I name this as the ability to name and navigate contexts. I’ve come to believe that this ability varies in inverse relationship to the need for it! That is, when the stakes are low – when our “excitement” is moderate and we are not being controlled by fear, anger or greed (thanks, Paige Marrs, for teaching me the importance of this) – our ability to name and navigate contexts is higher than when we need it the most.

Before moving on, I want to look backward at the source of confusion in the development of the hierarchy model. And I need to confess: mea culpa.

“Part-whole” examples like the ones in the third paragraph above helped me when I was thinking through the hierarchy model, but in re-reading some of those earlier papers (e.g., W. Barnett Pearce, Vernon E. Cronen, and Forrest Conklin (1979), "On What to Look at When Studying Communication: a Hierarchical Model of Actors' Meanings," *Communication, 4*: 195-220), I see how this misled some readers to think that there was a fixed order in the hierarchy. Whups! Sorry!

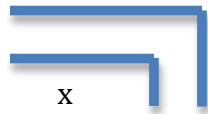
The potential for confusion was compounded when we adapted (note: the point here is that we did not “adopt”) G. Spenser-Brown’s “calculus of indications” as a way to diagram hierarchical relations. Brown’s calculus is based on what he considers the fundamental act of cognition: making a distinction. His symbol, called a “mark” or “cross,” represents the action of drawing a boundary around something and thus distinguishing it from everything else (the “unmarked” state). The most important similarities between CMM and Spenser-Brown’s work include 1) the recognition that distinctions are “made” or, in his terminology, “called;” and 2) the recognition that this emphasis on (if you will pardon the expression) the “social construction of reality” erases the differentiation between the Observer and the Observed. In relation to this last point, Spenser-Brown concludes *Laws of Form* with this statement: "...the first distinction, the Mark, and the observer are not only interchangeable, but, in the form, identical." In a similar way, CMM argues that we can only know the social world from “inside.”

The major difference – and it is a major one – between the calculus of indications and CMM focuses on what Spenser-Brown calls the “Law of Crossing:” “After crossing from the unmarked to the marked state,” he wrote, “crossing again (“recrossing”) starting from the marked state returns one to the unmarked state.” As he puts it:



One could argue whether this law is “right” or not, but a more productive question is “what kind of world is well described by this law?” I think it clear that it is a world in which there are two states (marked and unmarked), similar to Aristotelian logic’s primary assumption that things have to be either “A” or “not-A.” Spenser-Brown’s work is an improvement (from my perspective) over Aristotle because it elevates the distinctions to something “made” by an act of calling, rather than assuming that the distinctions derive from some quality of the things themselves. I don’t want to dismiss this too quickly, because the implications are enormous! This shift moves us into a world that is known by actions that we take – a human world. Let’s “mark” this (that’s a little play on words) and move on; we’ll come back to it.

In contrast to this two-valued world, CMM explicitly affirms that we live in a world of multiple levels of context, so that if you cross two boundaries,



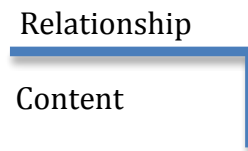
you are in a more complex situation, and the second (and third or fourth...) context-markers denotes additional layers of complexity.

Vern Cronen and I were influenced by the five “axioms of communication” developed by Paul Watzlawick and his colleagues at the Brief Therapy Center of the Mental Research Institute. The second of these axioms state:

Every communication has a content and relationship aspect such that the latter classifies the former and is therefore a metacommunication:

This means that all communication includes, apart from the plain meaning of words, more information - information on how the talker wants to be understood and how he himself sees his relation to the receiver of information.

In our symbol system:



Vern and I agreed with this, but thought that it didn’t go far enough. There are not just two levels of meaning but many, and they are not in a fixed order, Rather, there are an indefinite number of “levels” of contextualization, potentially in any pattern of reciprocal relationships, and always subject to change.

The second way we explored contextualization was through paradox, particularly self-reflexive paradoxes such as the command “be spontaneous.” Drawing on (but not endorsing) Russell’s “law of logical types,” we showed how this and similar statements had meanings on two levels simultaneously, such that the meaning on one level defines the meaning on the other.

We had lots of fun with paradoxes. And we took seriously these principles:

- To understand any system (whether of sounds, sentences, speech acts or language games), you have to understand both its own “order” AND the context in which it exists.
- If you change the context, you change the meaning of the things contextualized.

This is a very different notion of “contextualization” than ordinal ranking in terms of importance. In this sense, to change contexts is to shift horizons; to change meanings; to alter perspectives. My metaphor of choice at the moment is a kaleidoscope in which a small change reconfigures the pattern or relationships among what you are looking at. What you are seeing doesn’t change, but the

relationships change and thus the significance/meaning of each object in our field of view shifts.

I believe that apparently stable aspects of the social world are misleading; perceptual distortions resulting from our enmeshment in a particular sense of scale. In an early book, Peter Berger called this *The Precarious Vision*; Paul Watzlawick challenged it by asking *How Real is Real?*; and Gregory Bateson began assembling a scaffold for understanding it in *Steps to an Ecology of Mind*.

If we radically change our sense of scale (for example, by thinking in longer historical times or more broadly), things that otherwise seem permanent are shown to be matters of the moment. This is why I like this quotation (variously attributed to Rudyard Kipling and to Gordon Dickson):

Trouble rather the tiger in his lair than the sage among his books. For to you kingdoms and their armies are things mighty and enduring, but to him they are but toys of the moment, to be overturned with the flick of a finger or the turning of a page.

In this instance, the “sage among his books” thinks in terms of the rise and fall of civilizations, not the election cycle; of millennia, not generations; of geologic eras, not just the life-span of the human species.

Daniel Boorstein (in his book *The Image*, if memory serves) offered a useful distinction between things that are “relevant” and those that are “topical.” The difference he cited was temporal. Topical things are of intense interest at the moment, but interest fades quickly. The emphasis on being first (e.g., “getting the scoop”) to get a news story derives from devotion journalists have to topical things. A quick scan of what is being talked about on Fox news, MSNBC, and CNN makes me think that most of this is topical. A re-run of the “news” isn’t very interesting. On the other hand, “relevant” issues are not importantly impacted by time (at least within human scale). Questions of duty, responsibility, rights and obligations, value, beauty, goodness – these are (ahem!) relevant to humans in all times and places.

If we navigate contexts often enough – if we become frequent flyers among senses of scale – then we begin to see every aspect of the social world as polysemic (having multiple meanings). The “powers of ten” illustrates this point well.

Starting with a photograph of a couple having a picnic, the scale moves out and in (by powers of 10). There are various versions of this film, go to this one: <http://www.powersof10.com/film>. I’m particularly taken by the last third of the film that goes “inside” the hand of the man happily napping in Grant Park in Chicago. The organizational structure changes at each movement, ending in something that most of us would not recognize as this man’s hand, and that seems very far removed from the gestures that this hand might make, the caresses or blows it might perform, or the wisdom or folly that it might type on a computer.

The point I am making in such labored prose was done much more elegantly (in the medium of geometry) in 1884. The book, *Flatland: A Romance of Many Dimensions*, is available online here: <http://www.ibiblio.org/eldritch/ea/FL.HTM> and the movie version can be purchased here: <http://www.flatlandthemovie.com/>. The book creates a perfectly functional two-dimensional world confronting the disturbing anomaly of a three-dimensional creature. And the sequel carries this even further: Ian Stewart's *Flatterland: Just like Flatland only More So*. This book is a comic introduction to contemporary mathematics and physics, all of which make my head hurt and makes me agree with J. B. S. Haldane: "My own suspicion is that the universe is not only queerer than we suppose, but queerer than we can suppose."

And if Haldane is correct, then the universe in which we hope to be "at home" is not fully, or only, or even primarily "human." That makes sorting out various contexts both more difficult and more important. Gregory Bateson is tapping me on the shoulder and wants to comment:

"The major problems in the world are the result of the difference between the way nature works and the way people think."

As powerful an influence as Bateson has been on my thinking, I don't quite agree. There is, will always be, and ought to be important differences between the way "nature works" and "people think." I've tried expressing my take on this in Chapter 3 of *Making Social Worlds: A Communication Perspective*; I call it the "physics of social worlds." The key, I think, is to identify, differentiate, and deal constructively with these differences.

If we want to be at home in the universe, we need to sort out and become comfortable with navigating the various contexts in which we live, some of which are not "human." My first title for this essay was "A Sense of Scale." I've become convinced that the ability to adjust intentionally the sense of scale in which we perceive ourselves (both individually and in terms of "the human condition" more generally) is a survival skill in the present and coming eras. The internet was invented in 1989 and is already changing social structures and individual consciousnesses on a scale comparable to that of the invention of writing with the phonetic alphabet and of the printing press. We are already having to deal with the consequences of increased capabilities and developing a discretionary command of our sense of scale seems to be an important part of our ability to do so.

In a conversation with Rom Harré, I had one of those clicks of comprehension that forever change the way I think. Imagine a pool table, he said. Isaac Newton formulated all the laws of physics that we will need to understand the movement of the balls on the table. But what is not covered by those laws? he asked, inviting me to shift my sense of scale discretionally. They tell us precisely nothing about the game of pool, the skill of the players, the function of pool in the relationships among the players, or the social significance of a pool hall in a community.

Can you feel your sense of scale expanding as I recounted this much appreciated tutorial, like this: from [-] to [---] to [-----] and yet again to [-----]? Do you feel different vocabularies of description and explanation slide into place with each shift? Can you identify the cognitive muscle (that's a metaphor for the pattern of neural connections and activation) that enable you to voluntarily control this sense of scale? If so, then we are ready to find the road we lost in our meandering and move a few steps further toward town.

EIGHT OR NINE OR MORE MIRACLES

As a result of a thousand million years of evolution, the universe is becoming conscious of itself, able to understand something of its past history and its possible future. This cosmic self-awareness is being realized in one tiny fragment of the universe — in a few of us human beings. Perhaps it has been realized elsewhere too, through the evolution of conscious living creatures on the planets of other stars. But on this our planet, it has never happened before...

It is as if man (sic.) had been suddenly appointed managing director of the biggest business of all, the business of evolution — appointed without being asked if he wanted it, and without proper warning and preparation. What is more, he can't refuse the job. Whether he wants to or not, whether he is conscious of what he is doing or not, he is in point of fact determining the future direction of evolution on this earth. That is his inescapable destiny, and the sooner he realizes it and starts believing in it, the better for all concerned.

Julian Huxley

We've only taken a few steps on the road to town, but we need to wander again. What follows can be seen as an exercise in the volitional movement through senses of scale. It is that, but it also is the description of the sense of scale that makes Maslow's questions so powerful and pertinent.

Let "miracles" mean "an amazing event" (that's the second definition in my online dictionary). Please, put aside other connotations of the word. Let's follow the signpost up ahead toward "the eight miracles."

The First Miracle: From nothing to something. In the faith tradition in which I grew up, this miracle is described in these awe-filled words:

In the beginning God created the heavens and the earth. Now the earth was formless and empty, darkness was over the surface of the deep, and the Spirit of God was hovering over the waters. And God said, "Let there be light," and there was light.

No less powerful is this description (<http://www.big-bang-theory.com/>):

The Big Bang theory is an effort to explain what happened at the very beginning of our universe. Discoveries in astronomy and physics have shown beyond a reasonable doubt that our universe did in fact have a beginning. Prior to that moment there was nothing; during and after that moment there was something: our universe. The big bang theory is an effort to explain what happened during and after that moment.

According to the standard theory, our universe sprang into existence as "singularity" around 13.7 billion years ago. What is a "singularity" and where does it come from? Well, to be honest, we don't know for sure. Singularities are zones that defy our current understanding of physics... Our universe is thought to have begun as an infinitesimally small, infinitely hot, infinitely dense, something - a singularity. Where did it come from? We don't know. Why did it appear? We don't know.

... time and space had a finite beginning that corresponded to the origin of matter and energy. The singularity didn't appear *in* space; rather, space began inside of the singularity. Prior to the singularity, *nothing* existed, not space, time, matter, or energy - nothing. So where and in what did the singularity appear if not in space? We don't know. We don't know where it came from, why it's here, or even where it is. All we really know is that we are inside of it and at one time it didn't exist and neither did we.

Let me repeat – for the sake of emphasis – the final line: “...we are inside of it and at one time it didn’t exist and neither did we.” The brevity of this sentence belies its significance.

May we camp here for the night? We can build a small fire, look at the stars, and meditate on the fact that all that we can see is a small slice of what is there; that the stars – for all of their apparent stability – are intensely turbulent things, newcomers to the neighborhood and most of them are hurdling toward a violent end which, if our stars are aligned just right (literally!), will destroy all life on this planet.

Have a nice night!

Note that both accounts of creation were written long after the event they describe. At the time of the “big bang,” there was no one to note it, to record it, to measure it, or – perhaps compromising my right to call it a “miracle” – to be amazed by it. The author of this account might have added “and then there was a time when it existed but we did not.”

Any story with this sense of scale might have a “human order” within it (as part) and in its epistemology (I rather like the refrain: “we don’t know...we don’t know...”) but

that story and that epistemology must also include the alien, inhuman and ineffable in its content.

I warned you that this essay is wholly, but not completely, human!

Focus on the phrase “we are inside it [the Big Bang].” I used to have lots of fun feeling the differences between what we would know from inside and outside various systems. I noticed that the perspective in Euclidean geometry is always outside the figure and from a vantage perpendicular to the major axis of the figure (e.g., from above the squares and triangles and circles of two-dimensional geometry). What would our geometry looked like, however, if the geometer’s perspective was on the plane of those figures and inside them? Curves and straight lines look different if they are seen from the side and on the same plane. If such an insider’s-view of geometry was that used by our architects, what would our buildings look like? What would our worldview be? What metaphors would shape our perceptions and relationships?

John Shotter has done some wonderful work for us all in thinking through the significance of understanding our human existence from inside. This quotation is from a 1999 paper titled “At the boundaries of being: Re-figuring intellectual life.”

Strange things happen at the point of contact in two or more different forms of life with each other - another collective form of life with its own unique world and character (a culture?) emerges. As Bakhtin (1984) remarks, it is just in the meeting of a plurality of unmerged consciousnesses, each with its own world, that such a (dialogically structured) space is created. Just as two different, 2-D monocular points of view are not merged into another 'averaged' 2-D point of view, but into a binocular 3-D 'world' - a 'world' that both offers us certain opportunities for our own chosen actions while also exerting certain calls upon us to which we must, spontaneously, respond - so similar such 'worlds' are created in all our relational practices. Their unique nature can, however, only be experienced and understood from within the practices in which they are created. Thus to investigate their nature, their structure, the calls they exert on us, what is possible for us within them and what is not, we need some utterly new methods of investigation, quite different from the 'onlooker' methods inherited from the natural sciences. (Retrieved on 12/29/10 from <http://www.learndev.org/dl/ShotterAECT2000.pdf>.)

My point: whatever might be “human order” is inside a physical order and is contextualized by it in ways that we can only know from a double-insider position. The implication: think with humility, awe, and wonder; act with a positive affirmation of mystery.

The Second Miracle: From simple to complex. Astronomer Andrew Fraknoi laughingly said that the big bang created the most boring forms of matter: hydrogen and helium. But these forms of matter then coalesced into stars, and stars create

more complex forms of matter, such as carbon, iron, etc. We would not exist in the form that we do if those stars were not such powerful sites of atomic transformation, and if those stars did not (rather conveniently, from our perspective) occasionally explode, distributing heavier elements so that they ultimately form planets (including the one on which we live).

“Science shows us that the universe evolved by self-organization of matter towards more and more complex structures. Atoms, stars and galaxies self-assembled out of the fundamental particles produced by the Big Bang. In first-generation stars, heavier elements like carbon, nitrogen and oxygen were formed. Aging first-generation stars then expelled them out into space – we, who consist of these elements, are thus literally born from stardust. The heaviest elements were born in the explosions of supernovae. The forces of gravity subsequently allowed for the formation of newer stars and of planets” (retrieved on 12/26/10 from <http://www.talkorigins.org/faqs/abioprob/originoflife.html>).

In one way of keeping score (specifically: the periodic table of the elements), there are (only?) a hundred-something elements.⁴ These relatively few ways in which the stuff of reality can fit together themselves have life-spans; they were created inside a star and they will, ultimately, “die.” We are made of relatively stable elements, but they are not eternal. Even the benediction “from dust to dust” applies only to a small segment of the universe’s time-line. And during their life-spans, these elements have properties that are important to us: they combine with some elements and not with others.

Ignite space-time by setting off the big bang; take lots of hydrogen and helium (the two most simple elements) and add the forces that govern the universe (gravity, electromagnetism, the weak nuclear force, the strong nuclear force); watch as the stars transmute the hydrogen and helium into a periodic table-full of elements; continue watching as these elements form a dazzling array of compounds which crash into each other and ground against each other; until – in some tiny spot within the universe, complex mixtures come into being.

Astronomer Carl Sagan used to say “we are all star-stuff.” It turns out that he was right, but it isn’t just “us” that are comprised of atoms forged in a star and thrown off in inhumanly-big explosions, it is every physical object on earth, from water to iron to growing green things.

The Third Miracle: From inanimate to living. The elements that coalesced to form planets (and moons, asteroids, comets, etc) were (we suppose) inorganic and

⁴ I feel the need to qualify all such positive-sounding statements, so let me add: a hundred-plus elements that we know of; in this part of space; if we don’t count anti-matter and assume that dark matter fits within our scheme.

lifeless. But somehow, complex stews of inorganic elements combined to become alive.

A dictionary definition of “life” cites three characteristics: growth through metabolism, reproduction, and the power of adaptation to environment through changes originating internally.

Many studies have been done attempting to simulate the transformation of inorganic or dead elements into (primitive) life-forms (for a review, see (retrieved on 12/26/10 from <http://www.talkorigins.org/faqs/abioprob/originoflife.html>)). For the purposes of this list of miracles, however, the “how” can only add to the already major miracle “that” somehow, out of inert elements, life began.

OK, let’s meander just a bit. Not only did this mind blowing transformation happen, it happened everywhere on the planet on which we live. This miracle is not only life, but an amazing fecundity of life. A trip to the zoo reminds us of the glorious diversity of things that swim, crawl, run and fly, each cleverly and some exotically adapted to its particular environment.

But these are only the life forms closest to us. “Extremophiles” live where we can’t – without oxygen, without light, in extreme heat or cold, exposed to intense radiation or elements that would be fatal to us. I say again: they live.

The lesson is that, not only did inanimate matter become alive; it did so everywhere we’ve had the chance to look (on this planet) and in a wider array of forms than any human imagination could have envisioned.

While noting the fecundity of life (on this planet, at least), I also want to note how sheer unlikely it is. In Enfield, Connecticut, in 1741, Jonathan Edwards preached a sermon titled “Sinners in the Hands of an Angry God.” Edwards vividly described:

That world of misery, that lake of burning brimstone, is extended abroad under you. There is the dreadful pit of the glowing flames of the wrath of God; there is hell's wide gaping mouth open; and you have nothing to stand upon, nor any thing to take hold of; there is nothing between you and hell but the air; it is only the power and mere pleasure of God that holds you up....

Your wickedness makes you as it were heavy as lead, and to tend downwards with great weight and pressure towards hell; and if God should let you go, you would immediately sink and swiftly descend and plunge into the bottomless gulf, and your healthy constitution, and your own care and prudence, and best contrivance, and all your righteousness, would have no more influence to uphold you and keep you out of hell, than a spider's web would have to stop a fallen rock. Were it not for the sovereign pleasure of God, the earth would not bear you one moment; for you are a burden to it; the creation groans with you; the creature is made subject to the bondage of your corruption, not willingly; the sun does not willingly shine upon you to

give you light to serve sin and Satan; the earth does not willingly yield her increase to satisfy your lusts; nor is it willingly a stage for your wickedness to be acted upon; the air does not willingly serve you for breath to maintain the flame of life in your vitals, while you spend your life in the service of God's enemies. (Retrieved on March 3, 2011, from <http://www.iclnet.org/pub/resources/text/history/spurgeon/web/edwards.s.sinners.html>.)

This sermon (and those like it) ignited (sorry; I couldn't resist the pun!) the movement known as "the Great Awakening" which shaped the religious experience and the place of religion in the colonies and, later, in the United States. Without speaking to Edwards' theology,⁵ I want to note – with irony and amazement – that Edwards' imagery of the precarious predicament in which we live got it mostly right.

We walk, sit, and sleep on the cool crust of a planet. This crust floats on layers of molten rock that might well be described as a "lake of burning brimstone." Were we to fall (or tunnel) very far below the surface, we would either burn or be crushed by the pressure. Completing the inhuman, hellacious core of the planet is a rapidly spinning ball of iron that creates a powerful magnetic field around the earth. And we are glad that it does. Without this magnetic field, the "solar wind" generated by the continuous but uneven explosions on the surface of the sun would strip the earth of its atmosphere and kill us all with radiation. We are, literally, caught between a rock (spinning rapidly in the core of a molten earth) and a hard place (the solar wind, bringing lethal doses of radiation).

And we will not survive. Stars die, and take their planets with them. Even in the temporary state of relative calm in which our planet exists, species are born and go extinct. And even in species that continue, all of the individual members of that species die. We make personal plans as though we are going to live forever because our attention span is so narrow and short. We feel comfortable living on the earth because we develop a convenient (and necessary?) amnesia about the violence and change in the universe.

Simon Winchester recently wrote a "biography" of the Atlantic Ocean. Surrounding his accounts of the "great sea battles, heroic discoveries, titanic storms, and ... a million stories," he talked about the fact that the Ocean fairly recently (in geologic time-scale) did not exist, is continuing to expand now,⁶ and, in the fairly recent future (again, according to a geologic time-scale), will not exist. So the next time you stand on the beach during a storm and feel the majestic strength of the ocean and

⁵ Except to note how different this "angry God" is from my understanding of the teachings of Jesus. Compare Edwards to Brian McLaren's *The secret message of Jesus: Uncovering the truth that could change everything* and Richard Stearns' *The hole in our gospel: What does God expect from us?*

⁶ Columbus' trip to what is now called the Americas would be longer now than when he made it in 1492. Is nothing permanent?

the power of the surf, think “yeah, sure, big guy! You’re tough now, but just wait a couple of billion years, and you are nothing but dust!”

If we view our situation through astronomical time-scales, or even geologic time-scales, we live in an active, dangerous, changing universe whose natural forces are not geared for the nurture or protection of life. And the miracle is that, in this turbulent, inhuman universe, life not only exists but does so in splendid diversity.

The Fourth Miracle: From alive to self-aware. This miracle takes us directly into the realm of personal and social evolution.

By the definition cited above, living beings have some amount of awareness of their environments and are capable of responding to it. I’m thinking not only of the soaring eagle alert for the movement of prey far below, but of the complex ecology of the rocky Pacific shore not far from my home. Some quiet time observing a tide-pool shows that many species of plants and animals live in a daily rhythm in which they respond to each other and to the rise and fall of the tides.

None of the denizens of the tide-pool (we assume) write sonnets about the rhythms of the tides or sing praises for the nourishment that these tides daily bring them. None worry about an interruption of the tidal rhythm; none anxiously consult watches, checking that the next rise or fall of the tide is delayed. The eagle does not chart changes in the availability of prey as a function of the seasons, nor does he anguish about the morality of killing his prey.

But some living things develop a higher sense of awareness. My dog may not worry prior to feeding time, but he notices when it is delayed and expresses his disapproval very clearly. Other living things become even more aware; not only of their environments, of themselves.

The “mirror test” is the standard criterion for judging whether or not a species has this ability. The research model was developed in the 1960s:

Gordon Gallup ... [devised] a test that attempts to gauge self-awareness by determining whether an animal can recognize its own reflection in a mirror as an image of itself. This is accomplished by surreptitiously marking the animal with two odourless dye spots. The test spot is on a part of the animal that would be visible in front of a mirror, while the control spot is in an accessible but hidden part of the animal's body. Scientists observe that the animal reacts in a manner consistent with it being aware that the test dye is located on its own body while ignoring the control dye. Such behaviour includes turning and adjusting of the body in order to better view the marking in the mirror, or poking at the marking on its own body with a limb while viewing the mirror. (Retrieved on 12/26/10 from [http://en.wikipedia.org/wiki/Mirror test](http://en.wikipedia.org/wiki/Mirror_test).)

Animals that have passed the mirror test include all of the “great apes” (including chimpanzees, orangutans, gorillas, and humans), rhesus macaques, dolphins, orcas, elephants and European Magpies. Dogs, cats, and human infants (before 18 months) fail the test.

The “mirror test,” of course, measures only what it measures – awareness of self as a physical entity. This is like the old definition of intelligence: “that which is measured by the I.Q. test.” The limitations of this circular definition have been the basis for a very productive development in our understanding of multiple intelligences. Starting with Howard Gardner’s *Frames of Mind* in 1983, identifying, measuring and marketing books and trainings to develop new intelligences has become something of a cottage industry. Titles on my shelf name emotional intelligence, social intelligence, and spiritual intelligence.

The limitations of Gallop’s test of awareness might spur the development of more nuanced, differentiated concepts of measurements of self-awareness. The project that I have in mind would treat the “mirror-test” in the same way that the multiple intelligence folks have treated the Stanford-Benet I.Q. test – as useful, limited, and not nearly as interesting as the new concepts and measuring procedures.

Perhaps such a test could feature the presentation (a video recording?) of a pattern of communication in which the person or animal participates. The criteria on which scoring is based might be an elevated interest in the pattern, something equivalent to “turning and adjusting of the body in order to better view the marking in the mirror, or poking at the marking on its own body with a limb while viewing” the presentation.

Or perhaps the sign of self-awareness is the need to name, sing or otherwise express the world. Norwegian musicologist Jon-Roar Bjørkvold began his book *The Muse Within: Creativity and communication, song and play from childhood through maturity* with an extended quotation from Pindar’s *Hymn to Zeus*:

Zeus had brought the world into being, and the gods beheld in mute wonder the magnificence that lay before them. But, Zeus asked, is not something wanting? And the gods replied that yes, one thing was wanting: the world lacked a voice whereby all this wonder could be expressed in words and music. In order for such a voice to sound there was a need for a new kind of divine beings – whereupon the Muses sprang into existence as the children of Zeus and Mnemosyne, goddess of memory.

Jon-Roar says that all human beings have “the Muse within” us; that we are “muse-ical beings.” He describes this muse-icality as an aspiration: “with all the power you possess you stretch forward to embrace the life you have been given; you try to get a firm grasp on some elements of this life; and then you reinterpret what you have grasped to create fragments of meaning” (p. xiv). He reports studies of forms of play,

speech and song among pre-literate children around the world, finding strong “muse-ical” similarities.

This reminds me of Julian Huxley’s comment about the universe becoming conscious of itself. We are part of the universe, and what we do is “inside” the universe. So our emerging self-awareness – and perhaps other levels of awareness and forms of consciousness – are part of the evolution of the universe.

Look at what we have already accomplished! We have transformed the event of the “big bang” into a miracle through our capacity to be amazed. Further, through our muse-icality, we have transformed the miracle of creation into stories. And not just stories but competing stories...in which those who tell and those who hear believe, some so fervently that these stories become the shape-giving contexts for their lives...so much so that they will work or even fight to assert the dominance of their stories over rival stories. What a miracle!

The Fifth Miracle: From self-aware to reflexively self-aware (aware of being aware). Of all the forms of life that we know, only a handful of species (see above) are aware of themselves. Of these, as far as we know, only humans are aware of being aware of themselves. And among humans, reflexive self-awareness is (usually? often? always?) a personal and/or social achievement rather than a biologically-determined development (at least I think that it is learned, not genetically pre-programmed).

Despite all this, reflexive self-awareness is an inconsistently honored ability.

In what I called the Fourth Miracle, we have become the universe’s storytellers. In the Fifth Miracle, we reflect about those stories. We become the evaluators, choosers, promoters, and critics of those stories. We can note that some stories, whatever their content, present themselves as complete and consistent; others affirm their incompleteness, mark the perspective from which they are told, and tolerate with equilibrium their paradoxes and inconsistencies. Some are told with a concrete factuality; others ironically; still others as fantasies or allegories.

At this moment, I’m less interested in the characteristics of the stories we tell (whether about how we came to be or who did what to whom) than I am in the qualities of mind that enable us to reflect on the manner of our storytelling. This quality of mind is – again, as far as we know – a late development in the evolution of the universe, unique to one species on this one planet, and – I believe – a relatively late development in our species as a whole and in the maturation of each of us individually.

I’m not sure all of us develop reflexive self-awareness. I’m not sure all of us want to.

Reflexive self-awareness isn’t always something we want to have. This is what makes us fear death or failure, wonder about the shape of our face before we were

born; dread the future, etc. When reflexive self-awareness produces fear, it harnesses the power of our whole brains to the simple urges of their most primitive parts. As a result, we have elaborate institutions (stock markets; armies; theologies) that are more sophisticated versions of the fight, flight, or freeze responses of less developed mammals.

Reflexive self-awareness is also the mechanism that allows our spirits to soar, to imagine what we cannot see, and to build plans and put in motion schemes to change the worlds in which we live. When it produces awe and wonder, it enables our brains to be integrated and our minds to function in higher levels of consciousness.

Is there an analogue to the “mirror test” that would show that we are reflexively self-aware? The ability to differentiate among types of stories might be the basis of one such test. Not only differentiating among lies and honesty, but appreciating the difference between expository prose and its alternatives such as satire, parody, and irony.

Another analogue to the “mirror test” is the ability to recognize, not only ourselves, but the effects of our actions on ourselves, others, and the environment in which we live. Here’s one example of reflexive self-awareness: the (British) Royal Society’s journal, *Philosophical Transactions*, recently devoted a special issue to the recognition of a new geologic era, the Anthropocene.

Anthropogenic changes to the Earth’s climate, land, oceans and biosphere are now so great and so rapid that the concept of a new geological epoch defined by the action of humans, the Anthropocene, is widely and seriously debated. Questions of the scale, magnitude and significance of this environmental change, particularly in the context of the Earth’s geological history, provide the basis for this Theme Issue. The Anthropocene, on current evidence, seems to show global change consistent with the suggestion that an epoch-scale boundary has been crossed within the last two centuries (J. Zalasiewicz, M. Williams, A. Haywood, & M. Ellis [2011]. The anthropocene: A new epoch of geological time? *Philosophical Transactions*, 369: 835-841).

Again, my interest is less in arguing about whether the Anthropocene is a useful distinction to draw than it is in pointing to the quality of mind necessary to raise questions about the effects of our own actions on ourselves and our environment. Some contributors to public discourse vehemently deny human contributions to climate change, while others see it as patently obvious. Is it possible that the difference between these rhetorical combatants is less a matter of “the data” and more of difference in their level of personal evolution? Specifically, that some are more capable of (or willing to rely upon) reflexive self-awareness than others?

The Sixth Miracle: Mystery, mindfulness, compassion and empathy. My paternal grandparents advised my parents not to let me go to college (their financial support was necessary), warning that my brain would burn out. I'm glad my parents disregarded that advice. When I was ready to leave for college, my grandparents told me that their hope for me was that I "would not change a bit." I knew what they meant (and wondered if they had in mind my uncle – my Dad's brother – who earned doctorates in both physics and in mathematics but/and acted and was treated as an "Other").

In my culture-of-origin, such suspicion of higher education was not uncommon. As I reflect on it now, I think that the development of reflexive self-awareness was a large part of what they were afraid. My relatives did not want me to treat the stories and customs of our family and our culture as "objects" to be analyzed, evaluated, critiqued. They wanted me to embrace those stories and cultures as part of my "self." (In Robert Kegan's terms: to remain at a "level 3.") They feared that I would sever my ties with them, attach myself to other stories – become either the "prodigal" or an alien.

These fears were reasonable. And, from their perspective, it happened pretty much as they feared. In their eyes, I became the "other," unfathomable and unforgivable because I had "left" the comfortable certainties of my culture and found pleasure and pain beyond the horizons of their ability for empathy. (From my perspective, the story was more complicated but not less painful.)

And mine is not an unusual story. If I remember correctly, Arnold Toynbee's *A Study of History* described a recurring pattern of tension and conflict between "creative minorities" and those comfortable within the customs of their societies. In the modern period, the creatives have become (or at least present themselves as) the majority, leading Peter Berger to write of "the heretical imperative." In the contemporary world, all of us, he argues, must choose which of the stories/faiths/social groups we will belong to, and, because it is a matter of choice, we are, in the traditional sense, "heretics." We believe/conform to that which we have chosen, even if what we choose is the culture and faith into which we were born and socialized.

Is it too much to see this as a battle about the value of reflexive self-awareness? Not one form of self-awareness rather than another, but the form of mind that is reflexively self-aware.

But it should be noted that many of us who champion the development of reflexive self-awareness have a more-or-less explicit set of values in mind. We commit to the seldom-stated, usually-untested proposition that promoting and nurturing reflexive self-awareness leads to the next miraculous step in personal and social evolution.

Enhancing reflexive self-awareness is the goal of liberal education. Reflexive self-awareness – or perhaps a qualitative shift in it – lies at the heart of “transformational learning” as developed by Jack Mezirow and others. It is what Robert Kegan describes as the personal evolution from “socialized self” to “self-authoring self.” Reflexive self-awareness is what some traditions of meditation seek and call “enlightenment” and “mindfulness. Daniel Siegel has branded “Mindsight” as a combination of insight and empathy. Reflexive self-awareness is the ability – not always used, frequently not sharpened – that C. Wright Mills described in *The Sociological Imagination*: a critical quality of mind enabling men and women to shift from one perspective to another intentionally.

Developing reflexive self-awareness has always been one of the primary reasons for using CMM. Consider these three questions:

- How did that get made?
- What are we making together?
- How can we make better social worlds?

These questions pre-suppose some degree of reflexive self-awareness, and, I hope, provide a scaffolding for developing and using it productively. The bulk of my life’s professional work has been focused on this goal:

As a social theory, CMM intends to foster the evolution of better worlds by providing tools and concepts that analyze (that is, cut into parts; display the pieces of) the process of communication. Its purpose is to help us understand and act intelligently into the social world, thus making it better. All the concepts and models mentioned in this book are intended to be used as scaffolds enabling us to identify those things holding back our evolution and to function as if we were more highly evolved than we are. With delight, I note the irony that if these tools do their work well, they become less important. When the gates of enlightenment are opened, one throws away the now-unnecessary brick that one used to knock on it. Until I reach enlightenment, however, I find these concepts and tools very useful and invite you to use them as well. (*Making Social Worlds*, 2007, p. 220).

Look at the lengthy demonstration of a consultation in the *CMM Solutions Field Guide*. This description focuses on what the consultant “Larry” does; how he uses CMM’s heuristics gently and effectively – and so it should, given the purpose of the *Field Guide*.

But an equally valid reading of the consultation might focus on what is being done to the clients during the consultation. They are gently led through a process of becoming more self-aware and then to being reflexively self-aware. Their perspectives and their horizons are changed. They started in a first-person relationship to their own stories, “telling” what happened and how they understood

it. They were then led into a third-person relationship in which they worked together to construct and interpret what was “made” in their interaction and how it was made. They began to be aware of the motives, intentions and constraints in which other people are acting (empathy) and of the consequences of their own actions (contingency). Finally, they were invited to work together – in a first-person plural perspective – to identify and think about how they could actualize their preferred future.

As you read this hypothetical consultation (a composite of many actual consultations), notice that “Larry” chooses not to respond to many of the things that the clients say, particularly to the hurtful “digs” at each other or passive-aggressive comments that they make. Some readers have told us that they think this unrealistic and unproductive; “Larry” should confront those statements. We (the authors, Jesse Sostrin, Kim Pearce and I) think that “Larry’s” behavior is wise; his purpose is not just to solve a problem, but to promote, at least within this consultation, the clients’ personal and social evolution. With this goal, a strategic series of shifts in perspective, each transforming the clients’ horizons, is more important than battling out the appropriateness of their actions within the frames of mind in which they began the consultation.

The idea is simply stated. If patterns of communication are both substantial and consequential, then one way (I would argue, the best way) of changing the social world is to change the patterns of communication. I’ve grown fond of the maxims “you get what you make” (the subtext, of course, is that communication makes our social worlds, and different forms of communication make different things) and “if we get the pattern of communication right, the best possible things will happen.”

The Transforming Communication Project (www.TCPcommunity.org) has started (repeat, started) to identify ways of transforming the social world by transforming patterns of communication. Take a look at <http://www.tcpcommunity.org/articulating.pdf>.

Back to the extended demonstration of a consultation in the *CMM Solutions Field Guide*. It can also be read with a focus on the consultant, “Larry,” not – as in the example -- on how he used CMM’s tools but on what using CMM’s tools did to him. Did following the SEAVA model promote his own personal evolution? Did the templates (CMM’s heuristic models) help him become more self-reflexively aware?

For about five years, I’ve been paying attention to what people tell me about the effects of using CMM. Several have, apparently independently, started using the term “living CMM.” That phrase deserves and rewards exploration.

Kim Pearce moved this project forward in her 2007 unpublished paper titled “CMM and the Evolution of Social Consciousness.” (Available online http://pearceassociates.com/essays/research_menu.htm). In it, she reviewed the

literature on multiple intelligences, adult development, and CMM. Her argument is that CMM is a way of “doing” the work that develops these intelligences and promotes movement among levels of development. She did an extended analysis of how people with different levels of personal evolution did and might have responded to the tragedy of 9/11. Here’s part of the analysis:

Kegan provides a structure for thinking about the stages of consciousness. Gardner articulates categories of intelligences and the functions they serve for growth and development. CMM provides a vocabulary and a set of tools and models that help us develop awareness and further our social intelligences for the purpose of social evolution. Figure 1 is a matrix showing how CMM concepts and tools connect with levels of consciousness and multiple intelligences.

Figure 1

<i>CMM</i>	Taking the Communication Perspective	Interactional Patterns	Serpentine Model/Episode Work	Hierarchy Model	Daisy Model	LUUUTT Model	Cosmopolitan Communication/Dialogue	Mystery
<i>Kegan: Evolution of Consciousness</i>								
Post Level 5								xxx
Level 5		xxx					xxx	xxx
Level 4	xxx	xxx	xxx	xxx	xxx	xxx	xxx	
Level 3								
<i>Gardner's Multiple Intelligences</i>								
Interpersonal			xxx		xxx	xxx	xxx	
Intrapersonal	xxx	xxx	xxx	xxx	xxx	xxx	xxx	
Spiritual								xxx

XXX = CMM tool or concept supporting a level of consciousness and enhancing an intelligence

A study of “How Practitioners Use CMM” was recently conducted by Romi Goldsmith (Boucher), Lise Hebabi and Ayumi Nishii. (“How Practitioners Use CMM,” available at http://www.pearceassociates.com/essays/research_menu.htm.) They described the “transformational power of CMM” in the lives of those who use it. Respondents described themselves as “becoming better, happier people;” one said that using CMM is “1000% transformative: I am NOT the same person. I am more sensitive, forgiving, relaxed and I hope humble.” The study itself has many specific examples of these effects.

In a not-yet published chapter titled “Evolution and Transformation: A Brief History of CMM and a Meditation on What Using It Does To Us,” I re-read what experienced practitioners have been saying for years about the reflexive effects of using CMM, but that I had not been able to hear. I concluded by noting a remarkably consistent story about what using CMM does to us, but a story that can’t be said well. Here are the final paragraphs of that paper:

Sensitized by the question “What is CMM doing to us?” my historical reflections and readings showed that we have been addressing this all along. Part of the pleasure of writing this chapter has been connecting in a new way with otherwise overlooked and undervalued testimonies of the reflexive effects of using CMM.

There is a remarkable consistency in these descriptions, but it is impossible to state it clearly. In doing the research for this chapter, I realized how hard I have tried to articulate these effects: as “cosmopolitan communication” (Pearce, 1989); as the commitments of CMM-ers (Pearce, 2004a, p. 49-51); and as a set of reflections (Pearce, 2004b, p. 206). And in the last two attempts, I’ve produced lists. I imagine Burnham, Barbetta and Radovanovic laughing tolerantly at me, simultaneously affirming the necessity and usefulness of such attempts, smirking at my penchant for lists, deconstructing each item on them, and in the process reminding us of the paradoxical, ineffable polysemy that is made when we use CMM. Tell a story, they say! Write a poem! Or, better yet, do something good, and do it well.

Joining their laughter, I more confidently point out that using CMM promotes empathy and compassion (not only as personal virtues but as social accomplishments), enhances our abilities to perceive and participate in moments of grace, and provides practical tools for making better social worlds.

And all of this leads me to believe that, if we have sufficiently powerful tools for understanding our social worlds, and if we have sufficiently evolved personal and social resources for naming and navigating contexts within that social world, then something else happens. We begin to realize that it isn’t our horizons that constrain us; it is the poor fit between our experience and the tools we have to use to interpret and express it.

I believe that those with well-developed reflexive self-awareness will resonate with this observation by Aldous Huxley:

That’s our ironic fate, to have Shakespearean feelings and (unless by million-to-one chance we happen to be Shakespeare) to talk about them like automobile salesmen or teen-agers or college professors. We practice alchemy in reverse – touch gold and it turns into lead; touch the pure lyrics of experience, and they turn into the verbal equivalents of tripe and hogwash.

I had been doing what I’ve done altogether too much of in this life: sitting alone, trying to say clearly, perhaps even persuasively, that which I could not quite grasp myself. It was sometime in the late 1980s, I think, and I can remember the sensation vividly. Not Huxley’s “verbal equivalents of tripe and hogwash” but dust. With the

taste of dust on my tongue and the feel of dust under my fingernails, I wrote this poem, which I offer as the cry of a soul engaged in reflexive self-awareness.

Theorist

I pluck words out of the air...
 And kill them.
 Like bugs impaled in a specimen case
 I arrange them in long straight lines of print
 For others to read
 And misunderstand
 And criticize.

But words can live again.
 In speech.
 And in silence.

Some have said that this poem is “dark.” I don’t see it that way. Yes, it expresses the accumulated dust on the soul too-long self-imprisoned with pen in hand or fingers racing on keyboard. And it takes full recognition of what Huxley called “our fate” – to fail in the task of expressing “the pure lyrics of experience.” But it also celebrates another form of communication – speech; the oral give-and-take among sentient beings – that is more a matter of coordination than of accurately describing an external world or even to achieve full reciprocal understanding. In conversation, as Bahktin described so well, words “live” again.

And the poem does something else. In its inter-linear and extra-linear spaces, it silently shouts the theorist’s recognition that his scribbling fails...that it is doomed to fail...not because it is defective, but because, miracle-upon-miracle, the whole is so much greater than any expression of it.

Call this the recognition of mystery.

In the last couple of years, Kim and I have explored the effects of making “mystery” the highest level of context in our management of meaning and in our coordinated actions with others. When Kim’s paper “Living into Very Bad News: CMM as Spiritual Practice” is published, you can read about our personal experiments with mystery as the highest context. Or you can join us for one of the offerings of our workshop on “CMM as Spiritual Practice.”

Saying “mystery as the highest context” doesn’t seem sufficient to describe what we mean (and if we’ve walked together this far, you’ll say “of course not!”), so I’m going to meander again.

A heightened sense of awareness (and of reflexive self-awareness) is an aspect of making mystery as the highest level of context. It is simultaneously the sharp-eyed focus on details and the broader awareness that such a sharp-eyed focus excludes and distorts perception.

Ironically, it is the most perceptive and articulate among us who repeatedly tell us that reflexive self-awareness, when combined with sufficiently powerful tools, becomes mysterious. Ben-Ami Scharfstein (in his book *Ineffability: The Failure of Words in Philosophy and Religion*) says “our words seem adequate only for the most ordinary experiences at their most usual intensities” and speaks of “the shyness of words, their tendency to vanish when we most need them.”

What does he mean “when we most need them”?

Most people, at one time or another, will use some variation of the phrase “I just can’t tell you...” how sorry I am; how strongly I feel; just what I think, etc. Augustine was one of them, although more articulate than most. In section 1:6 of *On Christian Doctrine*, he wrote:

Have I spoken or announced anything worthy of God? Rather I feel that I have done nothing but wish to speak; if I have spoken, I have not said what I wished to say. Whence do I know this, except because God is ineffable? If what I said were ineffable, it would not be said. And for this reason God should not be said to be ineffable, for when this is said something is said. And a contradiction in terms is created, since if that is ineffable which cannot be spoken, then that is not ineffable which can be called ineffable. This contradiction is to be passed over in silence rather than resolved verbally.

Augustine’s struggles makes my head hurt! He is trying to say something in the context of the sixth miracle (“mystery”) using language and rhetorical forms appropriate for the fifth (Aristotelian logic, in which contradictions are bad things). I do like his final comment, so similar to the way Wittgenstein ended the *Tractatus Logico-Philosophicus*: “whereof we cannot speak; thereof we should remain silent.”

In the *Tao Te Ching*, Lao Tze had a much better time of it, saying “The tao that can be told is not the eternal tao” and “he who knows, speaks not; he who speaks, knows not.” This is a sixth miracle manner of speech. It affirms a great truth without attempting the impossible, to say it.

In his book, *Mystical Languages of Unsayings*, Michael Sells wrote:

Mystery is neither a set of abstruse doctrines to be taken on faith nor a secret prize for the initiated. Mystery is a referential openness onto the depths of a particular tradition, and into conversation with other traditions. The referential openness is fleeting. As Plotinus said, as soon as one thinks one

has it, one has lost it. It is glimpsed only in the interstices of the text, in the tension between the saying and the unsaying. Yet as elusive as it is, it is in principle accessible to all... (emphasis added)

After reviewing the work of five mystics, he continued:

To arrive at the kind of unknowing spoken of by the five mystics in this volume is not an easy task. On the literary level, unsaying demands a full utilization of the literary, theological, and philosophical resources of the tradition. *Its achievement is unstable and fleeting. It demands a rigorous and sustained effort both to use and free oneself from normal habits of thought and expression. It demands a willingness to let go, at a particular moment, of the grasping for guarantees and for knowledge as a possession. It demands a moment of vulnerability. Yet for those who value it, this moment of unsaying and unknowing is what it is to be human.* (emphasis added)

Given the historical tensions between the humanities and science, it is ironic that the keen-eyed pursuit of both lead to comparable (not quite the same) positions. Compare Sells' summary of his study of mystics to Freeman Dyson's reflections on scientists:

The public has a distorted view of science, because children are taught in school that science is a collection of firmly established truths. In fact, science is not a collection of truths. It is a continuing exploration of mysteries. Wherever we go exploring in the world around us, we find mysteries. Our planet is covered by continents and oceans whose origin we cannot explain. Our atmosphere is constantly stirred by poorly understood disturbances that we call weather and climate. The visible matter in the universe is outweighed by a much larger quantity of dark invisible matter that we do not understand at all. The origin of life is a total mystery, and so is the existence of human consciousness. We have no clear idea how the electrical discharges occurring in nerve cells in our brains are connected with our feelings and desires and actions.

Even physics, the most exact and most firmly established branch of science, is still full of mysteries. We do not know how much of Shannon's theory of information will remain valid when quantum devices replace classical electric circuits as the carriers of information. Quantum devices may be made of single atoms or microscopic magnetic circuits. All that we know for sure is that they can theoretically do certain jobs that are beyond the reach of classical devices. Quantum computing is still an unexplored mystery on the frontier of information theory. *Science is the sum total of a great multitude of mysteries. It is an unending argument between a great multitude of voices. It resembles Wikipedia much more than it resembles the Encyclopedia Britannica* (F. Dyson [March 20, 2011], How we know, a review of James Gleick's *The*

Information: A history, a theory, a flood. Published in the *New York Review of Books*. (emphasis added)

So what forms of stories do we tell if mystery is the highest context? How do we speak? How do we act? What forms of social institutions do we build? Without any pretense of having worked out the answers to these questions, let me bring in the work of some who have wrestled with them. These are two rhetorical forms that fit the context of the sixth miracle.

Aporia is a rhetorical form in which we express doubt about where to begin or what to do or say. “I just don’t know to tell you...” It is often used as a rhetorical trick; to simulate honest doubt or the lack of a manipulative motive. But in the context of the sixth miracle, it is sincere, an honest expression of being confronted by more than can be compressed into any set of words.

Many years ago, Peter Lang and Martin Little taught me to answer even direct questions like this: “one thing we might say about that is...” Notice how eloquently they positioned their response as one among many; as their response, thus putting what is said in the realm of social responsibility rather than as a concurrence with things-as-they-are; and as something said, thus inviting a response and continuing the conversation. How much richer this is than to answer the ultimate question thusly: “42.”

Apophasis is a rhetorical form in which the same utterance that makes a claim also deconstructs or denies the claim. In the context of a fourth miracle (“self-awareness”) consciousness, this often occurs when someone brings something into the conversation by denying that they will bring it up. For example, “given the sensitivity of the subject,” one political candidate says, “I will not mention my opponent’s well-known immorality and failure to pay his taxes in 2009.” The denial accomplishes what was denied.

Another example: Stephen Colbert performed for American soldiers in Iraq and began his show with apophasis (although, of course, he didn’t call it that). He complimented the military personnel in the room for not being the kind of audience who could be flattered by being complimented by the performer. Flattered, they applauded and cheered him. Colbert then looked off-camera and smiled broadly. I imagine there had been an intense conversation among the writers about whether he could pull off this gag, depending as it does on the audience not understanding the rhetorical form or how they had been positioned within it.

In the context of the sixth miracle, however, apophasis becomes a powerful way of affirming truths that cannot be said. Michael Sells says that the point of apophasis is not to define the referent (I think that means to “say” what something “is”) but to achieve “referential openness” (I think that means to invite a larger, more aware mindfulness that would be, in Sells’ terms, “problematic in discursive prose”). Sells

speaks of the “apophatic pact between the text and the reader” (I suspect between speaker and listener would work, too). “The reader is asked to bracket the apophatically self-deconstructing propositions, to recognize their aporetic nature with the expectation that their meaningfulness will be retrieved in a nonreferential or trans-referential mode of discourse.”

You expected the soldiers in Colbert’s audience to do all of that? No wonder he was able to pull off his joke on them. But my head is hurting again. Like Augustine, Sells is trying to say in fifth miracle language what things mean and how people should act in the context of the sixth miracle. This is Abbott’s *Flatland* all over again. Here are some better ways of dealing with sixth miracle sensibility:

- A Zen teaching device:
 - STUDENT: Master, what is the nature of Enlightenment?
 - MASTER: A bowlful of snow.
 - STUDENT: Ahh! Thank you!
- Paraphrasing Nietzsche’s *Thus Spake Zarathustra*, “mystery” is the sacred “we don’t know” and “we can’t know” in the discussion of the Big Bang (in the section on the first miracle above).
- Mystery is the recognition of the gulf between our experience and any expression we might give of it. As our sensibilities become more acute, as Joseph Campbell put it in *The Masks of God*, part 4, “words turn back...The best things,” he said, “cannot be said; the second best are misunderstood. After that comes ordinary conversation...”

A sense of liberation, freedom, joy, awe and wonder is another aspect of making mystery the highest context. So is compassion, kindness, and love; mindfulness, empathy, and peace.

Kim and I have found it useful to distinguish “Big M Mystery” from “little m mystery.”

Big M Mystery is the recognition of how small and lately arrived we are in the evolution of the universe, and how short-lived will be our existence.

When Big M Mystery is the highest context, it changes our horizons. As in a kaleidoscope, some things that otherwise might absorb our attention just vanish; other things that we might otherwise not notice become important. What would our politics look like if our political and economic decision-makers made Big M Mystery the highest level of context? What are we, as a species, making? What is the “story told” about the institutions and relationships and events that we are creating, and how does that compare to our “story lived”?

But little m mystery has the same effect. It is the recognition of the inevitable gap between our perceptions and expressions of even the most quotidian events and

objects. An apple hanging on a tree, pregnant with possibilities for eating, throwing, making into a pie, or to be painted as a museum-hanging masterpiece ... unless, by billion-to-one chance we happen to be Isaac Newton, observing, reflecting and constructing the mathematics describing the physical laws that govern...well, as Albert Einstein later showed, this local neighborhood in the space-time continuum, and as Neils Bohr even later demonstrated, at a certain sense of scale. Little m mystery is the recognition that there is more to the other person than we can know unless, as Michael Sells put it, we make “a rigorous and sustained effort both to use and free [ourselves] from normal habits of thought and expression...a willingness to let go, at a particular moment, of the grasping for guarantees and for knowledge as a possession...a moment of vulnerability.” And if we achieve this condition, we will find it “unstable and fleeting” – and ourselves at our most human.

I told you that there was an order here. Very faint. Very human. We are getting deeper and deeper into the “human” part. Stay close and watch your footing. The trail is both slippery and twisting as we move ahead.

Whatever is the highest level of context – whether mystery, self, relationships, creed, etc. – influences what we perceive out the myriad possibilities in each moment, how we understand what we perceive, what sense of “oughtness” to respond we feel (what CMM-ers call “logical force”), and what we do in the next moment.

As Kim and I have experimented with making mystery the highest level of context, we have been drawn to what we call “moments of grace.” These are acts of kindness, beauty and joy, and we can perceive them better if mystery is the highest context.

So why make mystery the highest level of context? Because you will live a life with a much higher ratio of moments of grace in it. Next question?

But it gets even better than this. I don’t think moments of grace were prefigured in the “big bang.” They are human creations. So the creation of the universe continues, and we are the “little bangs” that create each subsequent moment. We make the universe more compassionate or less; we make the universe more or less filled with moments of beauty, kindness, and joy; we make the universe more or less loving.

And here’s the miracle (if we haven’t already been overwhelmed with awe and amazement). When mystery – Big M or little m – is the highest level of context, we (sometimes? usually? always?) develop mindfulness, compassion and empathy and we (sometimes? usually? always?) experience love, peace, and happiness. What we do and the patterns of communication in which we participate change our brains (neuroplasticity is now well supported by data) and change our minds and promote our personal and social evolution. We live in different states and stages of consciousness.

The Seventh Miracle: Makers of better social worlds through the coordinated co-enactment of compassion, empathy and mindfulness. I thought about titling this section as “beyond the muse,” because the role of humans in the universe isn’t only about storytelling and singing. We act. And those actions are a “real” and as much a part of the universe as molecular bonding, planetary orbits and the normal sequence of stellar evolution.

There was a time in my life when I was deeply enmeshed in conversations with constructivists. I took the social constructionist perspective, arguing that we don’t just “make up” stories about our social worlds, we “make” those social worlds by the way we (collectively) act. It matters whether we take flight or take offense and take off 50% on the price of the item we have to sale. The universe is irretrievably (if imperceptibly) changed by what we do...and how other people respond to those doings...and how we respond to those responses...and so on in branching action-chains through human history.

The way we act, of course, is very intimately connected with our stories, and for many years, my work with CMM was focused on this reciprocal relationship. But more recently, I’ve become convinced that our minds continue to develop throughout adulthood (at least, the potential for such development is there) and that the quality of the social worlds we make is closely connected to the level of development of these minds.

I’ve heard the term “interpersonal poets” and I know what that means. I’m thinking of a particular person whose early life experiences might have, as the saying goes, made her into a bad person, but who thoughtfully, deliberately, mindfully constructed her life so that she is a blessing to all those around her. I work with groups of professionals, such as mediators, facilitators, coaches, consultants, and therapists, who have deliberately developed interpersonal skills so that they can construct social worlds (perhaps only locally and transient, but real nonetheless) in which other people can live up to their own higher standards, intergroup and interpersonal conflicts can become the site for better patterns of relationships, and – with a sometimes audible sigh of relief – others can drop their defenses and pretenses and let their spirits soar.

There is an emerging social technology for making better social worlds. It is learnable, teachable, and contagious.

I need to pause here because I get a lot of push-back when I use the phrase “better social worlds.” You know how the argument goes: what do you mean “better”? “Better” according to whom? Etc.

Recall the quotation from Wittgenstein (many pages ago) in which he warned of trying to answer a question that embodied a “confusion” without naming that confusion. I’m going to try to heed that good advice without using the pejorative term “confusion.”

Every question prefigures what the questioner will recognize as answers. Most questions do this without calling attention to it. When questioner and responder share similar background understandings and if the prefigured answers “fit” the situation, communication can be graceful, efficient and effective. When either of these conditions does not hold, however, unproductive patterns of communication occur. (Take a break from the seriousness of this discussion and enjoy Abbot and Costello’s “Who’s on First” routine at <http://video.google.com/videoplay?docid=-8342445135331678445#>; or try to give a non-incriminating answer to the Prosecuting Attorney’s question “Have you stopped beating your wife yet?”). Both illustrate the prefigurations of the answers in the questions.

The challenges I get to my use of the phrase “making better social worlds” almost always 1) focus on the last three words in the phrase (“better social worlds”) rather than on the first (“making”) and 2) assume that a satisfactory answer will name some permanent attribute of better-social-worlds or some general/universal criterion for evaluating which social worlds are better than others.

If I responded to these prefigurations, one thing that I might say (remembering the good advice from Peter Lang and Martin Little) is to offer some adjectives that describe preferred social worlds. These might look like Jürgen Habermas’ description of the ideal speech situation:⁷

1. Every subject with the competence to speak and act is allowed to take part in a discourse.
 - 2a. Everyone is allowed to question any assertion whatever.
 - 2b. Everyone is allowed to introduce any assertion whatever into the discourse.
 - 2c. Everyone is allowed to express his attitudes, desires and needs.
3. No speaker may be prevented, by internal or external coercion, from exercising his rights as laid down in (1) and (2).

Another thing I might say is to identify general principles for judgment. One such general principle is that which guided my mother’s moral compass: what’s good for children, she said, is good. (Try it; as such principles go, it is not a bad guide.⁸ Thanks, Mom!)

The problem with these responses is that they all lead to unproductive patterns of communication resembling the tic-tac-toe game I discussed earlier. The challenger,

⁷ To be fair, the argument has moved on from this description. Habermas’ response to his critics was to critique their criticisms, creating a transcendental dialectic in which the already presupposed conditions of good argument can be shown to exist, and these are the characteristics of the ideal. Nice move! It requires reflexive self-awareness, but I don’t think it leads very directly to mystery and compassion.

⁸ My mother surprised me by being strongly pro-choice. I asked her to elaborate and she said that this world is hard enough on mothers and babies even when the babies are wanted and loved and the parents are able to care for them. She was sharply critical of anyone who would bring an unwanted baby into the world.

assuming minimal competence, can win every time; every general rule or attribute that I or anyone else offers can be shown undesirable or unworkable in some other real or hypothetical context.

But if not this, then what? In *Making Social Worlds*, I made a big point about the vocal emphasis in reading the title aloud. Most people, I claimed, stress “social worlds” (the things made) rather than “making” (the process by which those things are made...and remade, and remade again in a continually unfolding, branching, evolving creation). The difference is a big one; a shift of paradigms and understandings of how we know (epistemology) and what there is to know (ontology). So let me be clear about my stance, since it seems to cut across the grain of conventional wisdom in many places and to be difficult for some to grasp.

The list of “miracles” in this paper lead me to celebrate the ability to volitionally adjust my sense of scale and, having broadened it to include the things named by this list of miracles, to make “mystery” the highest level of context – even in a discussion about what we might mean about “better social worlds.”

In a very specific sense, I don’t know what these “better social worlds” look like, and neither do you. Even if (particularly if?) either of us speaks in rhetorics of personal confidence, insider knowledge, or universal truths.

My principled ignorance results from making “mystery” the highest context and accepting Sells’ claim that this constitutes “a reverential openness...a rigorous and sustained effort both to use and to free oneself from normal habits of thought and expression...a willingness to let go...of the grasping for guarantees and for knowledge as a position. It demands a moment of vulnerability.”

I combine this insight (derived from a study of mystics) with what might seem its psychological opposite: pragmatism.⁹ Pragmatism’s doctrine that meaning and truth are in the results makes good sense if 1) you apply it to actions that create the world, not propositions understood to describe more or less accurately an unchanging world; 2) you understand the social world as unfinished, evolving, unfolding, forever changed by what we say and do in this moment; and 3) you recognize that in such a dialogic, polyphonic, polysemic world, we have no “guarantees” and that “knowledge,” whatever it might be, cannot be our “possession.”

⁹ This aspect of pragmatism is most clearly articulated by John Dewey in *The quest for certainty*; Richard Rorty in *Contingency, irony and solidarity* and in *Philosophy and the mirror of nature*; Richard Bernstein in *Beyond objectivism and relativism: Science, hermeneutics and praxis* and in *The new constellation: Ethical-political horizons of modernity*; and by Clifford Geertz in various essays in *Local knowledge: Further essays in interpretive anthropology* and in *Available light: Anthropological reflections on philosophical topics*.

So when I speak of making better social worlds, I don't have a specific outcome in mind. And I will argue that if you do and if you try to compel others to live within your vision of a better social world, you are likely to make things worse rather than better. By fighting for it or striving for it, you are putting a stake in a rushing river and will have to fight the current to keep it stable. (How's that for arguing by metaphor?) I don't even have a Habermas-like list of universally-desirable attributes of the process of "making" social worlds.

Well, actually I do. I am personally convinced that there are some communication patterns that help us lay aside our too-firmly held and often-unarticulated assumptions, that enable us to develop and engage in empathy, that result in the coordinated enactment of compassion, etc. But what draws me to these is their effect on those who engage in them, what I'm calling "personal and social evolution."

To put it bluntly: better social worlds are those that make and are made by more highly evolved people.

And if you read the previous paragraph as a general statement of a universal truth, you will (quite rightly) argue that this doesn't answer the question, it just pushes it a bit further down the road. What, you might say, are the characteristics of "more highly evolved people"?

If we are talking about universal truths or general models of human development, I don't know. And neither do you. (Does this reply sound familiar?)

But (and this is a big "but") we don't live in a world of universal truths or human development per se. We live in specific moments, in patterns of social relationships not fully of our own choosing, and in patterns of coordination that we can – to a greater or lesser extent – affect but not control. We live at a particular moment in the evolution of the universe, on a planet not of our choosing, at a time in the evolution of that planet that we were born into, and subject to unknowable events that we cannot control that will impact our present and future. (I'm writing these words about a 10 days after the 9.0 earthquake just offshore of Japan...and this is just the latest in a series of events showing how vulnerable we are to the earth's continuing evolution.)

When I studied ethics in college, we noted that the vast majority of ethical issues are not difficult. It is easy to see that (as my Mother would point out) well-fed and healthy babies secure in their parents' love are to be preferred to the alternative (supply your own photos from war-scarred, famine-wracked, disaster zones here). In his book, *A History of Warfare*, John Keegan (p.79) says that he and his fellow military historians have to explain why people kill each other (rather than the alternative) since "human beings cooperate for the common good...[and] cooperation is in the common interest." Ethics classes for philosophy majors (in my experience at least, although that seems very long ago now) spend most of their time on those far fewer situations in which it is more difficult to determine what is

the best thing to do (or, to be honest, we spent most of our time deliberating which of several universal principles did the best job in dealing with these problematic situations).

Who knows what form the next step in personal and social evolution will look like:

- after the “singularity” now predicted for 2045;
- after all the unforeseeable events a thousand years from now;
- after a Krakatau-level volcano erupts and plunges the world (again) into a multi-year “winter” with major disruptions in the global food supply;
- after a comet hits the earth and destroys civilization as we know it; or
- after humankind comes to its senses and takes care of the planet while healing the sick, elevating the condition of the poor, and finding better ways of dealing with conflicts?

But in a state of “reverential openness” and “vulnerability” and without “guarantees” or “knowledge as possession,” you and I still have to act in the moment we live in, and, as John Dewey put it, we can act with “intelligence.” I think it only intelligent to recognize that what Robert Kegan calls “level 4” is a more fitting response to the contemporary world than “level 3.” (Kegan says that people at a level three stage of development are “in over our heads.”) I think it only intelligent to explore the notion of “integrated” minds and “mindsight” as developed by Dan Siegel. (Siegel says that when we lose this integration, we literally go “out of our minds.”)

So when I invite us all to “make better social worlds,” please hear this as an invitation to engage in and promote personal and social evolution as it relates to the particularities of the specific situation in which we live and to our current state of personal and social evolution. We don’t know what “better social worlds” or “personal and social evolution” is in general or as abstract concepts. But certainly we have the intelligence to act wisely in this moment, in these circumstances, to respond to the current situation in ways that will promote the evolution of ourselves and our social institutions.

On what is that intelligence based? On looking around with clear eyes; observing what works; paying attention to what works well. As my teachers and friends Elspeth MacAdam and Peter Lang put it, “appreciative noticing.” Or, as the pragmatists say, taking note of the effects of what we do, reflecting on them, and then making prudent choices about what to do next.

Although newspapers and cable news programs (to say nothing about talk radio programs) don’t usually say much about them, good things are happening in the world. Call them breakthroughs of a higher order of consciousness or breakthroughs of grace. These are the events from which we can develop our intelligence so that we can make more of them.

There are countless moments of grace performed each day. They aren’t hard to find. Just do some people watching on a city street. See someone hold a door for a

stranger who has trouble walking or has hands full. Take note of a warm smile that acknowledges the presence of someone. Or come with me: I see kindness by strangers, grace-under-pressure, love among friends and family, and courage every time I go to the cancer treatment center.

There are some heads-above-the-crowd instances of higher, better forms of coordinated behavior.

There is a story going around in some circles about a little league baseball game in which a boy with cerebral palsy was allowed to play and, without any verbal planning, both teams coordinated so that the ball he hit became a home run, and players from both teams congratulated him. That story is told better than I can replicate here, but my poor storytelling doesn't distract from the breakthrough of grace in a place not usually conducive to it.¹⁰

Perhaps you know the story of the aftermath of the tragic murder in South Africa of Amy Biehl. Having gone to South Africa to work for a transition from apartheid, she was killed by two black men who thought they were striking back at apartheid. Her parents formed the Amy Biehl Foundation to carry on Amy's work for social justice, and – here's the breakthrough of something higher than we usually see -- the men who murdered her have joined that work (<http://www.amybiehl.org/>). Testifying before the Truth and Reconciliation Commission on July 8, 1997, Amy's father read a passage from a book by biologist/humanist Lewis Thomas that Amy had herself used in her high school valedictorian speech:

The drive to be useful is encoded in our genes. But when we gather in very large numbers, as in the modern nation-state, we seem capable of levels of folly and self-destruction to be found nowhere else in all of nature.

But if we keep at it and keep alive, we are in for one surprise after another. *We can build structures for human society never seen before, thoughts never heard before, music never heard before.* Retrieved on March 22, 2011 from <http://www.rjgeib.com/heroes/amy/amy.html> (emphasis added).

Can we build a healthy society filled with healthy people? Yes, and there are first growths of it all around us if we can see them. Here's one. Ha Minh Thanh is a Vietnamese immigrant working as a policeman in Fukushima, near one of the nuclear power plants destroyed by the recent earthquake and tsunami. The excerpt below is taken from a letter he wrote to his brother in Vietnam.

Last night, I was sent to a little grammar school to help a charity organization distribute food to the refugees. It was a long line that snaked this way and that and I saw a little boy around 9 years old. He was wearing a t-shirt and a pair of shorts.

¹⁰ OK, maybe my comment here simply reflects my own unhappy experiences in little league.

It was getting very cold and the boy was at the very end of the line. I was worried that by the time his turn came there wouldn't be any food left. So I spoke to him.

He said he was in the middle of PE at school when the earthquake happened. His father worked nearby and was driving to the school. The boy was on the third floor balcony when he saw the tsunami sweep his father's car away. I asked him about his mother. He said his house is right by the beach and that his mother and little sister probably didn't make it. He turned his head and wiped his tears when I asked about his relatives.

The boy was shivering so I took off my police jacket and put it on him. That's when my bag of food ration fell out. I picked it up and gave it to him. "When it comes to your turn, they might run out of food. So here's my portion. I already ate. Why don't you eat it."

The boy took my food and bowed. I thought he would eat it right away, but he didn't. He took the bag of food, went up to where the line ended and put it where all the food was waiting to be distributed. I was shocked. I asked him why he didn't eat it and instead added it to the food pile ...

He answered: "Because I see a lot of people hungrier than I am. If I put it there, then they will distribute the food equally."

When I heard that I turned away so that people wouldn't see me cry. It was so moving -- a powerful lesson on sacrifice and giving. Who knew a 9-year-old in third grade could teach me a lesson on how to be a human being at a time of such great suffering? A society that can produce a 9-year-old who understands the concept of sacrifice for the greater good must be a great society, a great people.

I am not nominating Japanese society as the ideal, although I find many aspects of their culture very appealing. I cite this story to show that there are major ruptures in our normal level of living and we can get peeks at something breathtakingly different and beautiful if we prepare ourselves to see them.

I'm privileged to be on the periphery of a project that is trying to construct an interactive website featuring a realistic but fictional city in the year 2045. Visitors to this city will travel through a time-tunnel in which a plausible narrative of events describes how this society emerged. Visitors will be able to enter all aspects of community life – police station, schools, parks, businesses – and will be guided to observe the patterns of communication and what is being made in those patterns.

Minds and acts of a higher order of evolution exist around us, if we will notice them. And noticing them, we can develop the intelligence to act in ways that will promote

our own and others' personal and social evolution. To quote an old television program: we can do this; we have the technology.

And if we do create the conditions for the coordinated enactment of compassion, moments of grace will multiply and this will be the seventh miracle.

The Eighth Miracle: ???? The question marks here are heart-felt and written in a spirit of wonder. I don't know (and neither do you!) whether there will be another phase in the evolution of the universe, and if so, whether you or I or our descendents will play a part in it.

Perhaps we will succeed in "making better social worlds" and in those social worlds, new personal and/or social abilities will be unleashed that we don't even have a premonition of or a name for now. Perhaps our descendents will be as tolerantly contemptuous of our civilization as we are of the form of life of the Neanderthals. Perhaps they will take for granted ways of being human and of coordinating actions that we can't imagine.

But it is fun to try to imagine these developments! What if we learned enough about neurobiology and communication patterns so that children could develop habits of neural integration and mindfulness as part of their early home experiences or preschool curriculum? What kind of adults would they become with such different childhoods? What if adults developed the capacity for the coordinated enactment of compassion, mindfulness and empathy so that children had ample examples of prosocial behavior and personal development and didn't go to school hungry, afraid, or angry? What if teachers of young people were selected in part on their abilities for "appreciate noticing" of individual strengths and talents, and were given sufficient resources to devise curricula nourishing those strengths and talents. What if our political energies were freed from seemingly endless positional bargaining so that we could explore the upper, outer potentials of community, democracy, and civility rather than work so hard just to achieve and maintain their most primitive forms? What if love were the dominant form of human relationships, and being in love – not just romantically with another person but altruistically with all others – were the normal form of personal being? What if the new technologies were developed to mesh with human aspirations and biology rather than to model and metaphors that transform us into computers or machines?

My head hurts again! I realize that the paragraph just above is attempting to describe an unknown-but-eighth miracle form of existence in seventh miracle terms. Of course, it is; that's all that I have. So take all that I've said in that paragraph and multiply it by ... well, by what? Because the transition from one miracle to another is not just a matter of quantity; it is a qualitative change. OK, in that spirit, multiply it by yellow. (You don't like yellow? OK, you try to say the unsayable and see if you can do better!)

Do you get the point? The eighth miracle, if there is one, is impossible for us to predict or imagine because we lack the language and perhaps the form of mind to imagine it.

But maybe we won't continue to evolve. Perhaps our part in the evolution of the universe is tapped out in the seventh miracle. I don't know and neither do you. But/and if it is, that's ok! It is still our opportunity to be the seventh miracle.

Perhaps the universe will continue to evolve, but it won't be us who takes the next part. Maybe there is a race on one of the millions of other planets circling other stars that is developing along a different track that us and will be the site of the next miracle.

Or maybe their won't be an eighth miracle, and the universe will move on, uninterrupted, to the ninth.

The Ninth Miracle: From something to ... ??? We have good reason to believe that everything we are, that we know, that we love is impermanent. Just as there was a time when we were not, so there will be a time when our existence will cease. Or transition to another form.

I want to push back against the notion that we know anything about the future. I think we are much better off knowing where we are in the evolution of the universe and how we got here, but we don't know if this is – to use a literary metaphor – still in the preface, in one of the middle chapters, or close to the end. How many dramatic plot twists are still to come?

My guess is that there will be many, and that – continuing the metaphor – the author is sufficiently skilled that each new development will be a surprise.

We know that the universe is bigger than we expected, far more dynamic, and, quoting Haldane, queerer than we can imagine.

Perhaps the big bang is a pulsing process that occurs every 100 billion years or so, and there will be an infinite series of cosmic renewals. (Hey, we may get a “do-over”!).

Perhaps the universe as we know it is filled with alternative spaces and processes that we don't know. Actually, we have good evidence that it is. We know (or so it seems to us now) that there is far more energy and matter in the universe than we know of. What is that all about?

And we know that the matter and energy that we do know of functions differently at different orders of magnitude. At the quantum level, things don't exist or act like they do at human-scale. And we are exploring smaller and smaller ways of doing

things (nanotechnology and quantum computing, for example) so we are already beginning to explore very strange new worlds. Who knew that we don't need the starship Enterprise's continuing mission to seek out new worlds to encounter the "other" – we can just look deeply enough into the hand of a man napping peacefully in Chicago's Grant Park (I'm referring to the end of the "Powers of Ten" video referenced earlier).

Maybe we are moving sideways through the many dimensions of the universe (rather than temporally-lengthwise in the space-time continuum that we know).

There is no way in which we can know what the next phase of our existence (or non-existence) will be, whether we are talking about a specific individual (you or me), our species, the planet we call home, or the events set in motion by the "big bang."

What happens to "the muse within" when the stars grow dark? When the earth burns as our sun transitions to a red giant (and its surface expands to include the earth's orbit)? When our species is made extinct by the next comet that hits the earth, or pollutes itself to death, or kills itself off in wars with high-tech weaponry, or just passes away as the life on this planet continues to evolve? When any one of us dies?

Does it make any difference how we have lived? What we have become? Will our songs and stories outlast us, and if so, who will know or care?

These are enormous questions and (thank you yet again Martin and Peter) one thing we might say about them is that the answers depend on what we mean by "being at home in the universe" and the significance of "getting to town."

We can easily set aside the notion that living long (as individuals or as a species) is the criterion. As one planetary astronomer put it, we are "renters" on whatever planet we live. In the future, Mars might have water and earth might not; in the further future, both will be gone. Our lives (both individually and as a species) are momentary blips.

So this suggests that we look at the quality of our lives (individually and as a species) rather than their length, and that takes us again to Abraham Maslow's questions about "healthy" persons and societies, and to my recent preoccupations with "personal and social evolution." ***To be at home in the universe is to know the universe as well as we can, to know our place in the universe as well as we can, and to be, as fully as we can, what we are – the seventh miracle; the makers of better social worlds through the coordinated enactment of compassion, empathy and mindfulness.*** And that's why we should mindfully attend to and promote our personal and social evolution.

A PALATE OF HORIZONS

We are continually faced with a series of great opportunities brilliantly disguised as insoluble problems.

John W. Gardner

The ability to volitionally control our senses of scale is, in my humble opinion, a survival skill for us as a species. It may well also be a survival skill for many of us as individuals. We can look at the same thing – a homeless beggar, for instance – and we will see different things depending on our sense of scale: a pitiable person; a consequence of sin and/or poor judgment; a symptom of a society with skewed values; a child of the universe coping with extreme conditions; or our brother. In this place, I am not arguing which of these interpretations is right; rather, I'm arguing for the quality of mind (and the tools supporting it) that can free itself from any one of these and intentionally move among them. With this ability, we can simultaneously experience Big M Mystery and little m mystery; we can be both a part of the universe and our brother's keeper.

There are many ways of developing this quality of mind, of course. My professional life has been focused on exploring what I call "taking the communication perspective." I believe it to be a radical and powerful move; it makes it obvious that all of us are variably enmeshed as agents in the process that makes us human beings and that creates the events and objects of our social worlds. And, having this orientation, makes it obvious that we should bend our efforts to the task of making better social worlds and, in the process, promoting our own evolution as persons.

And this brings us, again, to the questions Maslow posed for us: How can healthy persons be developed? And, how can a healthy society be developed? Or, to put these in terms used by the CMM Institute: how can we promote personal and social evolution?

These questions resonate not only within the humanistic framing ("what's good for humans is good") but also within that larger framing of "what's our place in the universe."

As I promised, despite all the meandering, we have at last "reached town." And having reached town, I look back over the road I've taken in my life. I do not regret having meandered, but I do regret not having accomplished more of what – from this perspective – seems most important. I've spent too much time explaining, arguing for, and attempting to persuade people to take the communication perspective and not enough in developing some of the insights and tools that that perspective enables. In the back-and-forth of professional life, I have often failed to adjust my sense of scale; like an old fire-horse responding to the bell, I have too-often been drawn into the fray of arguing what is "right" rather than working out the implications of my own meager contribution.

Over 30 years ago, Vern Cronen and I (playing off Suzanne Langer's *Philosophy in a New Key*) proposed that we do communication theory "in a new key." We've accomplished a lot in the intervening years, but there is still much to be done. Here are some of the horizons that I can see in our ability to answer the questions about promoting personal and social evolution.

What makes a "pattern" of communication? I don't mean this in a trivial sense, such as how should we name patterns or even how can we recognize/measure them. I'm referring to the much more basic concept of what is the difference between two "adjacent" speech acts and two in-patterned speech acts. How does one conversational turn bind itself to the next, and to the following, so that there is a reflexive redefinition of what is happening so that the next turn happens, and then the next... I think "patterns of communication" is a term that we've used loosely, but it is far more important than we treated it.

Years ago, I carried a deck of index cards around with the names of speech acts written on them. Which ones go together? Which ones repel each other? If you put three of these and two of those together, do they bond and produce a pattern? The image in my mind was the Periodic Table of the Elements – not just a list of the elements, but an organized list including their properties (atomic weight, valence, etc).

Is it possible to do something like the Periodic Table of the Elements for patterns of communication? I think so, but it will probably look a lot different than the Periodic Table. What will it look like? Right now, my guess would be that it would have something to do with chaos theory and/or complexity theory, possibly genetics, surely something to do with self-organizing, but I don't know.

What makes a form of communication? In *Communication and the Human Condition*, I argued that there is a reciprocal causal relationship between forms of communication and ways of being human. We communicate as we do because of the kinds of persons that we are, and, to a large extent, we are the kinds of persons we are because of the forms of communication in which we are a part.

OK, but what is a "form of communication"? If "patterns" of communication exist and comprise episodes, how do these patterns coalesce into "forms" of communication that constitute "organizational climate," or "relationships," or "cultures"?

In *Making Social Worlds*, I borrowed the concept of "emergent characteristics" as a way of addressing this issue, and I hope that keen minds will pick up on my attempts to harness a lot of good thinking in the final chapters of that book. But as I continue my own thinking about the topic, I find myself increasingly uncomfortable with the current excitement about fractals.

Scientists (and others) have been very successful in showing that important parts of the physical world is organized in terms of fractals: the same repeating structure at

different orders of scale. It is a compelling vision (and generates fascinating visual presentations – a compelling “Nova” program about fractals is available here: <http://video.pbs.org/video/1050932219/>).

But does the physics of the social world imitate that of the physical world? Are “forms of communication” (at the organizational level or cultural level) repetitions of the same structure, at a different sense of scale, as those in smaller entities, such as speech acts and episodes? Or is there a discontinuous difference, such that “larger” entities have a different structure or pattern than “smaller” ones?

My sense that there are discontinuous differences – that there is some sort of “emergence” as scale increases – also has parallels (if you don’t push them too far) in the physical world. I’m thinking of the evolution of stars. There are significant bifurcation points depending on the size of the star.

This question isn’t just intellectual. If we could identify critical points in the evolution of forms of communication, we might be able to act intentionally to promote positive evolution of those forms.

How can we control the extent to which we are enmeshed in various patterns of communication? Many plants open and close during the diurnal cycle of light and darkness; others move, following the movement of the sun; still others grow in ways that maximize their exposure to the light – redwood forests, for example, are the result of (what appears to us hasty people) slow-motion jostling for sunlight. In much the same way, we are drawn to some patterns of communication, repelled by others, and indifferent to yet others.

So what? Well, Abraham Maslow reported a study of chickens who were offered two kinds of food, one nourishing and the other tasty but having very poor nutrients. After some time, he found that some chickens were “good choosers” and were obviously healthy; others were “poor choosers” and were obviously in poorer health. He made the inference that humans, also, and not only at the dinner table, vary in their ability to make good choices.

CMM invites us to ask, in any given moment, “how can we make better social worlds?” The problem is that this isn’t only a technical question but it is also a volitional one. Why are we attracted to the communication equivalent of sugar – sweet tasting but providing little nutrition? Why are we not so powerfully attracted to the communication equivalents of dark leafy vegetables? Can we learn to control our appetites? Can we develop a tropism or affinity for better forms of communication?

What is the mechanism by which participation in various forms of communication promote (or impede) personal and social evolution? Kim and I are currently working with concepts integrating communication theory with adult development and interpersonal neuroscience. There’s a research program just waiting to be done

that will move us all forward. It uses forms of communication as the independent variable; there are two dependent variables: “mind” and “brain.” “Mind” would be assessed by some of the many measures already developed: direct observation of performance (perception, memory, computation, judgment, etc) and “brain” would be measured using the fMRI technology. The hypothesis is that different forms of communication would affect levels of mental functioning (including differences in Kegan’s levels of epistemology) and would activate and/or create different neural networks. And, vice versa.

The patterns of communication-to-society connection is one that I’ve thought a lot about but not lately. When this issue is worked through, I think it will move ahead the narrative approaches to organizations, the discursive approaches to society, and the interpretive approaches to the social sciences. We’ll likely revisit systems theory, with particular attention to the relation among parts and wholes, but – this time taking a communication perspective – we will get far closer to what we are studying and understand it better.

IN TOWN, AT HOME, AT LAST

So we’ve finally made it to town. But what town? I sincerely hope that it will look like the town that my colleagues and I are imagining for 2045. I hope that my grandchildren live there and feel very much at home.

Many years ago, I quoted these words from Ernest Becker. I still find them the expression of a kindred spirit.

I have reached far beyond my competence and have probably secured for good a reputation for flamboyant gestures. But the times still crowd me and give me no rest, and I see no way to avoid ambitious synthetic attempts; either we get some kind of grip on the accumulation of thought or we continue to wallow helplessly, to starve amidst plenty. So I gamble with science and write, but the game seems to me very serious and necessary.

I resonate with his sense of urgency and his willingness to transcend the horizons of the usual ways of doing things. But at this stage of my life and with some of the learnings I have had, I want to separate from what I perceive as the desperation that underlies his passionate statement. With passion of at least similar intensity, I want to say that I, too, have reached far beyond my competence, but I have done so knowing that the whole exceeds not only my competence, but the competence of any and all of us, so the choice is between remaining mute, speaking in ways that do not call attention to their own limitations, or speaking – with laughter and wonder – in ways that fully affirm their own foolishness.

Like Becker, the times crowd me and I am distressed by how powerfully we are attracted to forms of communication that cause us to wallow helplessly, to starve in the midst of plenty. I am pained by the perception that there are better ways of

being in relation to each other and that available knowledge isn't being used because it doesn't fit into the currently-dominant paradigm of politics, scholarship, and public culture.

Like Becker, I have been willing to gamble because the stakes are so high. I've bet my professional life that what seems sometimes a road, sometimes a faint trail, and sometimes a trackless wilderness will ultimately, and after many a meandering digression, lead to town. I believe that the immense and important task of personal and social evolution could be promoted by explicit attention to what we are making together in the forms of communication in which we engage.

Becker said that "the game seems to me very serious, and necessary." I agree, but would add that it is also wonderful. Wonderful in the sense that, if we take an appropriate sense of scale – one large enough to include the history of time and the immensity of the universe – we **MUST** be filled with wonder; and if we add to that the realization that we not only are a part of this universe (like all the other parts) but that we have a unique (so far as we know) ability to be aware of it, and self-consciously aware of ourselves in it, and reflexively self-consciously aware of our part in the on-going creation of the universe....

Wow! How can we not be filled with wonder, and, filled with wonder, how can we not let our spirits soar and commit ourselves to personal and social evolution, not knowing where any of this will take us, but enthused by the prospect of playing as well as we can the role that we have during the moments we have in the continuing creation of the universe.