CREATIVITY

&

COLLECTIVE

ENLIGHTENMENT

EDITED BY

SAHLAN MOMO

SPANDA

CREATIVITY

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COLLECTIVE

ENLIGHTENMENT

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All works of art
reproduced in this issue,
unless otherwise specified,
are from
THE LADY AND THE UNICORN
(La Dame à la licorne) the modern title
given to a series of six tapestries woven
into wool and silk with the *mille-fleurs* style
in Flanders from cartoons drawn in Paris around
1500, and interpreted as depicting the five senses:
sight ~ hearing ~ smell ~ taste ~ and touch.
The sixth piece displays the words
«À mon seul désir».
The tapestry's meaning has been unriddled
as representing Love or Understanding.
The set,
on display in the
Musée National du Moyen Âge in Paris,
is considered one of the greatest works
of art of the Middle Ages in Europe.
(Credit: commons.wikimedia.org)

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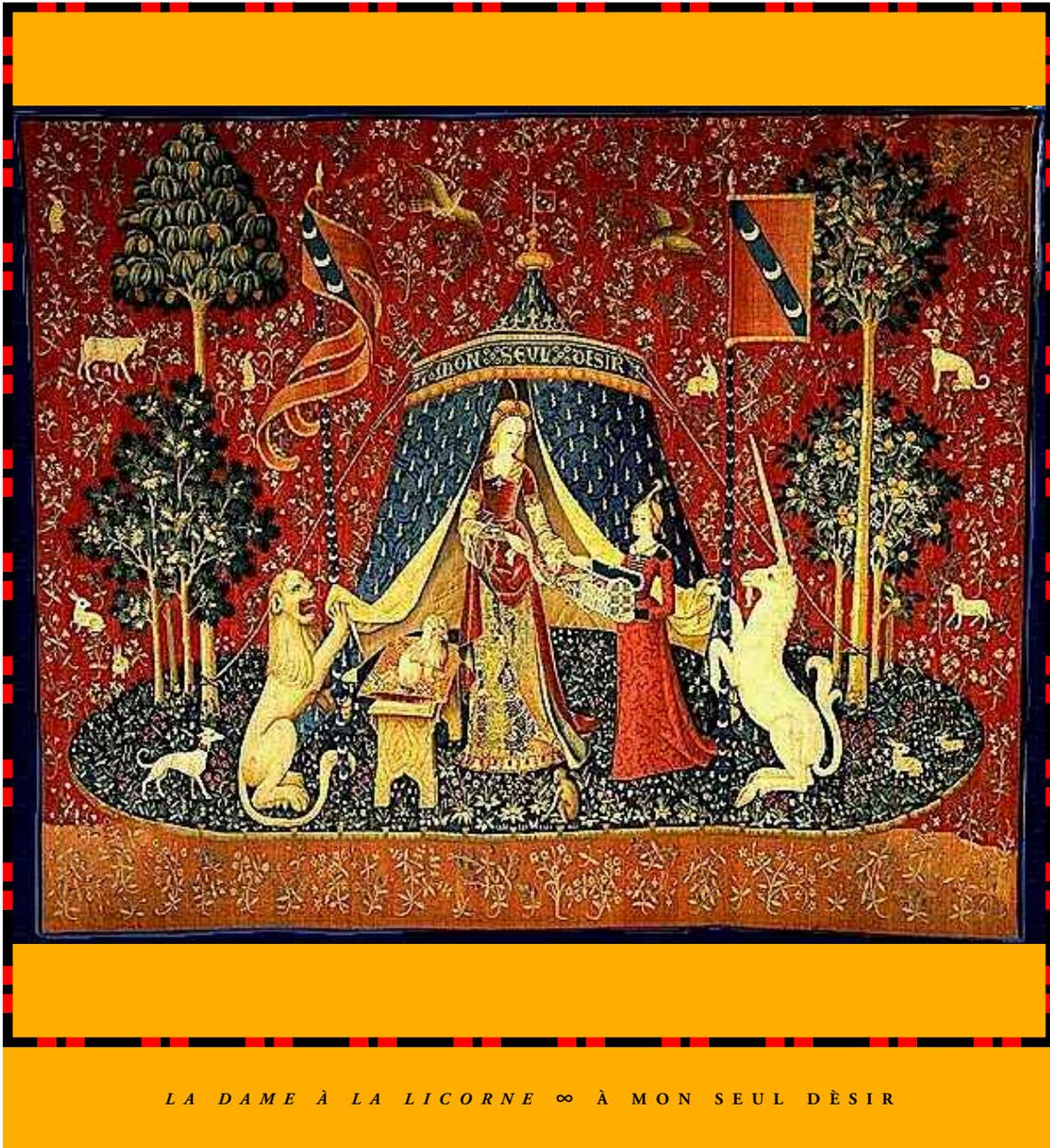
LA DAME À LA LICORNE ∞ À MON SEUL DÈSIR

MESOCREATIVITY

F ROM THE MESOTERIC PERSPECTIVE, CREATIVITY IS what brings together, and the outcome, of the polarities merging on the osmotic hymeneal membrane between the inner and the outer worlds – dimensions, realities, realms – joining them as a unified Reality field into consciousness. Seeing things for real by merging the two viewpoints in an act of awareness annihilates antinomy, definitely a creative token enacted by the cosmic energy.

The Sun is shining today, what a relief.

This thickening of the human perception while changing skin, transforming and transmuting into a new being, is one of a major feats in the process of collective consciousness becoming self-conscious. In such a transition, new organs as well are shaping up to perceive, frame and inform the new function being defined and brought into being.

Misnomer, *dammapada*, the path of the righteous, are coming to mind. Until our actions generate *vikarma*, they are not 'clean' enough, not yet karma-free. Any abstraction, as purity or beauty, not embodying at full its corresponsive tangible presence in the factual dimension, is read as an *ideal*, partaking of, and to an idea, intangible by its own definition. By whom definitions, should then enquire we? By Nature? *Natura naturans*, or *natura naturata*? Both? Or none of the two? Unclear.

Still a life-sharp surgery on the whole is in place: a rapture, a throb in consciousness, and it's all done. As it were a healing performance, the whole bloody human history unfolds and its over; the *conatus* of reunification, the *élan*, the entelechy, the vocation, the call is right here, implanted in the soul before its very beginning in the pretemporal Void. A vocation to move further has imprinted its own potency pulling beyond abstractions, pre-sensing unity before dispensing life. The Breath of the Compassionate *(an-Nafs ar-Rahman)* is bipolar: in-take—out-take, inspire and expire, *com-passio* and love, for the other and our own self.

A subtler energy than matter, intangible to the current scientific tools calibrated on the impaired per-

ception of a shunned reality, needs to gain full swing at the fore of the human experience. Higher and lower frequencies are coming on stage perceived as poles, unless the viewpoint rests in their middle sharing both views. Not the impaired understanding of the contemporary quest for a third eye atrophied since long by lack of practical function, rather the prospective depth of the spiritual-material multidimensional stance allowing to perceive the overtime dimensional whole in this historical time... — and a few other interesting glances unworthy to be mentioned here, but definitely to be pursued in some other context.

We enjoy high frequencies in all their manifestations, aspects, respects and extensions: unplugged. The traditional animic architecture is base to all successive emanations, emergences. The highly developed human symbolic function of the evolutionary take, seems to be a *speci*fic trait of the human species since the primeval chasm, which preinstalled Free-will, a sort of a GPS device oriented to navigate to the cosmic Will. As if it were to catch up on the same vibrational field, allowing the integral perception of reality, until then in the bare hands of Moirai's dictate, of Ananke, *Notwendigkeit,* of necessity obscured by the veil of Maya embroidered with elegance in the soul.

Drawing closer to one another who by station of life were set at the greatest distance from each other; gratuities gathered along the converging journey with ample store of enjoyments and contemplation, affording room for details and pre-competitive foolhardy; and drained and dried by an impossible truth fed by the unwithering tree of Knowledge showered under the fountain of Wisdom, unavoidably devoid of void, a gift, a spontaneous manifestation of Love thrived in the garden.

This Earth is vast, yet small for all the universes at hand. *Dramatis personæ,* Love&Light are very much in demand in this heavy dark sublunar world. This is nothing but Hell, the obliteration of all individual-collective-cosmic consciousness, eligible only to high-developed unipolar sense-bearers... Nonsense! — Exactly! Nonsense.

A child dream: Utopia.

> *To be truly ignorant,*
> *be content with your own*
> *knowledge.*
> CHUNAG TZU (300 BC).

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Arguably,
metonymically
and chthonically moved
by personal interest she couldn't go further.
His last message was way too cryptical:
she didn't take it into the right place.
Displaced by a traumatic assault,
she didn't turn the front to her lover,
nor her back: she wasn't there;
still much into the pain
of her own existence,
yet
in need to be
amended:
soon.

A lesson:
in spirit of serving
Pacta sunt servanda,
souls surgery of Beauty:
the first aesthetical-ethical emanation;
the ecstatic orgasm of divine consciousness;
the residual foundational substratum
of all manifested worlds,
What else?
What else are you asking for?
Your beauty isn't enough,
I seek beauty, truth, and goodness at once,
the paradigm of this chalice still holds true,
∞   for me at l[e]ast. ∞

We ought to unite our endeavours into a critical mass to transmute permanently further the collective consciousness endowed with its awareness of being, without loosing ourselves in the labyrinth of thoughts where neither Minos nor Chartres are to be found, while Ariadne is threading her lace of pure light in a soul interwoven into the fabric of life, graced and drawn beyond duality, afore the original chasm into Heaven and Hell, before *Fiat Lux*, *Kun*, and the Act, the Beginning, the Big Bang: the first manifestation, emanation, consolidation, and embodiment of creativity in the *Néant*; perceived in a dialogical stance depending on the soul's latitude, yet manifesting and unmanifesting at once the undifferentiated Void.

From the simplest and unmanifested to the manifested and complex, with a granted first class return ticket from Aleph to Omega *&* return, with just a few stop-over in due time for the sake of wisdom and her sisters: the Golden letters of the Alpha-Beth of creation: the 22, 24, 28 or 48 original

sacred emanations writing history and hyerohistory at once in both worlds; synchronically inscribing mesohistory in our times of return, transcribing our daily action in sacred letters into a non-linear progression towards unity, *alla zingaresca* so to say, into the mesoteric notime at the core of the two worlds. Good and Bad aren't contrary, they are complementary co-creators within G-d's active contemplation of itself, from which a beem of creative light is manifested in the mirror.

I sent my requests to the unshakable, and almost none answered my quest, but you. Shaping the invisible into form, in-forming the unshapeable into shape, materializing spirit and spiritualizing matter at once, transmuting subtle energies to finer degrees to dissolve into the unavoidable void. Indeed our encounter was in depth, but not breadth enough to contain all possible futures. Virgil, the lyric face of Latinity, guided clarity, vision, and direction; sincerity, patience, and submission; discipline, resilience, action and joy, while Maya was obliterating Freyja with her mantel. The core of the innerscape, the soul of spirituality, the professional mystical path of seekers and finders, the beginning of all timeless journey was there, we savoured it... yet to digest.

Creativity meets challenges and draws innovative solutions, interrelations of transpersonal awakenings, intersubjective space, time and notime, culture. We Consciousness is emerging, instantiationing its eruption into matter, invisibly shaping its metatext imbedded in the pinnacle of joy. Creativity is a self-sparking unity flashing in bringing together the worlds: the original quivering self-conscious pulsation giving rise to the manifestation, and its propagation in action. Emanation. Expansion.

To share creativity and insights with you was my assumption, my inbreathing aspiration; you were the breath modulating yourself into me: Ata & Ani, the undivided Androgynous before engendering polarity, the complementary identities in unity of this couple of old.

Enlightenment is taking place in concert, at individual and collective level. Is no longer a mater of scattered folks here and there singly achieving and maintaining a higher state of collective consciousness, rather is consciousness's conscious endeavour in becoming self-conscious, unfolding itself at collective level in sharing the common ground of the human manifested condition, co-unfolding the creation by conscious agents of change, puppeteer and puppet at once weaving our mortal destiny out of eternity.

The concept itself of isolated *bodhisattva* does no longer hold true, we all are, who more some less,

consciously co-creating the critical mass to move further in this commonly shared direction. Consciously. The stillness of creation takes place in notime, before and beyond all time, in the present.

Being at the core of the innerscape land, the mesoteric dimesnion is the most advanced human condition, certainly not its final stage – which does not exist as such anyway – as we are hazardously ongoing on a transitional pace, steady, fresh, and each time anew.

This point in time is allowing the *élan* to reach out to its further home, *demeure* and di-mansion, to temporarily and finally perform its closing dance-step next to nihil: at the entrance point of Aleph hermetic door. The space-time fault granting access to the next collective tier is now wide shut open. *Janua cœli*, the door of the gods, and *Janua inferni*, the door of men, are joining top-down and bottom-up, at mid-course, to inspire their middle outcome on the mesoteric domain; igniting the flow of energies form one realm into the other, with its distinctive unmistakable back and fro' swing, to ensure a safely landing on the Sun, *Shams*, the Self. Innovation and spirituality are joining forces for the common good: creativity is knocking at the door: who is going to let her in? Who? Me, You We? I, Thou Thee? We trice blow at the gate before the two guardians angels – the polarities – presiding over the threshold would dare ask further. We granted them permission of leave, and we gladly stepped in. Into paradise, next door to heaven, ready to perform our speciality: the acrobatic six-winged triple-jump into immortality. Yet, still we are here, encoding forward-thinking and, ultimately, co-building our new home after such a long journeying astray. This is a time to widen the heart in welcoming the other in ourselves, giving free way to the feminine energy of *accouil* and *compassio* very much in demand nowadays. We all are migrants, drifting from one landstage to the next, until a welcoming land is lastly found to rest the bones of our skeleton, the supporting structure of the soul, before again and again transmuting its worldly matter across the *excelsis* thresholds to allow all components to return to their elemental realms.

Age is shaping life into death. Past the Winter Solstice of life, let's spring again high: still yang is on stage, but it is yin to lead this time around. This is the time of inversion of polarities, the season of a collectively leaping into our next phase: the unfolding exponential yin logarithmic growting into collective consciousness. Even though speaking of time in such a context doesn't really make much sense, as we all are impressed by the Empress in us, by her imprint.

TANTRA APPLE

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Looking forward to awake at dawn
aroused in each other arms,
face to face:
your breast on my chest
teasing our tongues in a dance.
The breeze of your skin in my soul
challenging the rhythmic pulsation.
Imbued by waves of delight,
you in me : ∞ : me in you.
¿Who witnessed the ecstatic
coming of the royal pair,
if not We?

✻

As a matter of fact it's hard to deal with such a topic in a few pages and the short lapse between one issue and the next. Indeed this is a brief collection of dots for friends and colleagues to unfold, and to build on further and farther. A pity that some couldn't make it for lack of time. The man on the roof was pledging for a sign from heaven to save him from his underworld deluge, but he missed the three rescue vessels heaven had sent him, as he didn't recognize them. Lack of awareness. Awareness of our creative action between the two worlds, co-creating the next tier, level, realm or dimension – chose your preferred one – but, please, let's move one. These are the last available chances to really start-jump into the next phase: no fear, blank, neutral, transparent, at peace, fresh, just as it is, achieving unity in life.

In closing: some interesting aspects of collective enlightenment are its transmissibility by way of catalysing resonance fields; and how creative humans can conceive, impart and pass on this spark to their forebears and descendant while healing and enlivening the collective consciousness. To be born form awakened parents is not a guaranty, as indeed there are many orders and gradations of enlightenment yet to be awaken – namely, one for each plane of consciousness – often marred by cognitive limitations as resting on personal experience, by no means perfect and by all means perfectible.

♦

Here is presented the first series of relevant views on the topic – more to come soon – seen by our authors from their differing angles and perspectives, each forging a distinct tile of the mosaic, and together tessellating the whole into coherence; for your delight and enjoyment, inspiration and empowerment, all small things to make a great life.

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LA DAME À LA LICORNE ∞ À MON SEUL DÈSIR ～ DETAIL

CHARLES TART

ENLIGHTENMENT AND CREATIVITY:
GRAPPLING WITH THE ANGEL/DEVIL OF «NON-DUALITY»

Dr Charles T. Tart pioneered the field of consciousness studies decades ago, with his classic best-selling anthology Altered States of Consciousness*, in print for more than twenty years and considered as one of the one hundred most influential psychology books of the twentieth century. He initiated several important lines of research in parapsychology, including teaching reliable* ESP *functioning and the first modern laboratory studies of out-of-body experiences.* Altered States of Consciousness *(1969) and* Transpersonal Psychologies *(1975), became widely used texts that were instrumental in allowing these areas to become part of modern psychology.*

Tart studied Electrical engineering at the Massachusetts Institute of Technology before electing to become a psychologist. He received his doctoral degree in psychology from the University of North Carolina at Chapel Hill in 1963, and then received post-doctoral training in hypnosis research with Professor Ernest R. Hilgard at Stanford University. He is currently a Core Faculty Member at the Institute of Transpersonal Psychology, and a Senior Research Fellow of the Institute of Noetic Sciences, as well as Professor Emeritus of Psychology at the Davis campus of the University of California, where he served for 28 years. He was the first holder of the Bigelow Chair of Consciousness Studies at the University of Nevada in Las Vegas and has served as a Visiting Professor in East-West Psychology at the California Institute of Integral Studies, as an Instructor in Psychiatry at the School of Medicine of the University of Virginia, and a consultant on government funded parapsychological research at the Stanford Research Institute (now known as SRI International).

As well as a laboratory researcher, Professor Tart has been a student of the Japanese martial art of Aikido (in which he holds a black belt), of meditation, of Gurdjieff's work, of Buddhism, and of other psychological and spiritual growth disciplines. His primary goal is to build bridges between the scientific and spiritual communities and to help bring about a refinement and integration of Western and Eastern approaches for knowing the world and for personal and social growth. Home page & archives: www.paradigm-sys.com/cttart/.

BOTH "CREATIVITY" AND "ENLIGHTENMENT" ARE probably impossible to adequately define, transcending ordinary rational thought as they do, but we can still usefully talk and write about them, – hopefully in ways that help us manifest them, rather than diversions from what's important. A common way people talk about what enlightenment consists of is that it's about transcending *duality*. I've been struggling with what that *non-duality* idea/accomplishment means for half a century, and submit the following little essay as perhaps helping to clarify…

In 1972 I published what was probably my most creative contribution to the expansion of knowledge, an essay proposing the creation of *state-specific sciences*. The article has been reprinted in many places[1]. Stripping it down to the barest essentials, if you ask what the essence of science is, it's a set of procedures for (1) better observation of what happens in reality and (2) for creating, testing, and refining theories, explanations, as to why things happen the way we observed them to. What is usually left out in thinking about science, though, is that the process of essential science is done by human beings, done by creatures with characteristics, both innate and acquired, that can make them more sensitive to some kinds of things, less sensitive or blind other kinds of things, able to reason and see clearly about some kinds of relationships, but not about others.

Besides characteristics inherent to all human beings, each of us has been socialized into a particular culture and so is biased to observe and think about things in accordance with the values of that culture. Starting in the 1960s, though, many people in our Western culture experienced drastic, temporary alterations in the ways their minds functioned, surprising, stimulating, and sometimes frightening new ways of perceiving and understanding. Psychedelic drugs were a primary factor in this for many. When you look at the way the mind can change its functioning in these various altered states of consciousness (ASCs), you realize that the "ordinary" or "normal" state for any particular culture, including ours, has many semi-arbitrary, sensitizing and biasing characteristics. So doing science (or knowledge acquisition in general) in one's ordinary state of consciousness is doing it with, as it were, a specialized instrument.

By analogy, it would be as if all astronomy were done through telescopes whose lenses were made from a kind of glass that was inherently red tinted. Those telescopes would be more sensitive to certain kinds of light, less sensitive to others. There's nothing wrong with the observations and theories based on them,

made with the red-biased telescopes, of course, but it's false and misleading to assume that they give us a complete picture. So what I basically proposed is that we develop detailed knowledge of various ASC's, the strengths and weaknesses of each of those, and then practice science *within* each of those. That would give

somewhat clearer on what I *don't* know, and that's probably progress. I present it here for whatever stimulation value it has, and hope someday I will write something based on a real understanding of it. Whatever I don't understand, I do know that the people who write and talk about it say non-duality is very important!

FIGURE 1 ~ *Wrestlers.*

us a variety of "instruments," and so give us additional ways of observing and thinking.

As one outcome of my recently posting an essay[2] on the ASC (induced by pain) origins of my proposal to create state specific sciences, my friend and colleague, Russell Targ, physicist and leading parapsychologist, sent me some very stimulating comments. Targ is not only one of the pioneers of the remote viewing technique, which was profitably used by US government intelligence agencies for decades before public knowledge of it ignited political reactions that ended the programs, but also a student of Buddhism and other non-dual spiritual paths. The core of his comments had to do with whether my proposal for state-specific sciences amounted to advocating for "non-duality" as called for in various spiritual disciplines.

Non-duality is a big deal in spiritual seeking circles in the West today, such a big deal that you could call it a buzzword. Put "non-duality" in the title of something and it immediately looks like the highest kind of spiritual material, deserving special attention. But I've never felt I intellectually understood what non-duality is really all about, much less experientially understanding it. Sometimes when I don't understand something I write about it, in the hope that trying to write clearly will organize and clarify my own thoughts, and I've done that occasionally with non-duality.

This is one more attempt to grapple with non-duality. Has it made me clearer? Well I think I'm

Here – with his permission – are excerpts from my correspondence with Russell Targ, with his words in ☒ *Italic* preceded by a manicule.

Dear Russ,

You've put that word "non-duality" in my mind with your email of the 6th, and while I usually try not to confuse myself by thinking about it, I've decided to grapple with it some here in the hope that this might clarify things for me, and if I put this as an essay on my blog or publish it, perhaps clarify things for someone else. I would value your response, of course, but if this is more than you wanted I understand! :-)

GRAPPLING WITH THE ANGEL/DEVIL OF "NON-DUALITY"

For the reader who understands something of this, the title, evoking the dualistic image of a *grappler* and *something to be grappled with*, may make you think the following will be a sophisticated discussion of non-duality, or perhaps immediately demonstrate that this writer doesn't have a clue as to what non-duality is about. I don't know which it is. Hopefully it will be useful in stimulating thought.

DUALITY AND NON-DUALITY:

☒*I am emphasizing the importance of experience to internalizing non-dual teachings. So, I felt it was a big coincidence for me, to immediately come upon*

your e-mail on state specific consciousness, which I take to be the same thing.

Ah, you challenge me nicely Russ! When you say *"[…] take to be the same thing,"* my rational mind is used to dealing with that sort of comparison or equation, but, as you point out later in your email, I don't think our ordinary rational mind can ever satisfactorily define or understand what we mean by non-dual teachings. My ordinary mind has certainly tried it over and over again for decades and not gotten anywhere!

To start, I've never been sure exactly what "duality" means in the context of non-duality.

In some contexts, the meaning is obvious. If I'm meeting someone for the first time, for example, and besides what I hear from them and say to them I'm constantly desperately thinking and worrying about "Am I making a good impression? Will I be liked? Am I making a fool of myself?" I'm certainly in a highly dualistic state of mind, evaluating most, if not all of my perceptions of the moment in relation to how it reflects on *me* and *my* hopes and fears.

While there are certainly many occasions in life when you do need to be concerned with what kind of impression you're making on people, as it has consequences for the relationship and your life, to have this kind of duality happen compulsively much of the time can certainly be a source of useless suffering. If someone says to me "Look to the north, there's some really beautiful cloud formations there," and I look to the north and to see and enjoy those beautiful cloud formations, I'm fairly well cantered in ordinary reality and functioning well. If I don't really perceive those clouds very well and am caught up in my worries about the impression I'm making, it's totally useless suffering. I'm missing something beautiful, and reinforcing my habit of worrying about what kind of impression I'm making.

So far I've been talking about what we might call in conventional Western terms *neurotic dualism*, and it's quite understandable. We think it's generally helpful and intelligent to pay some attention to how you are presenting yourself in various situations, but neurotic or downright crazy to be stuck in that.

MYSTICAL EXPERIENCE OF UNITY AND FLOW:

On the other hand, I have read numerous reports of "mystical experiences," at the other end of the spectrum from neurotic dualism, where people report that they felt *at one with the universe,* and that this feeling of unity was quite wonderful. Not having had that experience myself,

I doubt that I understand it very well, even though it sounds very desirable. I also suspect there may be a variety of experiences that are all described as "non-dual," but may be significantly different. Extraordinary experiences are rare for most of us, and we aren't trained in a good vocabulary for describing them or discriminating one from another when they occur.

In between these two ends of the spectrum, neurotic duality to mystical oneness, I think we've all had lots of experiences that, in retrospect, we might describe as at least somewhat non-dual, because all of our conscious experience for a while was involved with our perceptions of the situation we were in and whatever actions we took that were, hopefully, appropriate to the situation. I think this is Mihaly Csikszentmihalyi's (1975) *flow experience* that started getting described in psychology a few decades ago, and I'm sure we've all experienced such flow occasionally. At the times it's happened to me, I don't particularly notice it as any special kind of experience, I'm involved in what I'm doing, I'm usually doing it reasonably well, that's nice, but it's no big deal. This is a kind of experience I've noticed that when it's happening is not generally perceived as anything special, but in retrospect may be considered special in contrast to one's usual experiences.

I can imagine a person having more and more flow experiences, and that would be very rewarding. Is continuous flow experiences what is meant by "enlightenment?" Of course that word enlightenment is used in a variety of ways, but I suspect this may be a part of what is meant at times.

My understanding falters, though, when what we're talking about seems to jump from *qualities of experience* to ultimate statements about the a*bsolute nature of reality*. I know people who have had mystical unity experiences certainly think that's the way reality really is, but what that conviction means for those of us who haven't had it, I don't know.

When Tibetan Buddhists, e.g., go on and on about non-duality being *a*, if not *the*, major quality of enlightenment and ultimate reality, the *dharmakaya*, I find it vaguely inspiring, but it doesn't really make sense to me. Sometimes when they stop talking so grandly about, say, the *absolutely pristine and wonderful nature of rigpa* and also casually mention enlightenment or experiencing the nature of mind is all quite "ordinary," I think they mean something like a flow state – which indeed, at least in my limited experience, is no big deal at all *at the time that you're in it*. Although sometimes I think they're using "ordinary" in a *pre*scriptive, rather than a *de*scriptive manner, you're supposed to develop in a way so you'll always be in that kind of state.

Except of course you shouldn't be striving for anything, as any kind of striving is inherently dualistic and prevents that non-dual state from happening… and intellectual honesty for me when I think about that is to say "Huh?"

Thinking about duality from an ordinary perspective, the practically useful working perspective that the physical world has a reality independent of our beliefs about it, duality is essential for life. If a friend says "Let's eat!" it's important that I instantly discriminate that *my* arm, even though it's made of meat, is *me*, and it would be very unpleasant and dangerous to take a bite of it, whereas the sandwich on the table is *not me*, and it's fine to eat it.

DELIBERATE, CONSCIOUS DUALITY AS SPIRITUAL PRACTICE?

Along another line, thinking about duality and non-duality from a spiritual perspective I'm moderately familiar with, G. I. Gurdjieff's *Fourth Way* teachings[3], the primary way of psychological and spiritual growth I feel I understand in that system is to deliberately split your awareness into several aspects, you could call it a dualistic or multiple-istic. Typically you intentionally keep about 10% of your moment-to-moment awareness on body sensation, such as from your arms and legs, about 40 or 50% on what you're seeing, and the rest on what you're hearing. In my experience, this produces a useful form of what we could call dualism, in that there is a clear distinction between self/inside and world/outside, and consequently more accurate perception of sensory input, primarily vision and hearing and its distinctiveness from internal reactions. I believe this mainly comes about through this deliberate split channelling of attentiveness and the maintained intention involved: monitoring something like arm and leg sensation keeps some consciousness grounded in immediate body sensation and, since body sensation exists in the here-and-now, grounds at least part of one's experience in the here-and-now. Although there is no conscious emphasis on striving for the this outcome, this makes you, in my experience, more sensitive to fleeting feelings and emotions that might otherwise be missed, and so more accurate in your engagement with the world, as you're less likely to be carried off by emotional reactions that if you weren't doing this practice.

Russell Targ continues: *Padmasambhava, in the Eighth Century is teaching the non-dual view that mind is spaciousness, just as there is no separation between waves and the ocean. Mind as spaciousness is what he means by naked awareness, in his great meditation guide book.*

While I have a lot of conceptual trouble with "non-dual," I'm much happier thinking about and using the word "spaciousness." Spaciousness (and, more usually, my lack of it) is something I have direct experience of. My ordinary mind is not spacious. Perceptions of the outside world or my body keep coming in, each generates one or more internal reactions, and seems to be no apparent gap between these internal reactions, so my conscious experience seems continuous, but hardly spacious. Internal reactions and reactions (cognitive and/or emotive) to reactions tend to crowd out clear perception of the outer world and my own internal processes, using up all my capacity for awareness.

I remember in the 1970s I repeatedly took a class on basic meditation from Lama Tarthang Tulku at the Nyingma Institute[4] in Berkeley. He occasionally used the phrase "the gap between
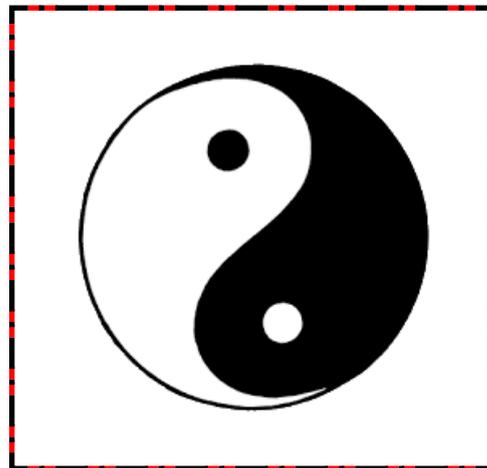
FIGURE 2 ~ *Yin-Yang.*

thoughts." I thought that was a fascinating concept! But it was only a concept for me, there were certainly no gaps between any of my thoughts! Back then when trying to learn various basic forms of concentrative and insight meditation, I thought one had to learn to create quiet spaces between thoughts, something indeed advocated in many meditation instructions, and I was so bad at it that I eventually gave up even attempting to meditate. I decided meditation required some kind of special talent that some people had for creating a quiet mind, a talent that clearly I didn't have. It was only years later after instructions from meditation teacher Shinzen Young[5], who I think is one of the best meditation teachers in the world, that I actually found vipassana meditation to be a pleasant and useful activity, and now I practice it regularly. And while I don't make a big deal of it, I do occasionally observe gaps between thoughts. It's possible, and *spacious.*

QUALITIES OF SPACIOUSNESS

Returning to the idea of spaciousness, though, I distinguish at least two qualities of spaciousness in my own experience. One is the obvious one of less active thoughts, or even apparently quiet temporal gaps between distinct thoughts. Not unconsciousness, as I'm still aware that I exist in a quiet way, and I may be receiving sensory input, but there are noticeable drops in the intensity of my internal processes, sometimes such that I would even call my mind momentarily silent.

The second quality of spaciousness deals with the way I experience what I might call the "stickiness" of thoughts. My ordinary experience is that one thought automatically generates other thoughts, reactions to sensations generate even more thoughts or emotions, the process is continuous and seems like it will never end. But sometimes when I'm experiencing some spaciousness, the quieter periods between ordinary thoughts and perceptions are not empty, there may be other thoughts or perceptions that come and go, but they don't automatically grab my awareness and force further reactions the way they normally do. They are just less sticky, they flow through my mind without stimulating other thoughts that stick to them... Perhaps they are what the Tibetans call self-liberated…

NAKED AWARENESS, FINDING MIND

Targ continues from Padmasambhava: *Mind as spaciousness is what he means by naked awareness, in his great meditation guide book.*

If I take "naked awareness" to be the basic nature of mind to experience things, potentially anything, this line of thought gets interesting. There is a meditation exercised used in Tibetan Buddhism where the student is asked to try to find their own mind. I have tried it occasionally, and, as the texts state, I can't find any *thing* in particular, any distinct form of experience that I could call my centre of awareness, my identity! If my mind is in its usual active state I can certainly find *content* of mind in any instant, and that content, as I noted above, is normally apparently continuous even if I'm not particularly aware that I'm experiencing content at the moment. When trying a task, though, I like to succeed, so sometimes I suddenly look for my mind when my mind is relatively quiet and I still can't find anything, that is I can't find any *thing* in particular that I would say this is mind[6]. Yet I am quietly aware

that I'm aware, but this awareness is, while kind of obvious and not at all special when I practice it, not at all like the kind of awareness of mental content, of specific things, either specific things perceived through the senses or generated internally.

There is a spacious quality to this kind of emptiness of mind. In my limited experience I wouldn't say there's any *specific* quality to it, like ordinary things or thoughts or emotions have, and yet it's there. The table to my right as I write this, for example, has a specific size and location, my looking for something to illustrate has intentional qualities, there's a slight feeling of satisfaction that this is a good illustration of what I'm trying to say.

Sometimes when I wonder about the value of meditative training that lets you experience spaciousness more often, I find myself creating an analogy that it's like a button early personal computers all had on the front panel labelled *Reset*. Those early computers often locked up because too many programmes were running simultaneously and conflicted with each other for limited resources. Pushing the button cleared out all running programs from memory, so you were reset back to zero, back to the full spaciousness of your computer's capacity.

This is certainly parallel with what happens in ordinary life. So often we have several things on our mind at once, they get into recursive loops that are sticky and drawing more and more of our mental resources, looping around on themselves. Attempts to quiet things down and focus too often create more reactions, and were stuck in these noisy loops. To be able, when you have some skill, that I think develops from gaining some proficiency at concentrative or vipassana meditation, to "back up" to the spaciousness the constitutes the basic nature of mind may let those sticky loops die down, may reset your mind so you can now focus in a more useful and desirable way. So, yes, your *"Mind as spaciousness is what he means by naked awareness, in his great meditation guide book."* Makes some sense to me, although I'm sure there's far more being referred to by Padmasambhava[7] than what I've written about here.

Targ notes the connection between my essay on the development of the state-specific sciences proposal and non-dual teachings, which stimulated him to write me […] *the importance of experience to internalizing non-dual teachings. So, I felt it was a big coincidence for me, to immediately come upon your e-mail on state specific consciousness, which I take to be the same thing.*

NON-DUALISM AND STATE-SPECIFIC SCIENCES:

Coming more specifically now to the question of how much my proposal for the establishment of state specific sciences[8] is advocating the importance of internalizing non-dual teachings, yes and no, no and yes, it is and it isn't.

I've said I don't think much of my understanding of non-duality now, and when I proposed developing state specific sciences several decades ago, my understanding was even less. What I basically did in my proposal was review the basic procedure of essential science, scientific inquiry for acquiring and refining knowledge. (1) Observe what you're interested in carefully, always try to improve the quality of your observation. (2) Devise theories that make sense of your observations, use sensible logic in them so your ideas hang together. (3) Don't stop with the satisfaction of feeling that intellectually you understand things, but work the logic of your theory to make predictions about things you haven't yet observed and go out and test those predictions. If they come true, great, keep developing your theory. (4) If they don't modify your theory, or come up with a new one altogether. And (5) meanwhile, since your mind may have all sorts of peculiar quirks you have no idea exist, keep sharing all these steps with peers who can check your observations check your thinking, check your predictions. That way we as scientists, knowledge seekers, go from poor observations and fuzzy ideas about why things happened to more clear and precise observations and understandings that make more sense of them. Which in most cases will allow us to then apply our understandings for human benefit.

A basic point of my proposal, though, briefly sketched at the beginning of this essay, was that science is normally practiced in "normal" consciousness, but we now know that there are many arbitrary, culturally constructed aspects of culturally normal consciousness that sensitize us in some ways and blind and bias us in other ways. We also know that there exist altered states of consciousness

Picture: John Bamberger, *Fluorescent Waterfall.*

(ASCs) in which perception and thinking seem to work quite differently, so if we could apply basic scientific method in a variety of ASCs, we would get a much wider range of understandings. I didn't say too much more about this potential outcome in the original proposal, because I knew most of my readers would be biased toward a materialistic view that only what is physical is real, or is amenable to scientific inquiry. So if they would want to think I was talking primarily about ASC observations of physical phenomena fine, but my proposal deliberately left it quite open to take internal experiences as primary things you observed, experimented with, and theorized about. Thus all sorts of systems of yoga, meditation systems, and the like could become "inner sciences," rather than simply religious beliefs or, as I argued in the proposal, not remain state specific *technologies* but become specific state specific *sciences*. So yes to Targ's question, systems which led people to experience non-dual consciousness could have its practitioners practice essential science and lead to all sorts of other new knowledge.

Beyond this "yes," I could argue that the proposal for state-specific sciences is actually wider than any particular spiritual path in some respects, unless we assume that the "enlightenment" which can result from a spiritual path constitutes a permanent state where everything worth knowing is known so no more acquisition, refinement and application of knowledge is need… But it would take us too far afield now to start down that path.

Okay, there are many interesting places we could go, but I'm sure this essay is already overly long. Good thinking!

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[11] Tart, 1972; 1973a; 1973b; 1974; 1975a; 1975b; 1980; 1998; 2000a; 2000b; 2008b, <http://bit.ly/1OvL9Z5>.

[2] <http://bit.ly/1jdd7f6>.

[3] Tart, 1986; 1994; 2001.

[4] http://www.nyingmainstitute.com/

[5] http://www.shinzen.org/

[6] In some ways I am intellectually convinced, though, that if I could mentally "spin around" fast enough I would catch something that might be my mind, but I can never do it.

[7] Amusement note: my Dragon Dictate programme on hearing "Padmasambhava" typed in "pod my some Baba." :-) Pretty good try Dragon!

[8] <http://bit.ly/1jdd7f6>.

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L A   D A M E   À   L A   L I C O R N E ∞ H E A R I N G

ROSA ZUBIZARRETA

PARTICIPATORY POLICY MICROCOSMS:
DIVERSITY AND EMPATHY AS GENERATORS OF CREATIVE WHOLNESS

Rosa Zubizarreta is a practitioner, teacher, and author in the field of dialogue and emergent process. Her professional background includes organization development, education reform, and clinical social work. In addition to her practice as a collaboration consultant, she is working toward a PhD in Human and Organizational Systems.

We have an instinct for democracy because we have an instinct for wholeness; we get wholeness only through reciprocal relations, through infinitely expanding reciprocal relations. Democracy is really neither extending nor including merely, but creating wholes ~ MARY P. FOLLETT[1].

Only when we are thoroughly aware of the limited scope of every point of view are we on the road to the sought-for comprehension of the whole ~ KARL MANNHEIM[2].

H*OW MIGHT WE BE CREATIVE, TOGETHER? How might we elicit greater collective wisdom, in support of our collective transition to a sustainable future?* From a hyper-individualistic perspective, such questions might not even make sense. Just as the "invisible hand" of the market place is supposed to aggregate millions of individual transactions to generate the best outcome for all, so, too, we might posit that the sum aggregate of our individual votes is the best that democracy might accomplish. We might even assume that "self-organization", the new "invisible hand", will weave together all of our individual actions for transformation into something more cohesive, without the need for any more explicit collective effort.

Yet I am working here from a different set of assumptions – that consciousness does not become more conscious, unconsciously; that the self-organization of living systems, depends on the presence of a supportive context; and that as humans, we have a deep well of resources that we can draw upon from our evolutionary past, as we move into creating our shared future. I will begin by expanding a bit on this last one.

From an indigenous perspective, our inheritance as human beings includes hundreds of thousands of years of valuable evolutionary experience. Before the emergence of "civilization" and its hierarchical forms of organization, we as humans lived in primarily hunter-gatherer cultures, where we developed not only a vast body of knowledge about our local ecosystems, but also the skills and practices of creating sustainable communities with one another. We need not look far to see the potential value of this kind of knowledge for our world today; as I write this essay, the blogosphere is buzzing about *indaba*, a South African form of consensus building that was influential during the Climate Talks in Paris.

These powerful indigenous formats for conflict transformation and group alignment often involve small, face-to-face groups. Despite Margaret Mead's oft-quoted words, "Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it is the only thing that ever has" it may not be immediately obvious how the work of small groups, without any formal authority or great wealth, could serve to influence the larger systems in which we live. Thus, this is one of the questions I will be exploring here: *What might be the potential of certain kinds of small-group experience, to influence our huge complex societies?*

After exploring the potential of small groups to influence large systems, we will also be looking at: *What is possible within a small, highly diverse group? And how might our sense of what is possible, be influenced, by the assumptions that we bring to our work?*

To illustrate these explorations, I will be referring to some actual experiments, focusing particularly on work that has taken place within the last ten years in the state of Vorarlberg, Austria. Using an innovative approach to participatory public policy making, their Office of Future-Related Issues (OFRI) has been working with an empathy-based small group process, to generate useful public policy inputs from microcosm groups that are intentionally diverse[3].

Initial reports indicate that this process has repeatedly resulted in powerful experiences of collective insight for participants, as well as useful input for the sponsoring public agencies[4]. Yet at the same time, these experiences have also led observers to puzzle about "how this approach works"[5]. That puzzlement, in

turn, has led to the realization that a larger context needs to be offered, to support a broader understanding of this work.

And thus I will be starting with our understanding of the dialectic itself. This entails a third set of questions: *What are our underlying theories of how we arrive at knowledge? What are the underlying epistemological approaches through which we view the world, including our political life along with specific instances public participation? And how do these underlying assumptions structure our experience, making some things possible while precluding others?*

FROM ARGUMENT AS BATTLE TO COLLABORATIVE CO-CREATION

One of the limitations of current approaches to democracy consists in its basic mode of discourse, which we might characterize as organized by the metaphor of "argument-as-battle"[6]. While the political realm might present an extreme case, this dominator mode of discourse is embedded within our larger culture, including many of our societal knowledge generating systems; it is also embedded within all of us who have been socialized, to one degree or another, by these systems. Thus, all of us who seek to create new forms of relationship and a society based on partnership[7], would do well to question the underlying epistemological assumptions of dominator forms of discourse – in particular, the assumption that finding truth is best served by engaging in grown-up versions of "king-of-the-hill", the childhood game whose objective is to knock others down in a race to the top.

Unfortunately, our unexamined assumptions end up shaping our behaviour, which in turn ends up influencing the "facts" we encounter. On a practical level, research in brain psychology shows how the possibility of creative and complex thinking are shut down when humans are triggered into fight-flight-freeze mode, and how easily that shift can happen in a social context, especially as a result of threats to status such as potential loss of face[8]. Thus, discourses structured in a win-lose format tend to draw out defensive kinds of human behaviours, and so confirm pessimistic appraisals of human nature.

Yet in different contexts, different experiences are possible. A recent gem in this area is Briskin, Erickson, Ott and Callanan's exploration of collective wisdom, where they reflect on the supportive conditions that allow small groups of highly diverse humans are to engage with their differences in a creative manner[9]. Some of us have been discovering that this can take place in ways that are much more effective than previously

thought possible. In earlier writings, I have often used the phrase "maximizing creative tension while minimizing interpersonal anxiety" as a way to summarize a detailed overview of how empathy-based group facilitation can support this kind of collaborative sense-making process[10]. Contrary to conventional wisdom, it is possible for critical thinking and creative thinking to co-exist, and for the individual and the collective to not be locked in a zero-sum game. More on that will follow in a later section. But first, *what is the relevance of this? Even if a small group is able to engage their differences both openly and creatively, how might this effectively influence larger systems?*

MICROCOSMS INFLUENCING MACROCOSMS

Within the realm of politics, the evolutionary impulse to work creatively with differences is currently manifesting in the form of significant democratic experiments. Some of these experiments involve small "microcosm" groups that reflect the broader diversity present within the larger whole. Two relatively well-known instances are Maclean's "Canadian experiment"[11] and South Africa's Mont Fleur scenarios[12]. In both situations, a pending social crisis inspired a particular kind of social experiment. In each case, a microcosm of the larger society was brought together for a brief period of time, and supported with high-quality facilitation – highly-skilled negotiation in the former, and scenario-planning in the latter.

In both cases, the group arrived at an outcome that was holotropic, in the sense that it was oriented toward the well-being of the larger whole. In the Maclean's case, the group outcome pointed toward the potential of mutual respect, appreciation, and understanding among Anglophones and Francophones[13]; in the Mont Fleur scenarios, the group agreed on a set of four possible scenarios for the future of their country, along with a shared understanding of the risks involved in the three less-preferred scenarios[14].

Also in each case, the outcomes of the work of the highly diverse small group was publicized widely via popular media, thus influencing public consciousness. Also, in each case it turned out that a looming social crisis was averted, undoubtedly as a result of multiple factors. It is unlikely that we could determine the degree of causality involved in either instance, since we are looking at the realms of appreciation and influence rather than of control[15]. Still, both experiments are iconic examples of how the work of a small, diverse group can help shift the zeitgeist of the larger social mileu.

These two instances are also illustrations of new form of leadership, conversational leadership[16]. In both cases, the designers of the process were helping to shift the context, the field in which innumerable conversations are taking place, by creating conditions for collective intelligence to emerge[17].

I have created the following equations as a metaphorical description of the underlying dynamics of these two experiments:

(microcosm of larger society) • (supportive facilitation) = holotropic outcome;

(holotropic outcome) • (widespread storysharing) = societal learning.

While both of the Canadian and South African instances merit further study, what I will be turning to now is a series of participatory public policy efforts in Vorarlberg, an Austrian state which has hosted 35+ ad-hoc Civic Councils date. Each of these experiments also involves a diverse and well-facilitated microcosm, whose outcomes have then shared been more broadly with a larger public[18]. Yet instead of being used on a one-time basis to address a looming crisis, this model is being used in Austria in an ongoing manner, to generate high-quality input to a participatory public policy process.

THE VORARLBERG MODEL

OVERVIEW

Supported by Vorarlberg's Office for Future-Related Issues (OFRI), each time a Civic Council is convened to address a particular policy issue, a different group of randomly-selected citizens is chosen. Both anecdotal reports as well as an initial evaluation indicate that these different randomly-selected microcosms repeatedly elicit systemic insights and collective wisdom from participants, in addition to arriving at strong convergences on their public policy recommendations[19]. Another outcome often reported, is the positive impact on the relationship between citizens and public administrators / public officials[20].

The facilitation format used in the Vorarlberg model is not based on negotiation expertise, as in the Canadian Experiment, nor scenario-planning methodologies, as in the Mont Fleur dialogues. Instead, the Civic Councils are supported with Dynamic Facilitation, a non-linear, empathy-based methodology created by US consultant Jim Rough, originally designed to "evoke creativity of both head and heart"[21]. In a later section, I will be quoting extensively from an article by two Council facilitators, describing the flavour of the work they do as well as the experiences reported by participants.

After the initial work of the Council is completed, subsequent Civic Cafés are hosted as public forums where the Civic Council shares the story of how it arrived at its outcomes. These Civic Cafés are structured using World Café methodology, to support a wider public conversation with regard to the ad-hoc Council's outcomes[22]. This conversational format excels at supporting a large group to explore common concerns and issues, via numerous small group conversations[23]; in this particular application, it has shown itself to be very useful for helping a group digest, metabolize, and respond in a creative manner, to a set of creative inputs.

Also during the Civic Café, the third step in the Vorarlberg model is initiated. This consists a Responder Group, comprised of a mixture of government administrators, one or two former members of the just-concluded Civic Council, and a few citizen volunteers from the larger Civic Café. This group is tasked with meeting monthly, in order to track the input from the Civic Council and the Civic Café, as it makes its way through the bureaucracy of the local government. The Responder Group gathers information about the administrative response to this input, including what new initiatives are being created in response to the Civic Council's recommendations, and then reports back to the larger community within six months' time[24].

SYSTEMIC LEARNINGS

Given the role of local municipalities, regions, and state offices in sponsoring these Councils, the presence of institutional good faith / responsiveness has been found to be key for positive outcomes. One difficulty encountered thus far could be regarded as a side-effect of any model that has experienced some success: others may hear about this and seek to replicate the model, without necessarily being willing to make all of the necessary investments. In this case, a key part of the investment includes a commitment to implement at least some of the Council's recommendations[25].

Clearly, there is no requirement that a governing body agree to implementing any or all of the Council's recommendations; that would be like signing a blank check. However, it *is* necessary for the sponsoring public agency to make a good-faith effort to implement at least some of the Council's recommendations, as well as to communicate their reasoning for those recommendations they are choosing to decline, in order for the project to generate greater societal trust. Otherwise, it is likely to reap negative consequences instead, in the form of further cynicism and disillusionment with government.

Another challenge has been the difficulty some potential sponsors encounter, while contemplating the possibility of engaging in this methodology. Most officials need to stay on the safe side, and the stakes of engaging in an experimental process can be high; engaging in something that is perceived as a mistake or a failure could be damaging politically. All of this makes it more challenging for potential sponsors, to agree to engage in an open-ended process[26]. Thus, some of OFRI's learnings include the need for building relationships with applicants and offering them small-scale experiences of the process first, as well as for vetting applicants carefully and being highly selective about the invitations they choose to accept[27].

From all of this, it becomes clear that with the Vorarlberg instance, our earlier equations are insufficient:

(microcosm of larger society) • (supportive facilitation) = holotropic outcome;

(holotropic outcome) • (widespread storysharing) = societal learning.

Instead, given that these experiments have been sponsored by a various municipalities, regional districts, and state offices, there has been an implicit expectation created that the sponsoring entity would respond in some way, to the outcomes of the Civic Council. Thus, a new, modified set of equations could be written as follows:

(microcosm of larger society) • (supportive facilitation) = holotropic outcome;

(holotropic outcome) • (widespread storysharing) • (responsiveness of sponsoring agency) = societal learning + stronger trust between citizens and government.

Thus, we can see that if the responsiveness of the sponsoring agency cannot be metaphorically represented by a positive number, the initial holotropic outcome of the small group will not, by itself, result in a positive societal outcome – no matter how positive it may have been.

However, in the majority of cases throughout Vorarlberg and its neighbouring regions, it seems that the sponsoring bodies have generally been responsive, and thus strongly positive outcomes have come about. We have anecdotal evidence of notable examples include a recent award-wining Civic Council on the refugee crisis[28], as well as a set of Councils regarding the repurposing of the site of a former concentration camp[29]. An evaluation conducted before these two more recent examples showed positive findings as well[30]. Still, it would be helpful to have more research on the outcomes this innovative process, as well as on the systemic conditions that permit a powerful small-group process to exert a positive influence upon the larger social system.

As we have seen in the previous section, having a process that can reliable evoke collective wisdom among a diverse group of citizens is insufficient in and of itself. Additional elements are needed for the outcomes of the small group to have a significant impact on the larger whole. Sometimes, a powerful mechanism for story-sharing may be all that is needed; yet in situations where the process has been sponsored by a governmental agency, the agency's responsiveness to the outcomes is key.

Yet the ability to consistently arrive at high-quality outcomes within a small, diverse group, even though insufficient on its own, is clearly a valuable resource. It is also something that current models of group dynamics do not deem possible within a limited amount of time. In other words, from within a certain paradigm, what we have been experiencing "cannot exist."

What people have experienced regularly in Vorarlberg as part of the Civic Councils (and elsewhere with other models) does not follow Tuckman's cycle of "forming, storming, norming, and performing", a highly popular model that is only infrequently questioned[31]. This leads us to the following inquiry: *how is it possible to consistently arrive at authentic, powerful results within a relatively brief time, within small groups that are intentionally divergent?*

Much of our knowledge about small groups in the behavioural sciences has been derived from T-groups and Tavistock group relations work. From my own experiences in both modalities (not as a facilitator, but as a participant), I can vouch for the valuable personal learning that can ensue from engaging in these formats. Yet the reified nature of both traditions tends to obscure a basic fact: both of these formats have been *intentionally designed to create primary anxiety in a group*, and then have the group wrestle their way, with minimal assistance, through that initial anxiety. In Tavistock groups, that anxiety is generated in part through flat-face affect on the part of facilitators. While T-groups do not use flat-face affect, the intentional refusal on the part of facilitators to offer the group much explicit guidance or structure, has been designed to create a somewhat attenuated yet basically similar effect.

However, such design features are not inevitable. For instance, Juanita Brown has written about how participants' experience in World Café formats does not follow the conventional model of the 'stages of dialogue'. In one way, the explanation for this is obvious; these new formats do not assume that initial state of anxiety to be inevitable, and thus were not

designed to create it[32]. These days, there are a growing number of different group formats suitable for a variety of different purposes, in which simple yet effective structures offer enough support and create enough stability in the field to allow effective self-organization to emerge with a minimum of initial dysfunction[33].

In the Dynamic Facilitation process used in Vorarlberg's Civic Councils, participants also do not experience a protracted initial stage marked by conflict. However, this facilitation approach is different than other dialogic models, such as Open Space Technology and World Café, where a strong container is created by the use of a simple yet powerful structure. Instead, in Dynamic Facilitation the strong container is created by a highly active yet non-directive facilitation approach, where empathic reflections allow the facilitator to "take all sides". This creates a temporary "greenhouse" or "creativity incubator" where strong differences can surface, yet where each participant experiences sufficient support to remain in creative learning mode — rather than being thrown into defensive attitudes resulting from fight/flight/freeze triggers[34].

This process of active and empathic multipartiality is also a feature of Dialogue Mapping, a computer-assisted process that bears some significant similarities with Dynamic Facilitation[35]. Some authors have described Dialogue Mapping as offering an empathic Winnicotian "holding environment"[36] for participants. This analogy may help us to see that multipartiality is *not at all* the same thing as "impartiality", even though neither of the two are "partial". From my perspective, the mainstream version of "facilitator impartiality" is very well-intentioned, yet it based a limited, transactional view of human communication that does not sufficiently consider the relational needs of human beings.

WHAT ACTIVE, MULTIPARTIAL FACILITATION CAN LOOK LIKE IN PRACTICE

In the following paragraphs, two Austrian facilitators describe their stance as they engage in their work, as well as the effects that this approach has on group participants:

"Right from the start of a Dynamic Facilitation session, it is necessary to be consciously attending to the creation of an appreciative and open conversational culture. Part of our job as facilitators is to set this tone and to safeguard it. To do this, we need to be listening well to the verbal messages we are hearing, we need to be making those meanings visible on paper, and we need to be preventing other verbal messages from devaluing what has already been said. This requires us to begin

with a more 'bilateral' facilitation style: as facilitators, we spend more time than is customary with each person, drawing them out through the use of follow-up questions."

"It is only after we have 'emptied' participants of all of their pre-made opinions, positions, and concerns about others' positions, that it is generally possible to think about something new. (Jim Rough calls this process 'purging'.) During this bilateral conversation with a participant, other participants usually realize very quickly that they themselves will later be receiving the same kind of attention that this person is now receiving. That observation usually increases the attention and mindfulness of all."

"What participants do particularly well within the context of a Dynamic Facilitation session, while hearing the plentiful reflections being offered back to the one who is speaking, is to listen attentively and to take seriously that person and their contributions. Clearly, in our society we feel a great lack of – or to put it another way, a great longing for – being perceived as persons with our own thoughts, concerns and proposed solutions."[37]

The above paragraphs describe how facilitators apply their empathic attention to create a kind of 'emotional safety net' that offers participants the freedom to engage in a self-initiated updating of their own conceptual models, as they begin to encounter one another's different perspectives. Many facilitators trained in this approach have remarked on the similarities they see between what happens in the room with Dynamic Facilitation, and the conceptual model of the U-theory[38], which also describes a kind of "emptying out" that is needed before what is new can begin to emerge.

The next set of paragraphs describe how this process embodies the alternative epistemological approach we mentioned at the beginning of this article, the shift from "argument as battle" to "collaborative co-creation":

"A significant characteristic of Dynamic Facilitation is that we use a structured moderation process to break through entrenched discussion patterns. In this work, participants usually perceive it as beneficial that we foreground a joint, co-creative development process, instead of a battle of wills between one set of arguments against another set of arguments. Dynamic Facilitation thus stands in stark contrast to standard patterns of discussion which are often about winning or losing. By means of active and appreciative listening, along with the invitation to repeatedly empathize with other points of view, we are able to initiate a solution-oriented culture of conversation."

"Innovation-hampering phrases such as 'That will never work,' or 'We've never done it that way

before,' are welcome in the Dynamic Facilitation processes as concerns, yet they are never allowed to stand alone without a follow-up prompt ('Can you say more about what it is that you are fearing?') along with a further question (such as, 'Great! So in that case, what would *your* solution be?') The dynamics of a Dynamic Facilitation process could be described using the metaphor of a ping-pong game as follows: in this way of playing, the goal is *not* to force your opponent to make a mistake, by returning the ball with as tricky a spin as possible; instead, the goal is to work together to keep the ball in play."

"Verbal messages are not simply left standing, but are instead either reflected back or summarized, as literally as possible. In response to abstract statements, facilitators offer follow-up questions (e.g. 'What do you mean by ... ?') The additional clarification of rationales or further concretization of what has already been spoken, usually leads to a better mutual understanding among all participants, and thus to a reduction of the kind of resistance that can quickly arise whenever allegations are allowed to stand without further explanation. By means of invitations to expand one's reasoning and the genuineness of the follow-up questions, it soon becomes evident to all that we are shifting away from a conversational pattern of mere assertions or demands, to a more innovative and constructive dimension of conversation."[39]

The above description can be read as an illustration of multipartiality in action. By "taking the side" of each participant, supporting them in explicating their meaning, facilitators draw out each participant's contribution to the larger whole. The last two paragraphs quoted below illustrate some of the creativity-generating aspects of this approach:

"One possibility for achieving more depth on a subject is the so-called 'decision-makers' question'. It goes as follows: 'Suppose you had an important decision-making position (e.g. mayor, school director, president, etc.) and everything were possible; that is to say, you had all the necessary means at your disposal. What would you do in this situation? How would you proceed?' This question offers a participant the opportunity to immediately imagine themselves in a powerful position, which usually triggers an intense process of reflection. At such moments, it is important to offer some 'sacred time' so the participant can sit quietly with this question."

"The answers are often surprising, and in many cases focus on finding a solution to the problem through communication. One example: 'I would sit down immediately with the relevant experts or citizens, so that together we can get a better picture of the situation, and hear their solutions.' Often participants' answers also offer very concrete steps to address the problem. This demonstrates how frequently people have valuable thoughts on issues. Yet without these kind of processes, they would not have the opportunity to share their comments nor contribute their insights. Participants are usually surprised by how much creativity and knowledge is evident in the outcomes they develop."[40]

Now that we have "zoomed in" for a closer look at the creative facilitation process used within Civic Councils, the first stage of the Vorarlberg model, we will close by "zooming back out" again, to review the larger systemic implications that are made possible by these participatory public policy microcosms.

SYSTEMIC LEVERAGE: SHIFTING OUR APPRECIATIVE SETPOINTS

In all of the examples described earlier – the "Canadian Experiment", the Mont Fleur Dialogues, and OFRI's thirty-five plus instances to date of the "Vorarlberg model" – there is societal learning that ensues from the widespread story-sharing of the work of the microcosm group. We can understand that societal learning as a shift within our shared appreciative systems.

As delineated by Vickers, our 'appreciative systems' include both our prevailing socially-constructed understandings of 'how the world is', as well as our socially-constructed understandings of 'how we want our world to be'. Drawing from cybernetic models, Vickers emphasizes that, at any given point in time, our society's appreciative systems are 'set' at a particular 'setpoint'. He also highlighted the systemic leverage inherent in learning how to consciously and ethically influence these "appreciative setpoints"[41].

A similar point is made by Meadows, in her comments on the high leverage of being able to shift the mindset or paradigm out of which a present system arises[42]. While neither Vickers nor Meadows were optimistic about finding ethical and effective ways to shift societal mindsets, both of them pointed toward this as a necessary direction to explore, in order to meet the social challenges we are facing.

In her description of the high leverage of shifting paradigms, Meadows makes a telling comment that, "Systems folks would say you change paradigms by modelling a system on a computer, which takes you outside the system and forces you to see it whole. We say that because our own paradigms have been changed that way."[43] Yet what if computer modelling is not the only, and in some cases not even the best, way to help people change their paradigms? We have heard

again and again, how bringing together a diverse group of people, in a context where they are able to listen deeply to one another's perspectives, help them all to begin to have a deeper sense of the larger whole to which they belong. What if, by sharing the story of this small group's discoveries with a larger whole, we can in turn, help that whole begin to shift its own perspectives?

Now, to take it to another level: what if the most high-leverage shift we might make, is a meta-shift? That is, beyond any particular shift in perspectives, a shift in our "know-how" that allowed us to shift our collective perspectives in a constructive way, in an on-going and iterative manner. Mary Catherine Bateson seems to be pointing us in this direction, in her evocative book describing the epic small-group gathering convened by her father, Gregory Bateson, to explore the challenge of humanity's apparent inability to "see systems". In her afterword to the 1991 edition, she writes: "Over and over again at Burg Wartenstein we implied the need for a unified and widely shared vision, a vision that would be persuasive both intellectually and emotionally, to provide the context for action. But today I wonder whether such an epistemological unification could come about and whether it would not be a denial of the adaptive value of diversity. It was not clear whether new patterns of thought would look more like science or more like religion, or, as I increasingly believe, like a new pattern of inherently diverse information exchange and decision making, a new mode of conversations toward we were feeling our way when we met."[44].

SUMMARY AND CLOSING THOUGHTS

Whether we are looking at the ongoing work of the Vorarlberg model, or at one-time instances such as the "Canadian Experiment" and the Mont Fleur dialogues, there is a basic assumption at work. In an earlier work, I have described that assumption as follows: "[…] all of these various processes share the same radical assumption: *With some support, a diverse group of ordinary people can work together to engage constructively with their differences, in the service of the larger common good.* We know that a well-designed, randomly-selected poll can provide us with useful information about the current state of opinion of the larger whole. In a similar manner, a well-designed, randomly-selected council [or a microcosm that is intentionally created to reflect the diversity of the larger system] can provide us with useful information about the common ground we might discover, if we all had the opportunity to engage with one another in depth as part of the larger whole."[45]

My intention here has been to illustrate how, once this collective wisdom is generated among a microcosm group, it can be leveraged through large-scale story-sharing to influence the "appreciative set-point" of a larger system. Alternatively, the work of the small group can influence a local region by serving as a useful input into a wider participatory public policy process; in this way, it influences the local appreciative set-point, while also potentially resulting in some concrete policy objectives.

I have also explored how different assumptions about small group dynamics lead to different small group designs, and thus to different outcomes. Given the potential we have seen for small groups to influence larger systems, it would seem that advances in small group work could be relevant for practical large-scale systems change. This may be especially true of formats that help small, diverse groups access both creative and critical thinking, while remaining in an open-minded learning mode[46].

In closing, we might consider that while all forms of creativity are valuable, these creative microcosms with larger systemic implications, could be particularly useful for the challenges we are facing today. These kinds of transformational small group dynamics could have a significant role to play in our Great Turning[47] toward a sustainable and thriving planetary culture.

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[1] Follett 1918, *The New State*: 157.

[2] Mannheim 1936, *Ideology and Utopia*: 105.

[3] Trattnig & Haderlap 2014, *Dynamic Facilitation – A Method for Culture Change*.

[4] Hellrigl & Lederer 2014, *Wisdom Councils in the Public Sector*.

[5] Personal conversation with Manfred Hellrigl.

[6] Lakoff & Johnson 1980, *Metaphors We Live By.*

[7] Eisler 1987, *The Chalice and the Blade.*

[8] Rock 2008, *SCARF: A brain-based model.*

[9] Briskin, Erickson, Ott, & Callanan, 2009, *The Power of Collective Wisdom.*

[10] Zubizarreta 2014, *From Conflict to Creative Collaboration*: 19.

[11] Atlee 2003, *The Tao of Democracy*: 130-143.

[12] Kahane n.d., *Mont Fleur Scenarios*: 1-5.

[13] Atlee n.d., *Canadian Adversaries Take a Break to Dream.*

[14] Kahane n.d., *Mont Fleur Scenarios.*

[15] Smith 2009, *The Creative Power.*

[16] Hurley & Brown 2009, *Conversational Leadership.*

[17] Atlee 2012, *Empowering Public Wisdom.*

[18] The parallel between the Mont Fleur Dialogues described above, and the Wisdom Council / Civic Council model to be described next, was first pointed out by Matthias zur Bonsen.

[19] Helllrigl & Lederer 2014, *Op. Cit.;* see also Strele, Lüdeman, & Nanz 2012, *Wisdom Councils in Austria.*

[20] Trattnig & Haderlap, *Op. Cit.*

[21] Rough 2002, *Society's Breakthrough*: 131-132.

[22] Hellrigl & Lederer, *Op. Cit.*

[23] Brown & Isaacs 2005, *The World Café: Shaping Our Futures*

[24] Hellrigl & Lederer, *Op. Cit.*

[25] *Ibidem.*

[26] Personal communication with Martin Rausch.

[27] Personal communication with Martin Rausch and Michael Lederer.

[28] State of Vorarlberg 2015, *Civic Council Report.*

[29] Institut für Konfliktforschung 2016, *The Region of Consciousness*; also Ruprechtsberger 2013, *Hope Blossoms Amidst the Nazi Ruins.*

[30] Strele, Lüdeman, & Nanz 2012, *Wisdom Councils in Austria.*

[31] White, McMillen, & Baker 2001, *Challenging Traditional Models*: 48-49.

[32] Brown 2001, *The World Café – Living Knowledge*: 65-79.

[33] Holman, Devine, & Cady 2007, *The Change Handbook*; see also Holman 2010, *Engaging Emergence* for an exploration of principles underlying many of these formats.

[34] Zubizarreta 2013, *Co-Creative Dialogue.*

[35] Zubizarreta 2006, *Practical Dialogue.*

[36] Culmsee & Awati 2012, *Toward A Holding Environment.*

[37] Trattnig & Haderlap, *Op. Cit.*

[38] Scharmer 2009, *Theory U.*

[39] Trattnig & Haderlap, *Op. Cit.*

[40] *Ibidem.*

[41] Vickers 1968, *Value Systems and Social Process*: 164-168.

[42] Meadows 1999, *Leverage Points*: 17-18.

[43] *Ibidem:* 18

[44] Bateson 1991, *Our Own Metaphor*: 314.

[45] Zubizarreta 2003, *Deepening Democracy.*

[46] While we have been focusing here on the participatory public policy realm, there are other examples of this same format being utilized to "help a whole system learn" within organizational settings, that point to the robustness and flexibility of this approach. See zur Bonsen 2014, *Wisdom Council.*

[47] Macy 2014, *The Great Turning.*

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LA DAME À LA LICORNE ∞ SIGHT

GERARD J. PUCCIO

DEMOCRATIZING CREATIVITY:

HOW CREATIVE THINKING CONTRIBUTES TO INDIVIDUAL, ORGANIZATIONAL AND SOCIETAL SUCCESS

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INTRODUCTION:
LIFE IN THE 21ST CENTURY

SOME SAY THE WORLD IS MOVING FASTER THAN ever before, that change is moving at an accelerated rate. And there is some data to support this observation. The early stone tools, such as the handaxe, lasted almost a million years before they were replaced by improved tools. Today technological products go through fundamental redesign every six to twelve months. In the last two thousand years, there were approximately 30 life altering technical and social inventions. Roughly 25 of these have come in the last 200 years alone[1]. Buckmister Fuller[2] famoulsy observed that the accumulated knowledge in the world doubled during the 20th century at an estimated rate of every 25 years. In the early 21st century an IBM study indicated that knowledge was doubling every 11 hours[3]. It would appear the pace of change, especially as it is driven by technological advances, will not slow down any time soon. A recent Oxford University study predicated that acceleration in automation is likely to eliminate more than 40% of jobs in the next decade or so[4]. More specifically, that computers will replace the humans who carry out these jobs. It would seem change has become the new norm.

If indeed we live in a time of rampant change, the question is are individuals prepared with the skills and mindset to evolve as quickly as the environment is changing? It would seem that like no time in human history has creativity been a more important individual, organizational and societal capability. To be sure, creativity has always been a feature of our species. In fact, it was our ability to apply our imaginations to solve problems that has allowed us to spread out from Africa into all regions of our planet. Compared to other species the human body is pretty frail and limited. What we have been endowed with is a brain that allows us to generate ideas that can be used to creatively solve problems. Where early humans used their creativity to solve the practical problems of survival, the modern human has been able to leverage the power of imagination to create a rich array of products. As Morriss-Kay[5] argued, "[…] without these survival-enhancing functional origins, it is unlikely that we would have the neural equipment to create art." In fact, anthropologists indicate that about 50,000 years ago human's gift of imagination led to a creative explosion. A time during which human creativity broadend into complex art forms, clothes, purpose built structures, jewlery, burial rituals, muscial instruments and much more.

Creativity has enabled humans to survive. And our capacity to create is at the heart of the increased rate of change we now experience. Talbot[6] defined creativity as the ability to make a change that sticks (for a while). The more we create, the faster our environment changes. The faster our environment changes the more quickly we need to create and adapt through a flexible mindset – a trait of creative people. Perhaps like no other species, our competitive advantage – creativity – has both allowed us to survive in the face of environmental challenges and has served to change the very environments we live and work in. We both benefit and suffer from our creativity – the more we use our creativity the more we need it to survive. In the modern world, the element of Talbot's definition of creativity that has been impacted most is the statement "for a while." Creativity has a destructive quality to it. What we create replaces or displaces a previous idea or practice. Therefore, the shelf-life for a creative idea has become much shorter. Just as creativity was a crucial survival skill for early humans, it would seem that it is a crucial survival skill for individuals, organizations, and societies in the 21st century. The difference is for today's humans obsolescence is not some distant possibility but a near term reality.

The year 1950 is commonly cited as the birth of systematic research into the construct of creativity. This was the year J. P. Guilford delivered his landmark inaugural address, simply entitled 'Creativity', to the American Psychological Association. In his address, Guilford highlighted the paucity of research in this fundamental area of human functioning. He supported his assertion by citing the fact that of the 121,000 studies indexed in the *Psychological Abstracts* for the preceding 23 years, there were only 186 studies associated with creativity. However, for a variety of reasons, such as the post-war increase in scientific inventions, the launching of the space age, the advent of a more humanistic approach in the field of psychology, and Guilford's call to action, the study of creativity blossomed during the 1950's.

Today there are more than a dozen refereed journals specifically dedicated to the study of creativity that feature hundreds of empirical and theoretical studies each year. There are thousands of books on creativity that approach the topic from a variety of disciplines, such as business, education, psychology, economics, personal development, etc. There are annual conferences on the topic of creativity. And there are a handful of undergraduate and graduate programs that teach students how to be more effective creative thinkers and problem solvers. Indeed our own Master's degree in creativity at Buffalo State has been around since the mid-1970's[7]. That said, despite the growth in interest in creativity most people have never experienced a formal introduction to this area of study, and a vast majority have not had the opportunity through their formal education to devote time to develop their creative-thinking skills.

The purpose of this paper is to explore the value of creativity. This paper summarizes the reasons why men and women in education, business, government and other fields are interested in understanding, nurturing, and predicting creative performance. Few comprehensive reviews on this subject exist; most writers in the field of creativity appear to assume that the reader knows why the study of creativity is an important endeavour. As a result many writers in the field make ambiguous or general references to why the study of creativity is important and then quickly begin to describe their own study or theory. This approach fails to provide newcomers to the field of creativity with a sufficient understanding of the basic foundation to this emerging discipline. Therefore, this paper provides a summary of some of the more commonly cited reasons for the study of creativity. To be candid, it is hoped that these points will raise awareness of the crucial role creativity plays in individual, organizational and societal success and as a consequence compel more people to actively develop their own and others' creativity.

WHY CREATIVITY IS IMPORTANT

1 ~ DEVELOP HUMAN POTENTIAL BEYOND IQ

One of the most commonly cited reasons for the investigation of creativity has been the desire to discover an area of human ability, beyond IQ, that would be useful in predicting performance. A number of researchers have concluded that intelligence is a broad and complex concept that is not adequately explained by IQ alone. Taylor succinctly summed up IQ's inability to embody all of intelligence when he stated:

IQ measures only small fish and has failed to catch and hold onto the truly big fish that the word "intelligence" signifies to most people. The general public has been misled and still readily believes that IQ is the "total intelligence" that encompasses all the dimensions of the mind, including all creative factors (and possibly all other dimensions not yet discovered and measured in the total mind-power)[8].

Since there have been some reservations about IQ's ability to predict performance, especially creative performance, researchers have sought to go beyond this construct for predicting human ability. In 1950 Guilford stated that, "probably, some of the factors most crucial to creative performance have not yet been discovered in any type of test. In other words, we must look well beyond the boundaries of the IQ if we are to fathom the domain of creativity"[9]. Guilford further criticized IQ enthusiasts when he argued that, "Many believe that creative talent is to be accounted for in terms of high intelligence or IQ. This conception is not only inadequate but has been largely responsible for the lack of progress in the understanding of creative people"[10].

Since 1950 numerous researchers have examined the relationship between measures of general intelligence and creativity. In their review of these studies, Barron and Harrington[11] concluded that the relationships between creative achievement and measured intelligence range from insignificant to small significant positive correlations. Wallach and Kogan, who conducted one of the most elaborate studies on the relationship between general intelligence and creativity measures, asserted that individual differences in creativity are largely independent of the domain of general intelligence[12]. In an examination of lay persons' implicit theories of intelligence, creativity, and wisdom, Sternberg[13] found some degree of overlap among the constructs, however they were not considered to be synonymous terms. Creativity proved to be the most distinct of the three constructs.

If IQ is not a strong predictor of creative achievement then what ability is most associated with real creative output? IQ is closely associated with reasoning skills; an ability to find the correct answers. This type of thought tends to be linear, critical and logical. By contrast, studies of creativity have revealed a different way of thinking called divergent thinking. This refers to a form of thinking that is expansive; it is the ability to generate many, varied and original alternatives. Research has shown that divergent thinking is three times stronger at predicting adult creative achievement than IQ[14]. Those who are proficient divergent thinkers are much more likely to become inventors, writers, university presidents, artists and entrepreneurs. While divergent thinking is a significant predictor of creative achievement it is a skill often overlooked in formal educational practices.

2 ~ ESSENTIAL WORKPLACE SKILL

Another reason often cited as support for the increased interest in creativity is the growing competition in business and industry. The technological developments of this century are a tribute to human ingenuity and creativity; however, it is these same technologies that have given rise to global competition. Technological developments in such areas as communication and transportation continue to draw the vast regions of the world closer together. Organizations no longer compete solely with other companies within their immediate region, but with competitors from around the world. Therefore, in order for today's organizations to remain competitive it is imperative that they incorporate creativity and innovation into all business functions. Creativity has become a central issue in the survival of a corporation. According to Geis, "No longer is creativity seen as emanating from the fringe of corporate society. Generating new ideas and bringing them to market is now seen as a (if not the) central task of corporate management"[15].

The rapid amount of change and growth that has occurred since the industrial revolution has brought much prosperity and wealth to a great number of industrial organizations. However, as this growth continues industries, particularly older organizations, are experiencing a tremendous amount of pressure to continually improve on old systems and products. As Van Gundy noted, "Organizational growth and survival can be tied directly to an organization's ability to produce (or adopt) and implement new services, products and processes"[16]. Indeed, creativity is not simply a luxury for organizations. As some economists now refer to the present era as the age of innovation, creativity is now an essential competence for organizations. Even though more than

88% of corporations in the United States have some form of the word "innovation" in their mission, vision or values, innovation does not occur unless organizations adopt practices that promote and encourage employee creativity. The research is clear, innovation promotes organizational success and employee creativity promotes innovation.

Given the fact that we work in an age of innovation, creativity is now widely recognized as a crucial workplace skill. In fact, since 1990 there have been more than a dozen published reports of essential workplace skills that include creativity. For example, a 2015 Bloomberg/BusinessWeek survey of hiring managers found that creative problem solving was among the top five most desirable skills. When asked what skills are most difficult to find among new job applicants, sadly, creative problem solving was cited as number two (strategic thinking was the most difficult skill to find among job applicants)[17]. Equally disconcerting, a study of human resource managers placed creativity among the top 14 applied skills identified as essential in today's workplace; however, creativity was the skill these HR managers felt least prepared to develop should they hire someone who lacked this skill[18]. This represents a perfect storm. That is, while creativity and creativity-related skills are now considered crucial for professional success, they are difficult to find among those aspiring to join today's workforce. Moreover, when an employee is deficient in this skill organizations are not well posed to develop it. A creativity deficiency represents a serious limitation for both individual and organizational success.

3 ~ EFFECTIVE USE OF HUMAN RESOURCES

One way for organizations to become more creative and innovative is to recognize, fertilize, and capitalize on the creative talents found within the organization. Bharadwaj and Menon[19] found, for example, that those organizations that promoted creativity, by allowing for individual creative practices or by adopting organizational practices that promoted creativity in a systematic manner, were judged to be significantly more innovative. While both forms of creativity practices were associated with innovation, these researchers found that creative practices adopted across the organization were more effective at uplifting an organization's creativity. For example, organizations that actively used a creative problem-solving methodology were rated by their employees as being much more innovative. As Bharadwaj and Menon concluded, when organizational members are trained in creativity there is a net positive effect on their problem-skills skills which leads to more innovative solutions to ongoing organizational problems and challenges.

Creative contributions can, and should, be made from all levels of an organization; however, organizations must first establish an environment that explicitly nurtures and rewards creative efforts. As Ekvall[20] has demonstrated, individuals who work in environments that support such factors as playfulness, idea support, trust, debate, risk taking, humour, and freedom, are typically more creatively productive than those who work in negative environments. Even more basic, Amabile and Kramer[21] found that workplaces that promoted a positive mood among employees were much more likely to see higher levels of individual creativity and organizational innovation.

Creativity is a human resource. A resource that exists in all organizations, small and large, private and public. Organizations must endeavor to utilize this resource, wherever it exists, by developing the creative-thinking skills of their employees and by forming work environments that allow creative thinking to flourish. The most important resource in any organization is its people; therefore for organizations to thrive in today's economy it is imperative for them to nurture the creative potential of their human resources. Organizations are not creative, it is the individuals inside of organizations who create. Wise organizations recognize that their growth and survival depends on the creative-thinking skills of their members.

4 ~ CONTRIBUTES TO EFFECTIVE LEADERSHIP

Creativity is an essential skill for any person who is involved in some leadership role. Leadership is distinguished from management principally due to creativity skills. As Bennis and Nanus stated, "Managers are people who do things right and leaders are people who do the right things"[22]. Leaders actively search for new problems; they can be considered problem finders. They are especially effective in handling novel challenges that require solutions outside of the routine or traditional strategies. They possess tremendous vision, and are capable of inspiring others with their vision. In short, it is the application of creativity skills that distinguishes a manager who maintains the status quo, from a leader who supplies a new direction or vision.

More specifically, numerous authors agree that creativity is now considered a core leadership competence. Leaders are responsible for guiding teams, organizations, and societies towards important goals. Along the way they often face challenges that impede progress. This is what Mumford and his colleagues referred to as complex problems. Complex problems are ill-defined, novel and ambiguous; as such they require creative thinking to resolve. Therefore, it has been found that today's leaders need to be effective creative problem solvers.

Indeed, divergent thinking, a creative problem-solving ability, described earlier, has been shown to be the strongest predictor of leadership success when compared to intelligence and personality traits[23].

Contemporary theories of leadership, especially those associated with transformational leadership, embrace the need for leaders to be creative and to actively promote the creative potential of their followers. Transformational leaders recognize that they do not have all the answers and solutions to problems; therefore, they actively solicit the creative thinking of others. Transformational leaders know that success relies on tapping into the best thinking of all organizational members. As noted in the previous section, organizational success relies on the creative talents of all organizational members. Transformational leaders know that to transform an organization they must facilitate the transformation of all members constituents, helping them to reach their creative potential.

In an era defined by change we look for leaders who can lead change. Creative thinking is a process that promotes new thinking and therefore results in change. Given this we have argued elsewhere for a new form of leadership, called Creative Leadership[24]. These are leaders who deliberately use their imagination to guide their constituents in a new direction and who use their creative problem-solving skills to successfully address any issue that stands between them and their desired future.

5 ~ DISCOVER NEW AND BETTER WAYS TO SOLVE PROBLEMS

Our world faces a diverse array of problems that require more and more creative solutions. This challenge was described by Ackoff and Vergara:

"The accelerating rate of change is accompanied by a corresponding rate of obsolescence. An increasing number of problems have few or no precedents; hence there is a decreasing number of opportunities to solve them effectively in familiar ways. The greater the need for new ways of doing things, the greater the need for creativity"[25].

To tackle world-wide challenges, such as pollution, starvation, terrorism, poverty and the threat of nuclear war, more energy must be devoted to training in creative thinking and problem-solving skills. Guilford believed, "if by any approach we could lift the population's problem-solving skills by a small amount on the average, the summative effect would be incalculable"[26]. Future businessmen, scientists, educators, politicians, and others who will be involved in both professional and skilled positions will not only need to possess the knowledge associated with their specific field, but they will also need creative-thinking skills to solve problems in new ways. This necessary combination

of skills will enable individuals to produce novel and useful solutions to challenges that appear to have no immediate solution. Knowledge about a particular domain is sufficient to solve problems that are straightforward; however, creative-thinking skills are required to solve more complex and open-ended problems.

At a personal level it is difficult to escape the complexities of life. To quote Guilford again, "To live is to have problems, to solve problems creatively is to grow"[27]. Creative thinking and creative problem solving aren't simply important for professional success, but are necessary in one's personal life as well. Individuals who do not possess creative-thinking skills are at risk, those who do are resilient. In a fast changing world, with challenges around nearly every corner, creative thinking and creative problem solving become the foundation to effective coping skills.

6. DEVELOPMENT OF SOCIETY

Another reason offered as support for the importance of creativity is its role in the preservation and growth of society. As Toynbee so aptly put it, "To give a fair chance to potential creativity is a matter of life and death for any society"[28]. As with organizations, creativity is a central factor in a society's ability to continue to adapt to an ever-changing environment. Beyond the issue of survival, or the preservation of a society, Toynbee pointed out that if a nation actively seeks to nurture creativity it will play a part in making history; however, nations that ignore the creative potential of their people run the risk of being surpassed by other nations.

From an economic standpoint creativity is closely aligned with entrepreneurship and many governments now recognize that entrepreneurs serve as an engine to a vibrant economy. Looking at the characteristics of entrepreneurs reads like the results of the personality research into creative individuals; they are opportunity seekers, open to change, flexible, unafraid of failure, fluent idea generators, curious, and intuitive[29]. It is this creativity personality that makes it hard for entrepreneurs to reside within established organizations. Indeed, it is this constant passion to find new opportunities that often compels entrepreneurs to leave their own start-up organizations once they mature[30]. Like artists and musicians, entrepreneurs are serial creators. A society that promotes creativity is much more likely to reap the economic benefits of such entrepreneurially minded individuals.

7. BUILDS ON ALL DISCIPLINES

A unique feature of creativity is the fact that it is not confined to one particular discipline. Creativity can be found in the sciences as well as the arts. Creativity-relevant skills are essential to all fields and all forms of human endeavour. It is creative effort that drives the development of new knowledge. And, specifically, it is the most creative participants in a field that provide the greatest contributions to their respective field or domain. Without creative thinking an individual is condemned to stay within the knowledge base as it is given, whereas a creative mind is more likely to challenge paradigms and to build new knowledge. Further evidence for the interdisciplinary nature of creativity can be witnessed in the diverse backgrounds represented by the researchers who study this concept, as well as those interested in teaching creativity to others. Creativity researchers and educators, for example, from such backgrounds as chemistry, engineering, psychology, sociology, education, philosophy, computer science, business, and economics.

8 ~ NATURAL HUMAN PHENOMENON

Creativity is like any other ability, everyone possesses it, but to varying levels and degrees. This belief has provided much motivation for researchers and practitioners in the field of creativity. If creativity were considered to be a rare talent, possessed by only a few highly gifted individuals, then the knowledge gained from creativity research would be relevant and applicable only to these rare few. However, it is the knowledge that everyone is creative that impels creativity researchers and educators to continue to investigate this topic, and to disseminate knowledge so others may live more creative and productive lives.

While everyone is creative, what research has shown is that individuals will vary in terms of their style of creativity. Kirton, for example, talks about adaptive (create through improvement) and innovative (create by doing things differently) styles of creativity. And Puccio has discovered that individuals express different degrees of preference for the four fundamental areas of the creative process, called Clarifiers, Ideators, Developers and Implementers[31]. The identification of such creativity styles helps people to embrace their own creativity, as well as to respect different approaches of others.

9 ~ IMPORTANT ASPECT OF MENTAL AND PHYSICAL HEALTH

Creative behavior is a necessary aspect of a mentally healthy life. Individuals who are able to incorporate creativity into their lives can enjoy the experience of discovering, developing and utilizing their many talents. Conversely, individuals who find their creativity suppressed, for one reason or another, may experience frustration in attempting to maximize their abilities. Rogers[32] asserted that the primary motivation behind creativity is to enable oneself to fully actualize one's potential. Furthermore, skills relevant to creativity may also be useful in coping with life's challenges. As Isaksen has so succinctly stated, "releasing creativity is healthy"[33].

Beyond psychological well-being, recent research in the medical profession indicates that creative thinking has physical health benefits as well. It has been reported that those who are curious are more likely to experience the following benefits: longer life expectancy; reduced rates of dementia; more fulfilling lives; greater satisfaction in personal relationships; greater ability to form new friendships; and higher levels of happiness. These findings underscore the interplay between an active creative mind and good physical health[34].

10 ~ ENHANCE LEARNING PROCESS.

Finally, the nature of learning requires the use of skills associated with creativity. Several scholars have argued that educational programs must provide instruction that explicitly encourages students to develop their creative-thinking skills. This encouragement will foster students who are more flexible in their thinking, and who become actively engaged in the material they are studying. The benefits of this form of instruction are applicable well beyond the school years.

In the age of innovation an educational experience that includes a focus on creativity and creative thinking is much more likely to prepare young people for a fast changing world. A world in which they are likely to adopt and drive change. To that point, one study suggested that millennials, those born between 1977 and 1997, are likely to change jobs 15 to 20 times over their careers[35]. Creative individuals are in a much stronger position to flex and adapt to changing conditions and environments. If we were preparing students to join an industrial economy, where they are expected to be disciplined rule followers who are not expected to use their imaginations, then an education devoid of creativity would be acceptable. This is simply no longer the case.

At the beginning of the 21st century the revision to Benjamin Bloom's well-known taxonomy of thinking clearly reflects the kind of thinking necessary in an age of innovation[36]. Bloom's taxonomy was devised as a means to rank cognitive skills from lower to higher order thinking. The original taxonomy ranked the thinking skills in the following order (from low to high): Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation. In 2002 this taxonomy of thinking was revised as follows (from low to high): Remembering, Understanding, Applying, Analyzing, Evaluating, and Creating. This taxonomy of thinking is widely used by educators to design learning objectives for lessons, courses and educational programs. While critical thinking is often universally recognized for its importance among educators, the revised taxonomy now challenges educators to facilitate the highest level of human thought – creating. To be sure, critical thinking is a valuable skill. People need to be effective at analyzing and spotting flaws; however, this form of thinking mainly requires an individual to be reactive. Creativity builds on critical thinking. Creating requires an individual to be proactive, to fill a void, to produce something that did not exist before. Shouldn't educational efforts assist students to achieve the highest level of human thinking. As noted earlier, life in the 21st century, especially professional success, requires students to be effective creative thinkers. Any educational experience, in any discipline, that does not require students to apply creative thinking fails in preparing students to be 21st century thinkers.

THE TIME FOR CREATIVE EDUCATION HAS COME

Education bears the expectations of society. Educators and educational leaders are asked to provide a transformational experience that lifts students out of poverty, opens minds to diversity, and prepares young people to become contributing members of a civilized society. Like no other time in history has creative thinking been more important, and not for just the elite in society, but by all members of society. It is increasingly in demand at work, from blue collar jobs to those who sit around the board room, creative thinking has become the golden key to success and longevity in the workplace. During the recovery from the great recession, when salaries had become stagnant for many, it was those who exhibited superior problem solving and creativity skills who experienced an increase in wages. And with advancements in technology, which is predicted to result in the automation of many jobs, it is social skills and imagination that render jobs and workers future proof. Thinking more broadly, creative thinking is a life skill, building resiliency and facilitating well-being in the face of life's opportunities and challenges.

With more than 60 years of empirical research the old misconceptions of creativity can be laid to rest. Creativity is not a rare gift possessed by a few geniuses. Rather, creativity is an ability that all humans possess. In fact, a meta-analytical study of creativity programs resulted in a bold and unequivocal conclusion – creativity training works[37]. In particular, the analysis of training programs revealed that the most successful programs were based on cognitive models. That is approaches that taught participants strategies based on forms of thinking that are embedded in the creative process. Creative Problem Solving (CPS), cited as one of the

most effective training models, teaches individuals how to effectively balance divergent thinking, the exploration of many varied and original options, with convergent thinking, a focus on selecting, evaluating and developing the most promising options. Moreover, recent advancements in CPS by Puccio[38] and his colleagues have resulted in the articulation of a range of thinking skills that undergird creative thinking and are developed through the deliberate practice of this cognitively-based model. The cognitive skills promoted through CPS training include: diagnostic thinking, visionary thinking, strategic thinking, ideational thinking, evaluative thinking, contextual thinking and tactical thinking. For nearly 50 years CPS has been taught with great effect to both undergraduate and graduate students at Buffalo State. Given the demand for creative thinking, and the many benefits of developing increased capacities for creative problem solving among individuals, teams and organizations, it would seem that the time has come to make more concerted efforts to involve all members of society in the creative education movement. If leaders in all sectors, education, government, not-for-profit, for profit and religious, nurtured the creative minds of their respective constituents only one's imagination could limit the foreseeable benefits associated with the democratization of creative potential.

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MÓNICA EDWARDS-SCHACHTER

ON THE INTERRELATIONSHIPS BETWEEN CREATIVITY,
LEARNING AND SOCIAL INNOVATION

Mónica Edwards-Schachter is a researcher, consultant and writer, passionate on learning, creativity and innovation. She holds a Phd in Science Education with a pioneer dissertation on grand challenges and sustainability and a Phd on innovation studies (ABD) and has written more than one hundred publications on these issues.

INTRODUCTION

H REATIVITY AND INNOVATION ARE CONSIDERED critical to address the multi-dimensional changes of the 21st Century (political, economic, social, cultural and institutional) and the grand challenges we are facing in our planet. The European Union dubbed 2009 The European Year of Creativity and Innovation highlighting their role at both personal and organizational levels (EC, 2008; Sawyer, 2011). One priority of the Horizon 2020 programme is how to accelerate social and collaborative innovation involving cross-sector participation of businesses, government and civil society to enable social change towards more inclusive and sustainable societies (EC, 2010).

On other hand, the relevance of creativity is also evidenced in the rise of the so-called creative and cultural sector involving the spreading of a mixture of activities, usually mediated by Information and Communications Technology (ICT), linked to design, technological developments, artistic, entertainment, architecture and films, but also food, gardening, tourism, among others (Cunningham, 2002). Creativity appears at the core of a social transformative force pushing co-creation in services sector and the creative economy (Howkins, 2002; Pratt & Jeffcutt, 2009). Creativity seems to be present in the power of the 'crowd' to solve problems (Howe, 2008) but also in the new scenarios of the *knowmad* society, the movement of nomadic knowledge workers (Moravec, 2008, 2013) and the growth of the precarious activism or 'creative activism' (Gill & Pratt, 2008).

Creativity is considered as expression of ancient civilizations through forms such as literature, art or music, with a progressive shift in the attention paid to scientific and technological breakthroughs, particularly in contemporary society (Simonton, 2004). From a general and timeless perspective, creativity is considered as an inherent human capacity to address the complexity in which we live: 'creative human action is universal' (Burns et al., 2015: 181). Otherwise terms like genius, invention and talent are usually associated with creativity to describe the highest levels of human performance. These ideas are not new. Closest to describing what the modern age views as creative talent, Greeks invoked the concept of an external creative 'daemon' where Romans considered creativity to name 'genius', linked to the sacred or the divine. However, the idea of 'collective' and 'social' creativity and the relationship between creativity and innovation is far to be evident and remain elusive even ignored by research. Being creativity a blasphemous notion in the Middle Age, it has been largely considered an uninteresting term for centuries (Sawyer, 2011; Godin, 2014). It was not until the beginning of the Twentieth Century that the word became to be progressively used naming the act of creation of new products, in the sense of the infinitive to create, i.e., 'to produce something' related to the 'power to create' or 'human creation capacity'. In fact, interrelationships between creativity and innovation as key terms in debates about the knowledge economy are recent (Pratt & Jeffcutt, 2009). Creativity and innovation are usually treated as independently, being the act of creation often analyzed and interpreted as the result of an individual action not linked with innovation as a socio-cultural process. Godin (2014: 5) maintains that creativity is more postulated as 'a word, a mere word, at best a metaphor' that studied, in particular by science, technology and innovation fields, where acquired a 'mythic' use and value.

How does creativity defined as a collective phenomenon? How can creativity be characterized as part of a learning process in knowledge society? What does creativity mean in the context of social innovation? This paper attempts to answer these questions, presenting an overall view of the main theoretical elements and

debates on the role of individual and collective creativity as socio-cultural practice and how they relate to learning processes and the emergence of social innovation.

DEFINING INDIVIDUAL AND COLLECTIVE CREATIVITY

People's ideas about creativity are always influenced by their society and their historical time. Opposite to the most current public perceptions, conceptions of creativity have dramatically changed over time and common arguments associated with creativity, such as 'originality' and 'novelty' did not become widely accepted until the late Renaissance. In words of Sawyer (2011: 15) the 'modern conception of the artist –a unique and inspired individual who expresses and communicates his or her unique vision through the art work' […] 'is no more than 200 years old'. He affirms that conceptions of creativity stir over the centuries between two broad avenues: Rationalism and Romanticism. Rationalism considers that creativity is generated by conscious, deliberating, intelligent and rational mind, while Romanticism keeps that creativity bubbles up from an irrational unconscious, and that rational deliberation interferes with the creative process. To date debates remain and creativity is viewed in different ways in a diversity of academic fields and disciplines, like psychology, philosophy, economy, sociology, management, anthropology, linguistics, and innovation studies, among others.

The academic literature on the nature of creativity ranges over at least the past six decades; arguably starting from Guilford's seminal 1950 presentation in the American Psychological Association and experienced a boom between 1950 and 1975 with a flood of research, publications and courses. In his conference Guilford introduced creativity as an instrument of work related with the capabilities of the mind and the higher faculties of individuals, emphasizing the significance of creative talent for industry, science, arts and education. His theory involves creativity as sensitivity to problems and problem-solving, as divergent thinking and ability to generate multiple ideas and generation of new patterns, useful knowledge transformation or use functions of objects in new ways (Guilford, 1968).

Opposite to the concept of convergent thinking (usually attributed to the 'left side' of the brain) he highlights that divergent thinking is the main ingredient of creativity, with a set of specific characteristics. They are: fluency (the ability to produce great number of ideas or problem solutions), flexibility (the ability to simultaneously propose a variety of approaches to a specific problem), originality (the ability to produce new, original ideas), elaboration (the ability to systematize and organize the details of an idea in a head and carry it out). De Bono (1994) also picks up Guilford's conception of the more or less creative individual behaviour, characterized for the use of lateral or divergent thinking as a particular type of thinking that enables to solve problems through unconventional and illogical methods, with intuition and imagination.

The idea that creative thinking depends on the activity, primarily or exclusively, of the right brain is surely the most popular theory on the neural basis of creativity in the wider public. However, an ample review realized by Dietrich and Kanso (2010: 822) reveals that 'creative thinking does not appear to critically depend on any single mental process or brain region', concluding that there is no research basis to suggest that either the right hemisphere is responsible for creativity or that so-called 'right-brained' individuals are more creative. In the last decades it is becoming apparent that there may be several kinds of creativity, where theoretical approaches not only are numerous but vary according to the notion of intelligence and the emphasis on some aspects, components and 'dimensions' of the creative phenomenon. Numerous authors agree in a '4P approach' to creativity, considering four interrelated dimensions (MacKinnon, 1970; Brown, 1989; Isaksen et al., 1993; Simonton, 2003): a) the creative person (who creates); b) process (the process of creation); c) creative product; and, d) the 'press/environment (the situation in which the creative act takes place).

Brinck (1997) distinguishes three different perspectives of creativity: the individual, the environment and the domain of knowledge. At the individual level he questions is whether there are genetic determinants or genetic causes – personality traits – explaining the presence of creative features in individuals. The second point arises on the environment or 'atmosphere' that can influence the creative process and, lastly, which fields of knowledge are best to develop or enhance creativity. For Gardner (2011) if a person is creative problem solver regularly, develops products or defines new issues in a field in a way that is considered the beginning (and even is rejected), but ultimately is accepted. Contemporary research identifies creativity with the production of novel and useful ideas in any domain (Amabile, 1996). Gardner (2011) and Csikszentmihalyi (2014) extend creative capacity to all people in any sphere of life.

Despite Mumford (2003: 110) suggested that in the last decades 'we seem to have reached a general agreement that creativity involves the production

of novel, useful products' (Mumford, 2003: 110), beyond this general commonality, authors have diverged dramatically in their definitions, existing over a hundred different versions in the literature. While a focus on the nature of the creative person considers more general traits and intellectual habits, such as openness, levels of ideation, autonomy, expertise and exploratory behaviour, focus on environment takes into account the best circumstances in which creativity flourishes, including degrees of autonomy and access to resources.

A basic requirement to see a product as 'creative' is that it must produce effective surprise in the consumer or audience (Bruner, 1962). However, Amabile (1983) considers that a product is viewed as creative to the extent that is both a novel response and an appropriate, useful or valuable response to an open-ended task with the condition of being observed and accepted as creative on a consensus of experts. In the decade of the 80 it begins to consider the relevance of the sociocultural environment to creativity, being a main exponent the componential model of Amabile (1983), integrating different elements and processes. Other broader approach to creativity has been developed by Csikszentmihalyi (1988, 1999, 2014), who focuses on a systemic perspective. He argues that creativity is a system that comprises a dynamic interaction between the creator surrounded by an environment consisting of a field and a domain. Whereas the field represents a part of society, and therefore human beings, the domain represents a part of the individual's and the field's culture. It is a symbolic system containing information such as ideas, physical objects, behaviors, styles, values and symbols. Individuals create something novel and original, and such novelty must be accepted or socially validated by the evaluating field in order to be included in the domain. The domain serves as a frame of reference to both creators and evaluators (FIGURE 1).

Linked with the person-environment and problem-solving issues, Isaksen et al. (1993) developed an ecological approach focusing on a systemic approach, particularly related to organizational innovation. Puccio and Cabra (2010) combine persons, processes, and leadership in an 'environment' or field to produce changes and innovations. A review performed by Runco (2004) in the past 20 years under the headings of 4Ps model shows a growing interest and interdisciplinary efforts in scientific creativity research to explain the interrelationships between these four dimensions. Systemic perspectives have been summarized by Chen & Kaufmann (2008) with distinctive approaches to creativity, namely the evolutionary approach, the cross-disciplinary science approach, the social system approach and the social network approach. Interesting studies are currently exploring creativity in relation to concepts and models of multiple intelligences, emotional and social intelligence (Sternberg, 1984, 2015; Bar-On et al., 2004; Goleman, 2006; Gardner, 2011). Sternberg (1984) maintains that creativity is one of the three components of the triarchic view of intelligence together with analytical and practical abilities.

FIGURE 1. *The Csikszentmihalyi's triangle of creativity.*

The social dimension denotes a 'distributed' nature of social creativity, which is determined by different shaping forces: the individual, the mix of interactions among individuals (the distinctive interests, skills, competences and knowledge that compose specific social groups and communities) and the interactions between them and their social and technical environment at large (Csikszentmihalyi, 1999). Collective creativity can be defined as creative processes leading to creative products that are the results of interaction between two or more people, being impossible to trace the source of new ideas to an individual (Chaharbaghi & Cripps, 2007; Bissola & Imperatori, 2011). Instead, creative activity emerges from the collaboration and contribution of

many individuals, thereby blurring the contribution of specific individuals in creating ideas.

One argument to consider collective creativity is based on Koestler's idea of creativity as a process of bi-sociation that brings together and combines previously unrelated ideas (Koestler, 1964). He contrasts bisociation with association, saying that association refers to previously established connections among ideas but that bi-sociation involves making entirely new connections among ideas. Based on this, Sanders (2001) maintains that collective creativity occurs when bisociation is shared by two or more people in a collaborative process. Other related notion is collective intelligence, defined by Lévy (2010: 71) as 'the capacity of human collectives to engage in intellectual cooperation in order to create, innovate and invent'.

CURRENT TRENDS IN CREATIVITY RESEARCH

While most psychologists continue focusing on mental process to study creativity, research in recent years has been more and more informed by systems and socio-cultural perspectives, showing the influence of economic, political, and social events to explain why, when, and where creativity emerge (Perry-Smith, 2006; Csikszentmihalyi, 2014; Burns et al., 2015).

Quite recent research has shown a consensus regarding some erroneous ideas and is opening new avenues to understand the core cognitive, motivational, emotional and neural basis of creativity and how human brain evolved to sustain and promote creative thinking (Kounios & Beeman, 2009; Baas et al., 2015). Creativity is increasingly acknowledged as both capacity in individuals and social groups, i.e. social and collective creativity. In words of Baas et al. (2015) 'creativity is at the roots of extraordinary achievements in the arts and sciences, and enables both individuals and their groups to adapt flexibly to changing circumstances, to manage complex social relations', being a key driver of human evolution and survival. From a sociological and evolutionary perspective of creativity Burns et al. (2015) maintain that creativity and innovation are universal human activities, essential to adaptation and sustainability. In their words, creativity and innovation studies 'should systematically take into account the sociability, resources and powers of potential and participating agents, the institutional arrangements and cultural formations which make up, for instance, the context of invention and creativity as well as the context of acceptance and institutionalization' (197). Management research is paying growing attention to the organizational aspects of creative activities and processes (Drazin et al., 1999; Perry-Smith, 2006; Chen & Kaufmann, 2008; Bissola & Imperatori, 2011).

Collective creativity is being explored regarding the notion of collective intelligence, defined as the capacity to mobilize and coordinate the knowledge, competences and skills possessed by large groups of individuals and combine them into a greater whole (Lévy, 2010; Woolley et al., 2010). Collective creativity and social aspects of creativity have become of increasing interest in management research, being a component that enhances the ability of organizations to improve their performance and retain their competitive advantage. Florida argued that 'we now have an economy powered by human creativity' (Florida, 2002: 5-6) and that human creativity is 'the defining feature of economic life' (21). From the economic perspective, Howkins (2002) and Florida (2002) have studied the emergence of creative communities and the contribution of the 'creative class' to urban and regional development. One of the major expected impacts of creativity is in the educational field, considering that in this age of accelerating change, complexity and chaos, creativity is the instrument to lead change and enable to future generations develop new ways of thinking (Sawyer, 2006; Scribner et al., 2007). Creativity is increasingly considered a competence related to innovation and entrepreneurship that can be acquired and developed by any person and need to be encouraged, harnessed, and articulated within organizations (Aspelin, 2015; Edwards-Schachter et al., 2015).

CREATIVITY IN THE CONTEXT OF SOCIAL INNOVATION

In terms of innovation, the close relationship between creativity and the traditional socio-economic theory of innovation was present at the beginning of the century by Joseph Schumpeter XX as 'an essential fact of capitalism'. His theory of 'Process of Creative Destruction' describes the ways by which the old ideas and ways of doing things are destroyed and replaced by new roads, being the central protagonist the innovative entrepreneurs. They are individuals who are known for their vitality and ambition to create businesses and projects, generating both economic and social values that catalyze technological and social changes within societies. Amabile (1996) also states that entrepreneurship is typically defined in terms of innovation, involving processes of continuous re-combination of knowledge whereby inventions are put into practice, transforming creative ideas into valuable products, services and organizational models.

Even though innovation typically involves creativity, is not identical to it. Any innovation starts with the generation of creative ideas while innovation means the previous selection of such ideas and their successful implementation with a subsequent economic and/or social (and also cultural) value generation in the market and the society (Edwards-Schachter et al., 2015).

Despite there is not a consensus on the definition of Social Innovation (SI), a distinctive characteristic is that SI involves a collective creative 'spirit' oriented to transform social practices under the aspiration of a more sustainable world. A recent analysis of 254 definitions of SI provided during six decades show the co-existence of two complementary perspectives on SI:

- a transformative view with focus on social practices and social and/or technological change at long time, and

- an instrumental, practical or normative perspective, emerged from practitioner and policy contributions, where SI is a blurred label of social practices that accompanies solutions to problem-solving through the development of 'new or improved products', 'new services' 'new organization method' and/or mixed 'pure' social inventions, such as a 'law, norm, rule' or also institutional and political innovations (Edwards-Schachter & Wallace, 2015).

In both cases, the role of activists and social entrepreneurs but especially cross-sector collective creativity are seen as source of SI regarding the generation of new products, services, new organizations, new models and rules that meet social needs and create new social relationships (Murray et al., 2010). The principal argument for the mobilization of collective creativity is that in today's rapidly changing environments, the complexity of societal problems requires solutions that combine knowledge, efforts and abilities of people with diverse perspectives. Most discussion today focus on how catalyze collective creativity and SI to cope with grand challenges and go 'from vision to action', leading the change in our own lives. This message has been present for long decades, in books such as *The Limits to Growth* (Meadows et al., 1972) and *Social Innovation for Development* (Heden & King, 1984). And such capacity to combine the ideas, knowledge and resources possessed by disparate groups in order to create SI is being observed across the world in a multitude of maker movements, social ventures and societal experiments involving private, public and civil society, named as living-labs, change labs, knowledge hubs and co-working spaces (Edwards-Schachter et al., 2012). Collective creativity from the perspective of SI is conceived as action-oriented to social cohesion, meeting social activism. It comprises people creativity and collective action, identifying core values of social justice and the rupture of the social order in terms of transformations to social practices, organizations and institutions (Moulaert et al., 2005; Richards, 2010).

The development of modern information and communication technologies has led to a renewed interest in the phenomenon of collective intelligence at the basis of collective creativity. A general assumption is that ICT platforms facilitate the mobilization and coordination of the knowledge, skills and creativity possessed by large groups of individuals, to combine them into a greater whole. In this respect, creativity is intrinsic to the notion of 'interactive learning' embedded in social interactions and social practices – in *strictu sensu*, social and cultural practices (Reckwitz, 2002). Learning enables that individuals and social groups acquire and develop the 'agency' capacity, i.e., deliberate choice to act as social agent or change-maker, transforming society and contributing to technological, social and cultural change. Ideation and learning as potential sources of innovation occur in social practices mediated by learning that could not be isolated from purposes, values and power interactions and socio-cultural and institutional contexts.

The advent of collective intelligence has added the power of the *crowd* in solving many problems, and sometimes this means that work can be delegated to the 'crowd' as a set of individuals assembled to perform a task, i.e., *crowdsourcing* (Howe, 2008). Some experiments enable multi-actor collaboration strengthening and improving the creative process that underpins SI and other are limited to ease networked collaborative resolution of problems not necessarily oriented to SI.

Accordingly, it is necessary to understand what collective intelligence means, the synergies between collective intelligence and social creativity and at what extent the use of digital platforms enables SIs.

CONCLUSION

Most perceptions of creativity are still anchored in the image of the individual and the genius, like the Rodin's sculpture The Thinker. However, much human creativity arises from activities that take place in a social context in which interactions with other people; always emerge through interactions between a person's thoughts and learning in a socio-cultural context. Current approaches to creativity attempt to explore its nature from a systemic perspective, focusing on the interrelated dimensions involving ecological, evolutionary and sociological views around:

~ The creative 'subject': most of these investigations seek to discover what characterizes the individual as creator (the creative mind, creative personality, creative potential, 'insights', etc.) and what kind of people can carry out creative activities. Beyond the traditional psychological perspectives, there is a growing interest in exploring links between creativity and intelligence from both individual and collective perspectives. Other point is the need to differentiate or delimitate that are the competences and skills to strengthen creativity in individuals, groups and organizations, how creativity relates to innovation and entrepreneurship and how creativity can be taught and learned.

~ The creative process: concerned with studying the phases and stages through which individuals and groups create and experience creativity. Most of the design models and problem solving methodologies have similar points: a) Meeting and definition of a problem, b) Accuracy of the problem, c) generating ideas and solutions and, d) Critical review and evaluation of the solutions.

~ The creative product: these investigations attempt to establish what criteria determine the character of creative in a product or service, considering the concrete/tangible and more intangible aspects.

~ The 'press' context/environment: from the consideration of the situational context that may influence how creativity is perceived and how creative processes are placed (micro level) to creativity as part of the construction of the social realm (meso and macro levels, i.e., the research conducted by Florida on territorialized properties according to the presence of a creative 'class' and current analysis on creative workers and creative *knowmads*). The big challenge to future creativity research is not only to open new ways to understand what human intelligence and collective creativity means but how to improve processes in which individual and social (collective) creativity can be integrated and mutually reinforced. The future and survival of coming generations greatly depends on our creative capacity and the transformative potential of SI to overcome world's most pressing social and ecological challenges, supporting the ongoing sociotechnical transition towards sustainability.

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LOUISE SUNDARARAJAN

INDIGENIZING CREATIVITY:

A CREATIVE SOLUTION TO ORIENTALISM IN CROSS-CULTURAL PSYCHOLOGY

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CROSS-CULTURAL PSYCHOLOGY AND THE LONG SHADOWS OF ORIENTALISM

THERE IS A WIDE SPREAD CANARD THAT Asians are not very creative. The title of an article in *Time* (Schuman, 2013) reads: "China makes everything. Why can't it create anything?" (36). It is not difficult to expose the historical myopia in the media. Needham (1986) wrote: Francis Bacon had selected three inventions, paper and printing, gunpowder, and the magnetic compass, which had done more, he thought, than any religious conviction, or any astrological influence, or any conqueror's achievements, to transform completely the modern world and mark it off from antiquity and the Middle Ages. He regarded the origins of these inventions as "obscure and inglorious" and he died without ever knowing that all of them were Chinese (6).

It is much more difficult, however, to dispel misperceptions when cross-cultural psychology bolsters its stereotypical view of Asian creativity with robust empirical data (e.g. Gardner, 1996; Bond, 1991; Ng, 2001; Hannas, 2003). Having addressed the issue elsewhere (Sundararajan & Rainer, 2015), I only wish to point out here that sweeping generalizations and misrepresentations in cross-cultural psychology not only perpetuate stereotypes, but also render inaccessible valuable data on creativity masked by the stereotypes. This problem has its roots in Orientalism.

ORIENTALISM

Orientalism is defined by Edward Said (1978) as "a system of knowledge about the Orient, an accepted grid for filtering through the Orient into Western consciousness" (6). One legacy of Orientalism is the persistent East and West comparison, which abounds in cross-cultural psychology:

Throughout the exchange between Europeans and their "others" that began systematically half a millennium ago, the one idea that has scarcely varied is that there is an "us" and a "them," each quite settled, clear, unassailably self-evident. (Said, 1993: xxv).

Through this comparison, the Orient "has helped to define Europe (or the West) as its contrasting image, idea, personality, experience" (Said, 1978: 1-2). Comparison for contrast can lead to a biased representation of the other. A case in point is the "finding" that Asians do not have the type of creativity, privileged in the West, known as "revolutionary creativity."

According to Gardner (1996), revolutionary creativity is characterized by the creative individual making a radical break with the domain, in his own words, "the kind of creativity they represent is what I call revolutionary creativity because their creative breakthroughs produced very sharp breaks with the domain in which they worked" (143). He goes on to say that: "Our Western European culture is based on revolutionary ideas. Certainly in other cultures – for example, China – revolutionary creativity is not even known. It is only in the political realm, and not until very recently, that individual Chinese are singled out as highly creative individuals. Their breakthroughs are evolutionary, not revolutionary. (143).

Gardener is by no means alone. The long shadows of Orientalism in academia can be summed up succinctly by Goody's (1996) observations: "[…] sociological and historical enquiry in Europe has had as a continuing pre-occupation with the problem of the Uniqueness of the West, the search for factors that can be held responsible for its achievements in the modern world and in particular the emergence of industrial capitalism. The search has led to a devaluation of the East and consequently a mistaken self-understanding of the West." (10).

In passing through the grid of Orientalism to reach the consciousness of the West, the East gets its genuine culture screened out. Genuine culture may be understood as an inventory of the cultural resources for autonomy and vitality. In the words of Sapir (1956/1924): "a genuine culture is one that gives its bearers a sense of inner satisfaction, a feeling of spiritual mastery" (420). Sapir further defines (genuine) culture as "an outgrowth of the collective spiritual *effort* of man" (403), emphasis added). The key term here is "effort." Sapir emphasizes the "spiritual primacy of the individual soul" (424), which must learn to reconcile its own strivings with the spiritual life of the community, such that "if not embrace the whole spiritual life of its group, at least catch enough of its rays to burst into light and flame" (424).

For psychological research, genuine culture may be operationally defined as ideals and aspirations that apply across contexts, and that inspire continuous striving for excellence. Applying this yardstick of genuine culture to an analysis of the items in the Individualism-Collectivism scale (Singelis, Triandis, Bhawuk, & Gelfand, 1995) – a measure most widely used in cross cultural psychology – reveals some interesting observations.

Four out of sixteen (25%) items of Individualism (Singelis, et al.: 255) meet the criteria of genuine culture as operationally defined above: "I am a unique individual"; "I enjoy being unique and different from others in many ways"; "Winning is everything"; "It is important that I do my job better than others."

By contrast, none of the items under Collectivism meets these criteria, due to the fact that they are all context specific, such as "I usually sacrifice my self-interest for the benefit of my group" (256). Furthermore, empirical evidence is accumulating that these collectivistic values of compromise and self-effacement are not necessarily personal aspirations, so much as externally driven concerns

to take socially wise action, and to avoid socially unwise behaviour (Yamagishi, 2011). Sapir (1956/1924) refers to practices that are based on "an automatic perpetuation of standardized values" (418) as "external" or spurious culture (412), in contrast to the internally driven genuine culture.

This brief examination of the Individualism-Collectivism scale (Singelis, et al., 1995) reveals a slippage across the West and East divide from life to data, from ideals and strivings characteristic of a genuine culture to beliefs and practices that are confined to one (social) dimension only, and that pertain to social compliance rather than personal strivings. Hook (2005) has pointed out a recurring slippage between "the ideals, the norms of the valorised Western culture, and those of the dominated culture, which comes to be the demoted *other* of all of these values" (481), emphasis in original). For Asians, one of the ramifications of being identified with demoted values is to "accept some miniature version of yourself as a doctrine [such as collectivism] to be passed out on a course syllabus" (Said, 1993: 334). Absence of genuine culture in the Western representation of the other has far reaching consequences. Biko has addressed in depth the systematic marginalization of the cultural resources through which the black psyche had traditionally attained "autonomy and vitality" (cited in Hook, 2005: 489). A continuation of this theme is the sense of alienation experienced by Yang (1997) who refers to the Westernized research process that fails to adequately reflect the Chinese cultural values and ways of thinking as an imposed "soulless psychology" (65).

What are the living values, in the collectivistic societies, of a genuine culture that give the bearers a sense of vitality, inner satisfaction, and spiritual mastery across all contexts? Do collectives have any internally driven strivings that endeavor to "burst into light and flame" (Sapir, 1956/1924: 424) when ignited by some cultural values? The answer to these questions is a resounding yes. To access genuine culture in non-Western traditions, we need to heed the advice of Fiske (2002): "We [Western psychology] must transcend our ethnocentric framework and not just study how other cultures differ from the United States but explore what they are intrinsically" (87). This takes us to indigenous psychology.

INDIGENIZING CREATIVITY

As an international movement for more than three decades (see Kim, Yang, & Hwang, 2006; see also online resources Indigenous Psychology Task Force[1]), indigenous psychology calls attention to the importance of local context in scientific investigations of human behavior (Sundararajan, 2015), and to the

problems generated by rampant exportation of Western psychologies to other parts of the world. The lesson of indigenous psychology for our purposes is to factor in cultural traditions in our investigations of creativity (Sundararajan & Rainer, 2015). In the following paragraphs, I adumbrate the Chinese traditional views of creativity to argue that revolutionary creativity exists in cultures outside the West, except that the narrative is different.

<div align="center">

CREATIVITY, A NARRATIVE
OF TWO ACCOUNTS

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It is not that the Chinese did not get so far as the Greeks; they simply advanced in a different direction. (Jean-Pierre Vernant, cited in Bollas, 2013: 8-9).

Before we start, some preliminary understanding of the Chinese notions of creativity is in order. In contrast to Greece and many other cultures, Chinese history does not have many creation myths to boast of. This has at least two ramifications for Chinese creativity: One, no need for heroic narratives of creativity; and two, no need for causal accounts of creativity.

First, the Chinese conceive of creativity as a continuous process, modelled on the eternal return, with no beginning and no end, of nature (Niu & Sternberg, 2002). On this view, creativity is an organic and holistic process – "Either everything shares in creativity, or there is no creativity" (Ames & Hall, 2003: 17). This stands in sharp contrast to the Western notion of creativity, which is a discontinuous process with a before and an after, a process modelled on God's creation out of nothing.

Second, since nature is self-generating, creativity does not require a causal account. In the words of David Hall (Hall, 1978): "A self-creative event is the efficient cause of itself" (277). Nature thus embodies the principle of self-reflexivity. One important ramification of self-reflexivity is the collapse of the dichotomy between the creator and the created product (Sundararajan & Averill, 2007). The self-reflexivity principle posits that the product of creativity is the creative individual him- or her-self. Thus instead of patents or other measures of product in the West, the measure of creativity in China has consistently been self-transformation (Hsu, 1966) of the creative individual him – or her-self.

Because of these factors, revolutionary creativity in China is devoid of the rugged individualism that plagues its counterpart in the West (Sundararajan, 2015).

CREATION VERSUS DISCOVERY

Weisberg (2006) makes a distinction between two accounts of creativity – artistic creation versus scientific discovery. The difference between these two accounts lies in the degree of subjectivity in the process of creativity – the scientist does not bring objects into being like God, or like the artist who repeats the divine creation on a lesser scale; rather, scientists discover objects, such as DNA, that are already there. Weisberg (2006) claims that "it is not absurd to say that Watson and Crick created the double helix, although it seems *less acceptable* to say that Picasso discovered *Guernica*" (p. 57). Not so in the Chinese tradition, where discovery is the primary paradigm for artistic creativity.

In a Taoist story from the *Chuang-tzu*, the woodcarver Khing, known for his excellent bell-stand, attributed his art to the elaborate preparations he went through, known as fasting of the mind: "After fasting for three days, I did not presume to think of any congratulation, reward, rank, or emolument […] After fasting five days, I did not presume to think of the condemnation or commendation (which it would produce), or of the skill or want of skill (which it might display). At the end of the seven days, I had forgotten all about myself; – my four limbs and my whole person […] Then I went into the forest, and looked at the natural forms of the trees. When I saw one of a perfect form, then the figure of the bell-stand rose up to my view, and I applied my hand to the work." (Legge, 1959: 462)

Two inter-related themes emerge here: one is that creativity has to do with self-transcendence; the other that creativity is a discovery rendered possible by the ego-less mind. This forms a sharp contrast with the creation narrative of the West which celebrates the creative individual as the hero, one who goes against the prevailing tastes and prejudices of the field, and eventually conquers the field by taking the domain into uncharted waters, making major breakthroughs in the field (Sternberg, 2006).

Historical studies of art and literature record many great breakthroughs in China and Japan throughout the ages (Murray, 2003). In traditional China, the crowd defying resistance against conventions has been considered one of the defining features of a creative personality. But direct confrontation is rare in a tradition where harmony holds sway. According to the harmony model, creative action requires going both with and against the flow, as in crossing a river diagonally rather than either struggling against the current or letting oneself go (Sabelli, 2005). The result is a long history of eremitism (Averill & Sundararajan, 2014), in which the crowd defying genius tends to become a hermit by *going away from* instead of *going against* the crowd. Furthermore, a far more radical form of rejecting conventions exists in

China and India, namely self-transcendence. With self-transcendence, the frame of reference for novelty has shifted from being dualistic to reflexive – the obstacle to new insights and breakthroughs is no longer ignorance in the domain of knowledge, but that in oneself. Otherwise put, the last frontier to conquer so far as ready-made conventions go, is not the world so much as the self.

INFORMATION VERSUS CONSCIOUSNESS

Cognition in certain cultures is focused on consciousness itself, and in others it is focused on the objects of consciousness, such as knowledge and information. The creation narrative privileges the acquisition and construction of knowledge; the discovery narrative focuses on consciousness itself such that it privileges self- transformation and self-transcendence. The former foregrounds the individualistic role of the creator, while the latter the relational nature of consciousness as co-creator with Nature. As Horan (2007) points out, "In these [Asian] traditions, creativity is a spontaneous manifestation of man's deeper awareness of his indivisibility from nature" (179). In these cultures, creativity of the individual lies in participation of the cosmic process of the eternal return.

So much for a brief introduction to revolutionary creativity in China and other Asian traditions. But what is the relevance of culture and tradition to the contemporary scene, the globalizing era?

CULTURE AND SCIENCE

The great mathematician Ramanujan claimed that his theorems were dictated by the goddess Namagiri in his dreams. As Rao (1987) points out rightly, we would not have Ramanujan if he did not believe in this. Likewise the Japanese physicist Hideki Yukawa (1973), the Nobel laureate, argues that creativity is inextricably cultural: "Plato explained learning or the acquisition of knowledge in this life, as a process of recollection. […] To us, the scientists in the middle of the twentieth century, it could be the recollection of ancient Greece, and also, in my own case, the recollection of ancient China." (Yukawa, 1973: 109).

Thus while scientific equations may be universal, the scientist's journey to discovery is inevitably personal, and deeply cultural. To nurture creative individuals, we need to understand their cultural needs. But before we take a look at the cultural needs of the creative individuals, we need to understand one thing about the creative mind, namely that the mind is a promiscuous thing when it comes to creativity.

MEETING OF CULTURES

Heisenberg (1958) suggests that the potential for advances in science lies in the meeting of cultures, when different lines of thought with "roots in quite different parts of human culture, in different times or different cultural environments or different religious traditions […] actually meet, that is, if they are at least so much related to each other that a real interaction can take place, then one may hope that new and interesting developments may follow." (187).

While cultures may clash at the international level, they can meet more readily at the personal and interpersonally levels. This is especially true with creative individuals. This hypothesis is supported by findings that immigrants and ethnic minority group members who integrate both heritage and host cultures tend to show high creativity (Simonton, 1999). In fact, the highly creative individuals tend to go out of their way to meet cultures outside the pale of their own.

CULTURE WITHOUT BORDERS

Cultures have roots in their social and historical contexts, but their impact on creativity tends to cross borders. Creative individuals are particularly sensitive to this border-crossing impact of culture. A case in point is the Chinese hermits. Take for instance the famous traveller and geographer Xú Xiákè (1587-1641), who dedicated his life to explorations of the Chinese landscape. From age twenty-two till his death, he spent over thirty years exploring the mountains and streams all over China. He left behind extensive record of his travels, but for which many beautiful mountains in China would have remained unknown to this day. Whether the hermits physically wander or not, their minds are engaged in perpetual border-crossing, a phenomenon known in the West as the frontier spirit. One consequence of the frontier spirit is that highly creative individuals tend to be open to influences from other cultures. Steve Jobs is a prime example. In modern physics, Einstein and Schrödinger were both deeply influenced by philosophy (Goonatilake, 2000). Einstein had been reading the philosophers David Hume and Ernst Mach just before he wrote his paper on special relativity. Schrödinger was influenced by Schopenhauer and Vedantism […] the list goes on.

Consistent with the critique of Orientalism, Dewey (1951) has rejected the crude East versus West "cultural block universes" approach to culture. Sapir (1956/1924) further points out why national and geographical boundaries do not actually carve culture at the joint: "Our national-political units are too small for peace, too large for safety. They are too small for the

intelligent solution of the large problems in the sphere of direct ends; they are too large for the fruitful enrichment of the remote ends, for culture." (428).

Today more than ever, the cultural block universes of cross-cultural psychology need to be replaced by the vision of Octavio Paz (1995: 86) who sings of not only a fusion of flavours, but a fusion of times as well as succession of epochs, a superimposition of peoples, religions, institutions and languages. Paz describes not only a plurality but also of conglomeration and juxtaposition of doctrines, gods, rites, cosmologies, and sects. What is needed for creativity in the globalizing era is a new narrative which can validate the freedom of the creative mind to transform or reject its own culture, to belong to multiple cultures, and to "transcend the restraints of imperial or national or provincial limits" (Said, 1993: 335). Such a narrative can be developed along the lines of genuine culture, defined by Sapir (1956/1924) as a manifestation of life that has no borders, and an embodiment of the human spirit that is inherently free: "[…] those […] of us who take their culture neither as knowledge nor as manner, but as life, will ask of the past not so much "what?" and "when?" and "where?" as "how?" and the accent of their "how" will be modulated in accordance with the needs of the spirit of each, a spirit that is free to glorify, to transform, and to reject. (423).

Or, to put it more simply, as Shweder (1991) has done, is "to be the student and beneficiary of all traditions, and the slave to none" (68). This new narrative has direct implications for culture and creativity. The creative individual in the globalizing era can no longer be adequately described by first order creativity in which the local culture holds sway. What is more appropriate for contemporary creativity is what Ken Gergen refers to as "*second order creativity*" in which "cultural hybridization, the inter-mixing of assumptions and practices" is the norm (personal communication, 2 Feb. 2014).

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[1] http://bit.ly/1npUuq4.

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STANISLAV PANIN

NOTIONS OF EVOLUTION AND ENLIGHTENMENT

IN THE LATE NINETEENTH AND EARLY TWENTIETH CENTURY ESOTERIC LITERATURE

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INTRODUCTION

FROM THE 19TH CENTURY ONWARDS THE IDEA OF evolution has been playing an important role in Western culture. Charles Darwin successfully propagated it in the academia and today scholars discuss about "the evolutionary paradigm" in the sciences as the idea of evolution is nowadays related not only to biological evolution, but also to social evolution, regarded as a part of a more general process of evolution of the entire nature.

The Darwinian notion of evolution was not possible without a proper philosophical background provided by German classic philosophy, including the works of Shelling, Hegel and Schopenhauer. Hegel's dialectics as well as Shelling's *Naturphilosophie* popularized the idea of development as an internal quality of the universe itself. As well documented, Hegel's works were inspired by esoteric sources1, and the idea of evolution was popular not only in the academia, but also among the different esoteric circles of that time. The prominent figures who focused on the idea of evolution and were involved into esoteric circles of the late nineteenth and the beginning of twentieth century, were Helena Blavatsky (1831-1891), Carl du Prel (1839-1899) and Konstantin Tsiolkovskii (1875-1935). In their works, the idea of evolution in biological sense developed into the idea of collective transformation of humankind that will lead to a new state of being. Blavatsky and her fellow theosophists called this future state of humanity "the sixth race," whereas for

Tsiolkovskii it was a *luchistoe chelovechestvo*, a radiant humanity.

Although the terms were different, the concept itself was common in many senses, and the idea of enlightenment played a crucial role in it. Throughout the history of Western culture, the term "enlightenment" had different meanings, among which three concepts of enlightenment were especially influential: the Augustinian notion of enlightenment; the notion developed by the Enlightenment movement in the seventeenth and eighteenth centuries; and the Western acquired notion derived from the Eastern religious and philosophical doctrines.

VARIETIES OF NOTIONS OF ENLIGHTENMENT

Augustine developed the concept of divine illumination (Latin *illumino*, literally to bring light) that became central to Christian philosophy and mysticism. By definition, divine illumination is a doctrine according to which, in order to gain the truthfulness, humans require divine assistance in their cognitive activities. In other words, Augustine maintains that the only way to access truth is through God's direct intervention with the light of knowledge.

This Augustinian notion of enlightenment as a divine participation in the process of cognition became a widespread philosophical approach in the Middle Ages. However, Augustine did not conceive it himself and, moreover, it was not even Christian in its origins. The author who influenced many aspects of Augustine's philosophy was Plato, and the theory of knowledge was not an exception. Parallels to the theory of divine illumination can be found in Plato's doctrine of knowledge as recollection of the truth that implies direct perception of pure ideas, as well as in the talks of his teacher Socrates in which he told about the spiritual voice of the *daimon* that guided him in life[2]. On the other hand, Aristotle, who was a student of Plato, provide one more parallel to Augustine's ideas, as he coined a concept of "active intellect" as an inner ("formal" in Aristotle's own terms) part of human intellect and a source of all knowledge that he compared with light. While Aristotle's "active intellect" had obvious divine nature, Cicero wrote about *lumen naturale*

(natural light) or *lumen naturalis rationis* (light of natural reason)[3], a much more mundane concept. In medieval philosophy these two notions of enlightenment coexists, and Thomas Aquinas in concluding his *Summa Theologica* that "[…] the light of natural reason […] is nothing else than an imprint on us of the Divine light."[4]

However, not all philosophers agreed with Aquinas's understanding of correlation between natural and divine light. Moreover, the most common modern notion of enlightenment, which emerged in the seventeenth and eighteenth centuries and provided the period with its name – the Age of Enlightenment, was quite opposite to those of Aquinas and Augustine. Authors of that time were often very critical about both church and religion and looked for a way to "replace theism with the light of reason[5]." Therefore, the "light of natural reason" was praised at that time, while divine light was expelled from this new concept of enlightenment.

Although many authors of the period insisted on secular understanding of enlightenment and concentrated on scientific exploration of the nature, F. Yates has shown that their ideas have roots in such Western esoteric currents, such as Rosicrucianism. Yates describes Rosicrucianism as a movement that belongs to a period in the history of ideas "intermediate between the Renaissance and so-called scientific revolution of the seventeenth century[6]." People involved in the Rosicrucian movement were sure that through the scientific study of the nature they could better understand God and his plan about the creation. They combined Hermeticism and Christian Kabala developed during the Renaissance with medieval alchemy and rationalistic philosophy providing a philosophical background for many seekers of that time.

On the other hand, in eighteenth and nineteenth centuries, European thinkers adopted a new concept of enlightenment from Eastern religions, particularly from Buddhism, Hinduism and Taoism, where enlightenment "involves a release from endless cycles of existence."[7] The Eastern notion of enlightenment as a spiritual insight resulting in liberation from mundane world influenced a number of Western philosophers, especially in the nineteenth and twentieth centuries.

Active cultural contacts with Eastern cultures took place in Europe as early as the seventeenth century, mostly through Catholic missionaries. In the seventeenth century, these contacts were mainly with China; the *Confucius Sinarum Philosophus,* a compendium of Confucian texts, appeared in Paris in 1678[8].

Throughout the Age of Enlightenment, China was object of constant interest among Western thinkers. Christian missionaries tended to draw near Chinese philosophy like medieval philosophers approached those of Ancient Greece. They describe them as "Christians before Christ," trying to draw a correlations between Chinese and Christian thought. As J.J. Clarke mentions, "one of the consequences of this was that they tended to portray the Chinese as a morally and politically sophisticated people, governed by wise and educated rulers who had established basic philosophical principles concerning morality and society on the basis of universal human reason[9]", a portrait quite popular among philosophers of the Enlightenment. Leibniz, Voltaire, Adam Smith and many other thinkers of that period, shown sympathy to Chinese educational system, to their state governance and ethics.

In the nineteenth century, the interests of Western intellectuals moved towards at the time yet little known India, a very mysterious place, in harmony with critics of too rationalistic approach to the universe antagonized by Romantic Movement. Authors of that time often used references to Indian culture, as Arthur Schopenhauer, who was explicitly influenced by Buddhist and Hinduism. Authors of that time concentrated on Indian religion and mysticism. With Schopenhauer, the Eastern notion of enlightenment was transformed in Western philosophy, joining with more rationalistic notion of philosophical enlightenment through the means of human reason. Nevertheless, Schopenhauer's understanding of enlightenment incorporated both a rationalistic philosophical approach and a spiritual one, as "St. Francis of Assisi and Jesus emerge […] as Schopenhauer's prototypes for the most enlightened lifestyle, as do the ascetics from every religious tradition."[10]

Therefore, authors of the nineteenth century chose India to name it as a source of esoteric wisdom. However, they were not exclusively focusing on the Indian notion of enlightenment, rather they merged all three notions of enlightenment into one whole. They were not only interested in Eastern philosophy, but also thought about themselves as successors of the seventeenth century Rosicrucian and Ancient Greek philosophers.

ESOTERIC DREAMS OF COLLECTIVE ENLIGHTENMENT AND EVOLUTION

Although the three notions of enlightenment seems to be incompatible at the first glance, authors of esoteric literature of the nineteenth century looked for ways to bring them together. It was not too a com-

plex problem, as all of these notions had already something in common. Principally their sources in some esoteric and mystical currents. It was only natural that people belonged to such movements in the nineteenth century were aware of this link.

Helen Blavatsky, one of the most prominent esoteric authors of that time and creator of Theosophical Society, provides a great example of this. At the core of her work there is the doctrine she named "Budhism," "Ancient Wisdom-Religion," or "Theosophy," based on the idea of collective enlightenment. It might be noted that "Budhism" is written with single letter *d* as in the very beginning of her opus magnum she explains that there is "the difference between 'Buddhism' – the religious system of ethics preached by the Lord Gautama, and named after his title Buddha, 'the Enlightened' – and *Budha*, 'Wisdom,' or knowledge *(Vidya)*, the faculty of cognizing, from the Sanskrit root *Budh*, to know."[11] Therefore, Blavatsky's "Budhism" was not a historical Indian religion, rather "the inheritance of all the nations, the world over."[12]

According to Blavatsky, humankind is involved into the continuous process of evolution of the whole universe, which developed through several stages, named "races" in Theosophical terms. Nowadays, humankind is moving from the fifth to sixth race. The key to this transformation is concerned with human enlightenment by means of "reawakening" through divine wisdom. That idea, according to Blavatsky, existed in almost all historical religions in their esoteric side, for instance, in the Antiquity in the forms of Hermes or Mercury: "Mercury is Budh, Wisdom, Enlightenment, or 'Reawakening' into the divine Science."[13]

On the other hand, Blavatsky was sure that also enlightenment in a more mundane sense is very important, the subtitle of her book was "the Synthesis of Science, Religion, and Philosophy." It's worth mentioning that Blavatsky's cofounder of the Theosophical Society, Henry Olcott, created in India the Panchama Free Schools Society (nowadays known as Olcott Education Society), an educational branch of the Theosophical Society aimed to provide a free education in secondary school for underprivileged Indians. Both Olcott and Blavatsky were sincere in their attempts to support educational initiatives and to use academic knowledge to enhance the "Secret Doctrine."

However, at the same time Blavatsky maintained that the academia itself needed to be "enlightened" by esoteric knowledge, as the academia was wrong when it confused materialism, which is a philosophical position, with the science. According to her, Theosophy can offer another, better and deeper worldview for scientific research that provides it with

a spiritual background and help compensate negative consequences of a materialistic approach to nature and society.

Similar ideas are found in the works of German philosopher Carl du Prel, a contemporary of Blavatsky. For du Prel, the most important question of religion and philosophy was the issue about the human's place in the universe. If we understand this place, we can understand our primary goals and the future path of evolution. All philosophical and religious systems leaded us to better understanding this problem. "It cannot be denied, – writes du Prel – that the result of the changing of that systems was that now we understand more clearly if not the answer to the question, at least the question itself".[14]

A pivotal point in understanding our place in the universe ia, according to du Prel, to be able to feel ourselves not only a body, not only material beings, but also a soul, which du Prel calls the "transcendental subject." This idea of realization of one's true spiritual nature seems to be very similar to the religious idea of enlightenment in the Eastern sense of the world, although for du Prel it should be a result of philosophic and scientific inquiry rather than of religious experience.

However, this was not enough for du Prel and he further speculated about the place of the Earth and of humankind on a higer cosmological scale. "From the point of view of astronomy, the universe is the unity bind with the force of gravitation. Yet should we really understand the cosmic unity in mechanistic manner only, should all celestial object in fact exist in atomistic disunity? If the most powerful phenomenon of nature is not matter, but the spirit in all its varieties and forms, if nature is obviously simply attached to the spirit, it is difficult to assume that the connection is merely a connection of material masses of celestial objects. The spirit is a useless appendage to the cosmic order if it cannot reach the unity".[15]

Therefore, the future evolution of the humankind is closely related to the development into the cosmos with the goal of unifying all intellectual beings that may live on other planets into universal spiritual unity. In other words, the evolution should lead the humankind towards to the unity both within itself and with all other types of intelligent beings in the universe. No spirit, according to du Prel, can evolve solely. Instead, evolution is a process that implies collective enlightenment of all people about their true nature.

It is worth mentioning that the idea of the humankind future cosmic expansion has parallels in the early twentieth century Russian philosophy, mostly, in the cosmism movement represented by Konstantin Tsiolkovskii, a school teacher from Kaluga, Russia,

famous for his works on space travels that anticipated farther development of the field, and for which reason he was praised as the "grandfather" of the Soviet space programme, even though for he himself his technical ideas were only a part of his "cosmic philosophy." Of note is that in early twentieth century Kaluga was the second important centre of Theosophical movement in Russia after Saint Petersburg[16]. Like the Theosophists, Tsiolkovskii was sure that humankind dwells in the continuous process of development. "The human beings have completed a great path from 'lifeless' matter to their current half-animal state. Will they stop on that path? Even if they will, it will not occur now, as we see how science, technology, everyday life environment, and social humankind organization are developing."[17]

As Tsiolkovskii was a panpsychist, he was sure that every atom of matter – he used the term "atom" in its strictly physical sense – has consciousness. However, consciousness is asleep in atoms until it becomes a part of an intelligent being, like humans. Every atom throughout the time of its existence is a part of an intelligent beings many times. Atoms want to be happy, and it is our moral duty to provide them with a possibility to achieve this happiness. To do so, people should develop themselves to the stage when they overcome illnesses, wars, hunger, crimes and other unwanted aspects of human existence. On their way to this state, humans will transform into new, perfect beings that will be able to live directly in the cosmos and will need no food, but will gain energy directly from solar light. Tsiolkovskii called these beings a "radiant humanity", in Russian *luchistoe chelovechestvo*, literally, humans consisting of light. In this case, the term "enlightenment" acquires a very literal meaning, because for Tsiolkovskii light is not a metaphor, but an actual substance of the future humans.

It is significant to recognize a number of similar ideas in the works of these three authors: Blavatsky, although born in the Russian Empire, travelled the world throughout her life and lived in the USA and India for a long period of time; du Prel worked in Germany; and Tsiolkovskii in Russia. Nevertheless, they demonstrated their devotion to common ideas, which supports the thought that their works reflected Western culture common aspirations.

CONCLUSION

Different notions of enlightenment presented in Western culture had common roots in mystical and magical currents of antiquity and ancient East. Although some authors tried to separate spiritual and mundane notions of enlightenment, this common background seems to be highly influential.

Repeatedly it brought these different meanings on enlightenment together, and their linkage was explicit in seventeenth century Rosicrucianism just as well as in the esoteric literature of the nineteenth and early twentieth century.

This is not just a coincidence, rather an internal demand of Western culture. If there is any constructive lesson here, it is, in the first place, that the future humankind progress will not be possible without the recognition that the development of our knowledge and our control over the nature has literally no meaning without our cultural and spiritual development. That development should lead us to a deeper understanding of our responsibility to nature, to our planet and to future generations. At the same time, we can reverse the statement and say that spiritual enlightenment should go hand-to-hand with development of our knowledge of nature, with implementing of the rational and critical approach, which is a great achievement of Western philosophy and science.

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[1] Magee 2001, *Hegel and the Hermetic Tradition.*

[2] Pasnau 2015, "Divine Illumination."

[3] Iannone 2001, *Dictionary of World Philosophy*: 172.

[4] Aquinas 2008, *Summa Theologica*: 2-1, q. 91, a. 2.

[5] Iannone 2001, *Op. Cit.*: 172.

[6] Yates 1978, *The Rosicrucian Enlightenment*: xi.

[7] Iannone 2001, *Op. Cit.*: 172.

[8] Clarke 1997, *Oriental Enlightenment*: 40.

[9] *Ibidem.*

[10] Wicks 2015, "Arthur Schopenhauer."

[11] Blavatsky 1893, *The Secrete Doctrine*: 2.

[12] *Ibidem.*

[13] *Ibidem*: 513.

[14] du Prel 1885, *Die Philosophie der Mystik*: 500.

[15] *Ibidem*: 510.

[16] Hagemeister 2012, "Konstantin Tsiolkovskii and the Occult Roots of Soviet Space Travel": 143.

[17] Tsiolkovskii 2011, *Put' k Zvezdam*: 97.

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LA DAME À LA LICORNE ∞ SMELL

PAUL VON WARD

COLLECTIVE AND EVOLVING
HUMAN CONSCIOUSNESS
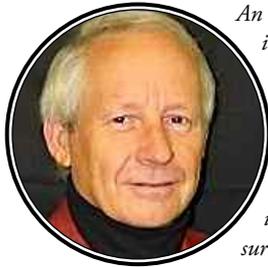
An interdisciplinary cosmologist and independent scholar, Paul is internationally known for the hypothesis of an AB (advanced beings) intervention in human development; his theory of natural spirituality in an evolving, self-learning universe; and research on the survival of a personal soul-genome. His current books on these topics are Children of a Living Universe, We've Never Been Alone; *and* The Soul Genome. *Paul's academic background (Florida State, Harvard and other institutions); his military, diplomatic, international executive career; and research on five continents keep his provocative publications grounded in emerging science and credible human experience. For more on his work visit: www.vonward.com.*

T HIS EDITION OF *SPANDA* QUESTIONS THE BELIEF that human behaviour is controlled by a material brain and organs that produce it. However much we may know about matter, we know very little about *consciousness*. This shortcoming keeps humans from reaching our positive potential. Our scientists must turn upside down their theories of reality. After all, matter is never found solid in basic physics experiments.

This essay suggests that a new direction in particle physics[1] is needed not only for the future of physics, but also for the future of humanity. The reason will unfold as you read, pointing to a possible, better self-educating species.

Quantum mechanics have already demonstrated that everything in our universe that we label as solid and touchable is not penetrable. When every effort we take to find an impenetrable subatomic entity, it separates into smaller and smaller pieces. Every shape of any entity is penetrable.

Consequently, it is clear that we are dealing with a universe that is nothing but quantum bits crowded into shapes. Furthermore, each bit has two states. So, info-bits must be only thoughts from an un-tangible source.

The word *consciousness* is as slippery as the word *god*. No two people have the same definition of either of these two words. But two disciplines – physics and *conscious* research – have the same

illusive job. This is one reason that physicists will find themselves in a discussion about the definition of *conscious* that may also end with a definition of *god*.

British physicist Peter Russell has said "The biggest hurdle to defining *consciousness* is the word itself. A noun is inappropriate. *Consciousness*[2] does not exist as a *thing*. It is not a thing to be knowing, but knowing itself." Peter's logic is right, but I use *conscious* as the state of his *thing*.

Without these new insights, scientists who use the conventional theory of physics to explain new aspects in biology, psychology, and other areas will fail. Physicists are now being frustrated with the clear evidence that their conscious awareness of a physical universe did not produce their minds.

That is not bad. With the current state of humanity on the precipice of killing our living environment and ourselves, now is a time for a new paradigm. We need one that offers a way to get back the control of our minds. It must explain why humans continue projecting their bad behaviours into the future.

We need a paradigm that more completely explains why humans carry forward their best selves and their worst selves. The reason humans are in a bad spot now is that our stronger, worst-past still overshadows us today. *This situation suggests our future requires scientific reincarnation research!*

NEW PARADIGMS

Arnaud Delorme of the Institute of Noetic Sciences articulates two current problems for science: "How can an illusion become conscious? How can the feeling of being here and now magically emerge from inert matter?"[3] He and others (including this author) are working on methods to identify the non-locality of *conscious* and demonstrate its various attributes.

Other researchers are also using a new approach in psychology, to look at behaviour based on systems theory and holistic methods. Their studies of *conscious* emphasize certain areas like dreams, creativity and supernormal experiences that can be used in building a new paradigm.

Conversely, conventional researchers are also flustered by NDEs and data on reincarnation that indicate

human memories survive outside our physical body[4]. They also fear the evidence supporting theories in several areas of linkages between individuals and groups who, without technologies, communicate and influence one another with a distance between them.

This evidence includes teleporting signals, voices, messages, images, and descriptions. Another is distance healing, where the senders improve and often cure common maladies to heal serious illness. The US government (including the military) developed remote seeing used by officials and civilians. It teleports details about locations, people, and activities.

While less well known, some people are able to predict certain events that are about to happen. Odds of the manifestation of their correct projections are quite high. Such events are well validated, with clear details confirmed.

The race for new insights into the nature of our universe would be more effective if all scientific disciplines were interested in the nature of memory and consciousness in all life forms. New models of reincarnation research are essential to replace the current past-life subjective guesses of anyone.

SELF-EVOLVING VIA REINCARNATION

Now I would like to report that a small number of scientific researchers in the field of reincarnation have developed methods and data that confirm the out-of-body integrity of human memories, images, knowledge, skills, habits, and epigenetic (DNA) development. The last means preserving key physical features through reincarnations of several generations.

A good number of reincarnation researchers are now capable with scientific methods developed by the famed Ian Stevenson and his followers, and others who have added techniques. They have discovered measurable and tangible evidence of many new memory links from lifetime to lifetime. Such data opens some of the mysteries of the universal realm of consciousness.

The challenge now is to integrate the evidence of theoretical physics with scientific reincarnation research. Physicists should open their skills and data to the reincarnation researchers and vice versa. These groups should share their categories of objective, credible evidence from their research.

EVIDENCE

Conscious-reincarnation types of evidence described below may be keys to a scientific search for the frontier between physics and universal conscious. By surveying the boundary between a physical body and its many types of memory, this area of science may solve the enigma between physics and consciousness. Reincarnation studies provide a wide variety of physical, mental, and emotional memories that living people carry that have come from the lifetimes from earlier generations.

Earlier this century public media began labelling reincarnations on little or no evidence. Most of such alleged cases are without tangible and verified evidence. However, that does not invalidate the current rational, modern theories of a memory-based reincarnation.

A few researchers have published books that include their methodology, the quality of their evidence, and a logical base for levels of credibility.

Below are the types of memory that have been identified and validated in very strong cases (no case in the world can be 100% reliable). Practically everything that is physical and behavioural in life is data for comparison

with another person who lived before you. All aspects of your life may be the result of a memory pool transferred from one or more prior lives.

TALENTS PAST

New children who bring unique past-life skills try to show them as early as possible. The memories of deceased musicians, artists, sportspeople, technicians, and those in every field of work or play are rooted in current individuals. People who are precocious are more likely to be labelled as reincarnated, but each new baby was also here before.

PAST-LIFE MEMORIES

Most young children frequently talk about some past-life activities, people, events, and locations. When their behaviours can be linked to a particular deceased person, researchers can often identify some similarities. But as with all clues, these memories must be validated by a third-party professional. They must use objective measures in every case.

GENOTYPES

The physical similarities are most often clues to a likely reincarnation match. They include biometrics and body types, which involves bone structure. Others are special markings on the body, evidence of previous wounds, particular health issues, etc. Similarities of hands, ears, hair patterns, etc. can be paired by solid measurements.

CREATION TYPES

The core of each person is what they do with their lives. We can classify by categories of job or hobby. It is clear which people have chosen when they have freedom to decide how they devote their creative

energies. Today, they generally stay as close to the past-life as possible.

COGNITION TYPES

We have very good measures to match individuals in most different time periods. They include levels of intelligence, data gathering, analysis, problem solving, and decision making.

EMOTION TYPES

Comparable tools can be used to develop emotional similarities. They classify how the past and present personalities react to daily life and its environment, in work, social or personal situations.

SOCIAL TYPES

Social types can be matched by the ways one approaches engagements with varying individuals and groups. Central aspects of the personality is how they behave with a person, group, or the general public.

PROMISING RESULTS

The above sets of conscious links that reproduce the human body and its behaviours are strong evidence of a millennia-old belief in the process of reincarnation. Such data has long been kept in the realm of myths and legends. But, scientific methods can now develop evidence that a stream of conscious memories run through generations of animals, humans, and more advanced beings.

Several reincarnation researchers now have significant cases that have a string of several reincarnations across multiple generations. Such evidence supports the hypothesis that individual clusters of memories live through centuries or millennia. Evolution of the memories does happen, but very slowly. In numerable cases we can trace these evolutionary changes with data from biological, psychological, and mental evidence.

It appears that all of the above types and their actions are inherent in all living organisms. One might reasonably think that they may also range from galaxies, suns, planets, and varied life-forms. Humans must be somewhere in the evolving arc of life between the most complex to one-cell species.

Scores of solid cases broadly examined by meticulous researchers clearly point that the above-described similarities in most of the above categories have been found in many previous and current lifetimes. In developing a biography for the individual's life and comparing it with the previous lifetime, the results show that significant attributes have carried over to the current personality[5].

This research has developed interesting psychological and genetic insights, but the established sciences of physics, chemistry, and biology with their technologies are also necessary. I believe that such a joint effort will go way beyond today's science and metaphysics. It has the potential to turn upside down the way we humans see ourselves.

Without a multidimensional scientific model of an inherently conscious universe, we humans will not achieve a higher level of universal life and intelligence. The Reincarnation Experiment[6] is an attempt to explore the non-physical realm of surviving memories and trans-dimensional consciousness. It seeks the key to a higher realm of consciousness and to develop overt linkages between life-to-life and dimension-to-dimension.

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[1] This is the branch of physics that studies the nature of the particles that constitute matter (particles with mass) and radiation (massless particles).

[2] *Conscious* is the noun/name of the primal force of formation and *Consciousness* is the adjective.

[3] Arnaud Delorme. *Does Conscious Go Beyond the Brain?* IONS Blog. December 31, 2015. (blog/arnaud-delorme/does-consciousness-go-beyond).

[4] NDE stands for Near Death Experience where an individual's mind can see and recall the physical body and its environs while the physical body is not living. In reincarnation living individuals have repeated memories of events and knowledge developed in the lives of deceased individuals.

[5] Some groups have decided that this principle is something Eastern religions labelled as karma. The idea of karma is that these negative behaviours and their consequences follow the string of reincarnation thru generations until compensation is completed. Today's state of the world suggests much karma remains.

[6] The Reincarnation Experiment <www.reincarnationexperiment.org> promotes scientific reincarnation research.

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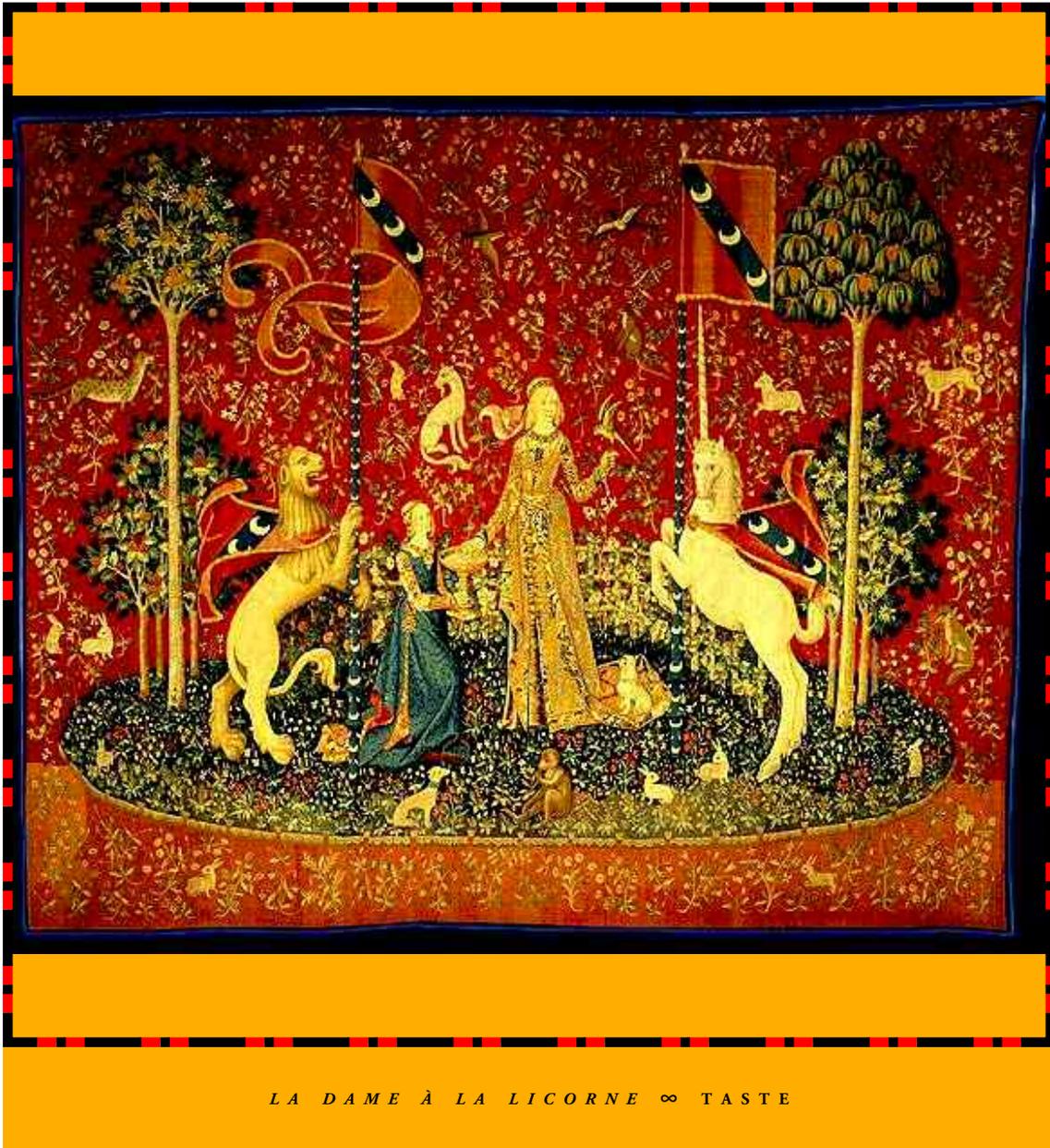
LA DAME À LA LICORNE ∞ TASTE

STEVE MCINTOSH

TOWARD A METHOD FOR EVOLVING CONSCIOUSNESS

Steve McIntosh is a leader in the integral philosophy movement and author of the books: The Presence of the Infinite *(Quest 2015),* Evolution's Purpose *(Select Books 2012) and* Integral Consciousness *(Paragon House 2007). In addition to his work in spiritual philosophy, Steve is also co-founder and president of the integral political think tank,* The Institute for Cultural Evolution, *which focuses on the cultural roots of America's challenges (www.culturalevolution.org). Prior to his involvement with the integral movement, he had a variety of other successful careers, including founding the consumer products company Now & Zen, working as a corporate executive, and practicing law with one of America's largest firms. He is an honours graduate of the University of Virginia Law School and the University of Southern California Business School. For more on his work visit: www.stevemcintosh.com*

"Evolutionary spirituality" represents a new family of spiritual views informed by the growing realization that the scientific and historical story of our origins actually presents a profound spiritual teaching about the purpose of the universe and our place within it. This new kind of spirituality is emerging as part of the larger but still relatively obscure integral or evolutionary worldview. Yet even though the integral worldview itself is only in its infancy, it is evolutionary spirituality's connection to this larger and potentially historically significant new worldview that gives evolutionary spirituality much of its potential to bring about a spiritual renaissance in America and beyond. However, while the integral worldview gives evolutionary spirituality the *power* of an enlarged frame of reality, evolutionary spirituality can in turn give the integral worldview a *method* for accomplishing its goals. This method can be found through the insight that the evolution of human consciousness and culture is fostered most effectively through the experience and creation of spiritual realities.

History reveals that when the quantity and quality of spiritual experiences are increased in a given social context, evolution usually results. Simply put, spiritual experience evolves consciousness. And evolutionary spirituality expands our understanding of what spiritual experience is and how it works. Therefore, by combining evolutionary spirituality's fresh insights about the spiritual experience of beauty, truth, and goodness with the observation that such experiences actually cause consciousness to evolve, we may well be able to discover a new approach to solving some of our most pressing social problems. In this excerpt from the final chapter of my book, *The Presence of the Infinite*, I explore how this new approach or method involves raising consciousness by increasing the scope of what people are able to value.

However, the quest for this promising new method for evolving consciousness is only just beginning. It may be decades before the integral worldview is able to fully describe or effectively employ such a method in a way that achieves measurable results. Nevertheless, this article begins the search for such a method by examining both the need and the opportunity that are creating the current conditions for its potential emergence.

THE EMERGENCE OF A NEW STAGE OF CULTURE — FROM ANTITHESIS TO SYNTHESIS

The idea of a new worldview or new paradigm has become somewhat hackneyed within progressive discourse. Some readers may therefore have a sense of new paradigm fatigue, which is understandable given that proponents of the progressive "cultural creative worldview" have been proclaiming its emergent virtues for close to fifty years now. This countercultural worldview, referred to in integral parlance as the "green" or "postmodern" worldview *is* an authentic "new" paradigm — its inclusive, sensitive, and environmentally conscious values represent an authentic advance over the more individualistic values of modernity, which integral philosophy identifies as the "modernist worldview." Yet, while postmodernism is more evolved than modernism in many important respects, it is not evolved enough to serve as a model for the future of our civilization. While postmodern culture has attracted

many people in the developed world who are dissatisfied with modernism, postmodernism has not been able to recruit a politically significant number of modernists to its ranks, as evidenced by its ongoing countercultural status.

The main reason why the growth of the postmodern worldview remains seemingly stalled at approximately 20 percent of the US population is that contemporary postmodernism rejects much of what modernism and traditionalism have achieved. The postmodern worldview thus stands in antithesis to the globalizing culture of modernism. While this rejection of mainstream culture may be evolutionarily appropriate – while postmodernism's dialectical move toward antithesis may have been the way forward at the time of its original emergence in the sixties and seventies – the gravity of its values by themselves is not strong enough to pull the rest of the developed world into a more sustainable and compassionate form of civilization.

Nevertheless, the increasingly urgent problems we face in the twenty-first century call for further cultural evolution. And these problematic conditions are creating the evolutionary pressure that is providing the energy for further emergence. In other words, postmodernism's cultural maturation and consolidation into a clear position of antithesis with respect to the thesis of our larger society now presages the emergence of a synthesis. This synthesis, of course, is represented by the integral worldview, which holds the promise of a future form of culture that will be attractive enough to entice politically significant numbers of people in the developed world to adopt the more evolved perspectives we need to meet the challenges of our age.

The integral worldview is a "post-postmodern" frame of reality that effectively transcends previous worldviews by better appreciating and integrating the values of every previous historically significant worldview – including pretraditional, traditional, modernist, and postmodern worldviews. Although this new integral worldview honors and includes the values of previous worldviews, it avoids value relativism by recognizing a vertical dimension of cultural development through which the more evolved and the less evolved can be clearly distinguished. This ability to see "which way is up" provides a kind of depth perception that makes cultural evolution easier to recognize and understand.

The integral worldview, however, is able to make firm value judgments without falling into the ethnocentrism and chauvinism that characterized the cultural assessments of previous generations because it sees how the positive values of each worldview are working within the larger structure of cultural evolution overall. Through the guidance of what I describe in *The Presence of the Infinite* as "the spiritual teachings of evolution," this emerging worldview is able to recognize a natural scale of human development that provides a new kind of moral compass. In short, the integral worldview illuminates the directions of evolution in consciousness and culture through its enlarged understanding of goodness, truth, and beauty.

A comprehensive description of the emerging integral worldview is beyond the scope of this article, but I can refer readers to my two previous books, *Integral Consciousness* and *Evolution's Purpose*, which are both largely devoted to the explication of this worldview[1].

Nevertheless, the proposition that a post-postmodern worldview is emerging in our time serves as the basis for my hope that we can discover a new method for evolving consciousness. If the integral perspective ends up fulfilling its potential of becoming a historically significant new stage of culture, then the history of the emergence of previous stages will prove instructive about what we can expect. And among the historically significant stages of culture recognized by integral philosophy, the rise of the modernist worldview during the Enlightenment is the most relevant in our search for an evolutionary method[2]. Although the Enlightenment was brought about by a host of influences, the rise of science was undoubtedly paramount. Indeed, modern science itself arose as a result of a new method of investigating the natural world that involved the careful measurement of empirical evidence using specific principles of reasoning. While less developed forms of the scientific method were employed by the ancient Greeks and Muslims prior to the Enlightenment, this empirical approach reached its full potential in the context of early European modernism, leading to the Industrial Revolution and eventually to our increasingly globalized civilization.

The scientific method was not modernism's only foundational method; the advent of the free enterprise system was also essential to the success of the modernist worldview. But this does not diminish the central significance of the scientific method in the global ascent of modernism. And it is also worth noting in this context that the traditional worldview originally emerged thousands of years ago through the advent of a similarly ground-breaking new method that served as a foundation for its ascension. This new method was *writing*, which helped consolidate civilization beyond previous tribal boundaries through written law, history, and scripture.

This analysis suggests that if the emergence of the integral worldview is to achieve a kind of second Enlightenment, it will need something akin to the

scientific method – a new approach and technique that gives it the power to see more deeply into reality and to use these insights to benefit humanity. Indeed, the most significant accomplishment of modernism's scientific method can be seen in its application in medicine. The advent of scientific medicine has improved the quality of human life more than, perhaps, any other single factor in history.

ALMOST EVERY HUMAN PROBLEM IS A PROBLEM OF CONSCIOUSNESS

Practically all human problems (except natural disasters) can be understood, at least partially, as problems of consciousness. For example, among the myriad problems faced by humanity in the twenty-first century, the challenges of a changing climate are likely to be among the most significant. Our warming globe is an emergent condition of modernism, so the key to ameliorating carbon pollution involves persuading modernists to vote and consume in ways that take the costs of carbon into account. Yet, as of the time of this writing there is insufficient political will to tackle this problem effectively. Despite the merits of proposed policy solutions (such as a carbon tax) and potential engineering solutions (such as increased renewables and carbon sequestering), America has yet to respond to the problem in ways that can lead to a permanent solution. This lack of political will is primarily the result of deep levels of disagreement among the major segments of American society. The disagreements are not really about the right policy solutions; they are more about the foundational values by which these different groups frame reality and define their identity, as evidenced by America's ongoing culture war. Hence, if the consciousness of America's voters could be raised at the level of values, the conflicts preventing meaningful action on climate change could be reduced.

As another example, consider the problem of poverty. Like climate change, poverty is a complex problem caused by a variety of factors. But within the developed world where opportunities for upward economic mobility exist, poverty can usually be reduced through education. Education raises consciousness, and this provides a straightforward illustration of how the problem of poverty in America is, for the most part, a problem of consciousness.

In the developing world, however, education alone cannot solve the problem of poverty because even those who have become educated cannot get ahead due to the lack of decent jobs. Poverty in the developing world is still a problem of consciousness, but the solution requires more than just raising the consciousness of the impoverished through education. In this case the solution requires the evolution of the overall culture from the premodern level to the modernist level of economic development, which will help create middle-class jobs. And cultural evolution of this kind is in fact happening in places like China, India, and Brazil. Yet, despite ongoing progress, the transition from traditional culture into modernist culture (and beyond) throughout the developing world could be accomplished more quickly and less painfully if we were as effective at raising consciousness as we are at curing disease. While the scientific method has led to tremendous strides in medicine, we now need a similarly powerful method that can help us make strides in the development of culture and consciousness. And this need for more effective methods of fostering cultural evolution is particularly urgent in the case of the challenges faced by the Islamic world.

However, although the worldwide development of modernist culture is gradually reducing the problem of poverty, it is only exacerbating the problem of climate change. And this illustrates how the existential problems of each stage of cultural evolution call for evolution into the next emergent stage for their solution. Just as the impoverished conditions of premodern culture call for evolution toward modernist consciousness, the polluted conditions of modernist culture in turn call for evolution toward postmodern consciousness, where the political will to combat the problem can be found.

This idea that solving existential challenges requires new levels of consciousness is well expressed in a popular idea from Albert Einstein: "Problems cannot be solved at the same level of thinking that created them."[3] This insight stresses the need for a new methodology that can ameliorate humanity's most pressing problems by actually evolving consciousness and culture to "higher levels of awareness."

UNDERLYING PREMISES FOR AN EVOLUTIONARY METHOD

While I can sense that the development of a powerful new approach to cultivating cultural emergence is possible, and indeed necessary, I have yet to find a step-by-step procedure that can be appropriately compared to the scientific method. And it may turn out that the search for a methodological approach to evolving consciousness and culture is misguided. But even if no reliable technique can ultimately be found, advancing our civilization through the cultivation of evolution is certainly a subject worth exploring.

Based on what we have considered so far, I can begin to sketch the premises that point to the possibility

of a method. These premises do not constitute a recipe for raising consciousness in themselves, but I believe their articulation can bring us one step closer to the discovery and refinement of a methodological "social medicine" that has the power to solve problems by evolving consciousness. Stated below are eight premises that can serve as the foundation of this promising new evolutionary method. These premises are discussed and elucidated in the following section. Once we have gained a basic grasp of these premises, we will be ready to consider some examples that indicate how such a potential method might operate.

1 ~ Human consciousness can evolve independently from biological evolution.

2 ~ Human consciousness and culture coevolve as people try to solve problems and improve conditions.

3 ~ Evolutionary emergence in consciousness and culture occurs when people adopt more inclusive frames of value and improve their definition of improvement itself.

4 ~ More evolved frames of value – higher-level worldviews – attract evolutionary emergence by illuminating the intrinsic values that help solve the existential problems that cannot be solved at the level that created them.

5 ~ The power of intrinsic values to raise consciousness is found in the spiritual energy of goodness, truth, and beauty – the spiritual experience of these values evolves consciousness.

6 ~ Works of culture having the most potential to attract evolutionary emergence– works providing the spiritual experience of intrinsic value—are those produced with the primary intention of sharing their creators' own spiritual experience.

7 ~ Spiritually fragrant works with the most potential to evolve the consciousness of their audience are those that also help self-actualize the creator of the work and are thus undertaken partially for their own sake as ends in themselves.

8 ~ The project of evolving consciousness through services of goodness, teachings of truth, and creations of beauty is facilitated and empowered through the use of evolution's own method of development – the ongoing dialectical synthesis of existential polarities.

DISCUSSION OF THE EIGHT PREMISES

Premise 1: Human consciousness can evolve independently from biological evolution.

The fact that a person's consciousness can evolve in ways that do not depend on the corresponding evolution of the biological brain provides the starting point for the evolutionary method. While the evolution of consciousness inevitably results in physical changes in the brain, such neurological

"rewiring" is more like the strengthening of a muscle than physiological evolution per se. This can be seen in the fact that human anatomy has remained relatively unchanged over the last fifty thousand years, even while human consciousness has evolved in dramatic ways over this same time period. While the consciousness of animals generally evolves in lockstep with the evolution of their bodies, human consciousness is able to transcend biological determinism through its ability to undergo authentic evolution within the lifetime of a single individual. With the emergence of humanity comes a new kind of freedom to continuously envision new and better ways of living. And it is this freedom to imagine a more perfect state of affairs that results in the ongoing improvement of the human condition.

Again, the development of human consciousness and culture is not just analogous to evolution; it is real evolution because it builds on and extends the structure of emergence that can be traced all the way back to the big bang. It is thus in the phenomenon of emergence that we find the most authentic instances of evolution in the consciousness of individuals. But to understand the evolution of consciousness in terms of emergence, we need to distinguish between the normal growth in awareness that comes from the accumulation of knowledge and experience over one's lifetime and the less frequent but more profound events of emergence that constitute evolution proper. While it may be difficult to draw hard lines between the different ways our minds can grow, as I argue in *Evolution's Purpose* human consciousness undergoes authentic evolution most clearly when it develops in ways that roughly recapitulate the larger cultural emergences that have marked the course of humanity's historical evolution. Even though individual development and cultural evolution are not identical, the developing mind does reveal patterns in its unfolding, and those patterns resonate with the historical unfolding of culture that occurs on an evolutionary time scale[4].

For example, if through religious conversion individuals raised in a tribal setting exchange a pretraditional worldview for a traditional worldview, they are re-enacting a form of evolutionary emergence that first occurred several thousand years ago. Continuing the example, if as a result of higher education, individuals raised in a conservative religious culture exchange their traditional worldview for a modernist worldview, this too is a form of emergence that represents the authentic evolution of consciousness. However, evolving one's consciousness by participating in a larger form of cultural emergence need not be limited to re-enacting the already-existing advances of history. As we

are coming to see, a significant new form of culture is appearing in our own time – one that provides a real opportunity for further evolutionary emergence.

Premise 2: Human consciousness and culture coevolve as people try to solve problems and improve conditions.

Human consciousness does not evolve by itself; it coevolves with the culture in which it lives. Through the network effect of cultural transmission, when one person has a conceptual breakthrough or new realization, this advance can be shared with others. And as new discoveries or new skills are adopted within a larger social context, such advances become refined and reinforced and eventually result in the elevation of the average level of overall consciousness in a given culture. Yet the coevolution of human consciousness and culture proceeds by more than the simple accumulation of greater knowledge or more learned skills; the development of civilization also depends on the evolution of values. Over the course of recorded history, *human nature itself* has evolved through the series of values-based worldview stages identified by integral philosophy. For example, as a result of the emergence of new value systems, the human value of morality has evolved to encompass larger and larger estimates of the scope of those worthy of moral consideration – from the tribe to the nation to the world and eventually to all sentient beings.

This second premise serves as the basis for the focus of the method, which is generally more cultural than psychological. As discussed below in premise 5 and the examples that follow, the basic idea is that the spiritual energy and gravity of beauty, truth, and goodness can be harnessed in ways that can reliably cause consciousness to evolve. And these essential qualities are harnessed and transmitted through the cultural works or cultural institutions that communicate or demonstrate these intrinsic values within a given culture. Therefore, because consciousness and culture almost always coevolve, the evolution of consciousness cannot be effectively cultivated outside of the cultural context in which it is situated.

Premise 3: Evolutionary emergence in consciousness and culture occurs when people adopt more inclusive frames of value and improve their definition of improvement itself.

This premise points to the insight that values are the leading line of development within consciousness and culture. Although human consciousness can grow and evolve along a wide variety of relatively independent cognitive and emotional lines of development, the evolution of values is the most significant factor in the process. This can be seen in the way consciousness and culture evolve as a result of both the *push* of unsatisfactory life conditions and the *pull* of values. Values are accordingly defined and animated by their relation to the real and pressing problems faced by people as they struggle to improve their lives.

And the reason why the development of values is the single most important factor in understanding the evolution of consciousness and culture overall is that it is through the gravity of values – the pull resulting from the intuition that a better way is possible – that consciousness and culture are drawn toward ever-higher levels of evolutionary development. Recognizing how the gravity of values pulls evolution forward from the inside through its influence on consciousness clarifies our understanding of cultural evolution by showing where evolution is headed and how we can best align ourselves with its positive trajectory of growth. This third premise thus goes to the heart of the method's essential technique, which involves harnessing the gravity of values. Values come alive with the power to motivate and mobilize people when those values appear to offer solutions to the existential problems people care deeply about.

The operation of this third premise was initially illustrated in the previous section's examples of poverty and climate change. In the case of poverty, we can see that as the prosperous modernist lifestyle becomes increasingly visible in the developing world, this perceived value contrasts with the prevailing conditions of poverty and provides a powerful stimulus to pursue the upward mobility that eventually results in a modernist society. Similarly, in the case of climate change, the specter of a warming globe threatening to degrade our natural environment illuminates the value of sustainability and a lifestyle that is more conscious of modernism's environmental impact. And this in turn draws people's consciousness into postmodern value frames where material possessions and personal status are valued less and overall quality of life is valued more.

This process begins to show why values are usually location specific. Each of humanity's major worldviews has arisen along the timeline of history in response to a specific set of problematic life conditions. The values of each worldview have thus been specifically tailored to overcome the problems that prevailed during the time in history when that worldview originally emerged. And most of these specific problem sets continue to prevail in different parts of the world and different sectors of society. Even though we are all alive here in the present, not all of us live in "the same time in history."

Working to solve the different problems that continue to plague humanity certainly helps improve the world. But according to premise 3, the most potent

problems for producing authentic evolution are those that require the evolutionary emergence of new stages of consciousness and culture for their solution.

Premise 4: More evolved frames of value – higher-level worldviews – attract evolutionary emergence by illuminating the intrinsic values that help solve the existential problems which cannot be solved at the level that created them.

This premise brings us back to the truism that problems cannot be solved at the same level of awareness that created them. While this is not true of every problem, it is the case with the existential problems that require evolutionary emergence for their solution. Existential problems provide openings for evolutionary emergence. These are the pressure points upon which the method can operate to nurture cultural evolution along its entire spectrum of development. Identifying these problems, together with the value solutions to which they point, can accordingly lead to a methodological technique for "gardening for emergence." The application of this technique is illustrated by the examples discussed in the next section. But before getting to these examples, we need to consider the four additional premises upon which the effectiveness of this evolutionary method depends.

Premise 5: The power of intrinsic values to raise consciousness is found in the spiritual energy of goodness, truth, and beauty – the spiritual experience of these values evolves consciousness.

This premise is based on a simple proposition: spiritual experience raises consciousness. While this may seem fairly obvious, it is a crucial aspect of the method, so it is worth unpacking a bit here. This fifth premise is derived directly from the spiritual teachings of evolution, which help us recognize that the development of the finite universe overall is essentially a process of spiritual growth. It thus follows that if evolution is essentially spiritual growth, then an effective technique for promoting the evolution of consciousness can be found in that which delivers authentic experiences of spirit. And the most useful and important kinds of spiritual experience are experiences of goodness, truth, beauty, and their value derivatives.

Again, these most intrinsic values are forms of spiritual energy that can be harnessed in the service of evolution. Through their inherent power to attract the attention and desire of our evolutionary impulses, these values provide the energy that pulls cultural evolution upward, illuminating the way forward and supplying the motivation necessary to break the inertia of the status quo. Examples of the power of beauty, truth, and goodness to stimulate cultural evolution can be abundantly found in history, such as in Thomas Paine's revolutionary pamphlet *Common Sense*, which contributed to the emergence of modernism, and Bob Dylan's song *The Times They Are a-Changin*, which helped bring about the emergence of postmodernism. These significant works of truth and beauty produced cultural evolution by providing a kind of spiritual experience perfectly in tune with the zeitgeist of their time.

Premise 6: Works of culture having the most potential to attract evolutionary emergence – works providing the spiritual experience of intrinsic value – are those produced with the primary intention of sharing their creators' own spiritual experience.

This premise emphasizes the role of intention in the methodological approach to raising consciousness. Through our heart-felt intention to share the spiritual experience that we ourselves have already found, our work becomes infused with the spiritual quality necessary to reproduce this experience in others. In other words, by focusing on the essence of the intrinsic value we are endeavouring to communicate or demonstrate in our work, we may bear the spiritual fruits that can provide spiritual experience for others. Stated yet another way, the spiritual energy of intrinsic value is most effectively engaged in a *circuit of practice*. When our sincere intention is to allow the spiritual experience we have received to pass through us into the experience of our fellows, our work's potential for raising consciousness is greatly enhanced.

This aspect of the evolutionary method is guided by an understanding of the *spiritual messages* of beauty, truth, and goodness. For example, the pleasure and delight found in the aesthetic dimension of beauty communicates the message, "Feel loved." Similarly, in the intellectual dimension of truth we find assurance that the universe is intelligible and that the way is open for us increasingly to discover reality and become more real in the process. The experience of truth thus subtly communicates the message, "Grow." And finally, in the realm of goodness, and particularly within the moral domain of value, we may hear the message, "Love others." When we endeavor to communicate explicitly or implicitly these messages to those we wish to serve or teach – when our underlying intention is to share these spiritual messages through our work – we become partners with spirit in the grand adventure of evolving the universe.

Premise 7: Spiritually fragrant works with the most potential to evolve the consciousness of their audience are those that also help self-actualize the creator of the work and are thus undertaken partially for their own sake as ends in themselves.

This premise concerns the intention to achieve our own self-actualization through our work. The underlying idea is that our creations of beauty, truth, or goodness become most effective at raising consciousness when we undertake such work with the aim of giving our gift and living up to our potential to bear spiritual fruit in our lives. That is, to maximize the consciousness-raising potential of our work, not only must we intend to create spiritual experience in others (premise 6), we must also undertake such work with the intention of creating spiritual growth in ourselves. Again, the insights of evolutionary spirituality make clear that the fruits of the spirit we bring into the world actually serve as the rungs of the ladder of our own ascent. And when we are motivated to create these primary values both for the benefit of others and for our own self-actualization, the evolutionary potential of our work is maximized.

Premise 8: The project of evolving consciousness through services of goodness, teachings of truth, and creations of beauty is facilitated and empowered through the use of evolution's own method of development – the ongoing dialectical synthesis of existential polarities.

The arguments and explanations that support this final premise are developed throughout *The Presence of the Infinite*. In the book I describe how the evolutionary practice of dialectical epistemology involves the ability to hold two or more opposing perspectives at once, recognizing how these opposing positions tend to mutually cocreate each other through their developmental tension. I also discuss how existential polarities are actually systems of development – localized engines of evolution – mirroring the dialectical structure and function of the evolving universe as a whole. Then toward the end of the book I explore the application of this dialectical method in the attempt to advance a synthesis between the existential polarity of nondualism and theism that appears in spiritual experience itself.

This final premise thus serves as a kind of capstone for these eight methodological premises by affirming that evolutionary spirituality's method for evolving consciousness is essentially the same method employed by the evolving universe itself.

These, then, are the initial premises that point to the promise of a new method for evolving consciousness and culture. However, our search for an evolutionary method is only just beginning, and these early premises are bound to be expanded and refined as the potential for such a method is explored further.

Some academics have questioned the idea that scientists actually follow a procedural method in their investigations. These critics claim that, in practice, the scientific method is simply a matter of whatever scientists do, and that the real method is "anything goes."[5] So it may turn out that our search for an evolutionary method for evolving consciousness and culture will boil down to whatever successful creators of transformative culture actually do.

Indeed, all those who create beauty, truth, or goodness through their work are adding to the corpus of human culture and thus advancing its evolutionary development, even if in small and incremental ways. At the level of individual consciousness, anything that elevates our thoughts by helping us to be more loving, forgiving, wise, or mindful can be said to raise our consciousness. And even the most commonplace expressions of these intrinsic values can create spiritual experience under the right circumstances.

Yet, there is an important difference between the incremental growth of consciousness and culture and the kind of development that actually extends the structure of emergence itself. As discussed in premise 1 above, human consciousness undergoes authentic evolution most clearly when it develops in ways that roughly recapitulate the larger cultural emergences marking the course of humanity's historical evolution. In other words, the difference between evolutionary emergence and mere incremental growth is that authentic evolution usually involves the move from one stage of development to the next higher stage – "a new level of awareness." Therefore, the best examples of the evolutionary method in action are found in the specific works of goodness, truth, or beauty that have helped bring about historically significant new worldviews. In addition to highly influential books or liberating forms of music such as those already cited, we can also identify a wide variety of other cultural works that have been instrumental in the emergence of new levels of awareness. For instance, emergence-producing works of culture can be recognized in the creation of movements or transformative organizations, such as the civil rights movement of the 1960s or the founding of the Sierra Club in the 1890s. Transformative cultural works can also include architecture, such as the Parthenon in the fifth century BC, or St. Peter's Basilica in Vatican City during the Renaissance. Indeed, hundreds of similar examples could be cited.

These examples, however, also illustrate how the evolutionary potential of a given work of culture, whether it be artistic, political, scientific, philosophical, or

spiritual, usually depends as much on the historical timing and cultural readiness for such work as it does on the talent and motivational intention of the creators. And the fact that the evolutionary potential of a given work of culture depends largely on the historically situated receptivity of the audience suggests that such works may be drawn into existence by the aspirations of collective culture as much as they are created by their individual authors or founders. As Virginia Woolf wrote, "Masterpieces are not single and solitary births; they are the outcome of many years' thinking in common, by the body of people, so that the experience of the mass is behind a single voice."[6]

But while the emergence-producing masterpieces of beauty, truth, and goodness that we find in history may remain culturally potent for many, most are no longer producing the kind of fresh emergence for which they originally became famous. Nevertheless, beyond specific, historically situated works of transformative culture, there are also larger social institutions that do manage to continuously produce the evolution of consciousness and culture in an ongoing way. These forms of culture serve as "conveyor belts," as Ken Wilber calls them, which work continuously across generations to advance consciousness from one stage to another.

The best examples of these consciousness-raising institutions are found in the field of education and in spiritual teaching and practice. For instance, primary education serves to move children up through the cognitive and moral stages of development identified by developmental psychologists. And higher education, as noted, often results in the emergence of modernist and even postmodern consciousness in young adults. Similarly, emergence into new stages of consciousness is being continuously facilitated worldwide by the forms of culture identified as religious spirituality, secularism, and progressive spirituality. As examples, religious spirituality continues to function as an effective conveyor belt from pretraditional to traditional levels of consciousness, as currently seen in sub-Saharan Africa and also in gang and prison cultures. Secularism seems to help some people in transcending religious fundamentalism. And progressive spirituality is playing a similar role in the contemporary emergence of consciousness beyond modernism into the postmodern worldview, and even occasionally beyond that.

These examples of the ongoing success of spirituality in the work of evolving consciousness by promoting emergence into higher-level worldviews are particularly relevant in our search for a method because they well illustrate the operation of methodological premise 5: consciousness can be evolved most reliably and effectively through the provision of spiritual experience. And the fact that spirituality in general appears to be one of the most powerful ways of furthering emergence reinforces my hope that evolutionary spirituality in particular will come to serve as the primary catalyst for the emergence of the next great stage of human history.

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[1] In addition to my previous books, a good introduction to the evolutionary worldview can be found in Carter Phipps,' *Evolutionaries* (New York: Harper Perennial, 2012). Ken Wilber's *A Theory of Everything* (Boston: Shambhala, 2000) also provides a good, if somewhat dated, introductory overview.

[2] As explained in *Integral Consciousness* (p. 10), the dialectical sequence of worldview emergence orients the values of each successive worldview stage toward an alternative focus on either the individual (emphasizing the expression of the self) or the community (emphasizing the sacrifice of the self for the sake of the group). Because the emergence of the evolutionary or integral stage of development represents a dialectical return to the individualistic, or agentic, side of the dialectical spiral of development, it can be seen as a kind of higher harmonic of modernism. This understanding supports the idea that the events surrounding the emergence of modernism during the Enlightenment can help us anticipate the emergence of the evolutionary stage. See also *Evolution's Purpose*: 201-202.

[3] This quote appears in many places and in a variety of versions. It is adapted from an interview of Einstein by Michael Amrine, "The Real Problem is in the Hearts of Men" (*New York Times Magazine*, June 23, 1946).

[4] See *Evolution's Purpose*, 17-24 (see intro., n. 1).

[5] See Paul K. Feyerabend, *Against Method: Outline of an Anarchistic Theory of Knowledge* (London: Verso, 1975).

[6] Virginia Woolf, *A Room of One's Own* (New York: Harcourt Brace Jovanovich, 1929): 65.

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PIERRE LÉVY

INNOVATION IN CODING

Pierre Lévy devoted his professional life to the understanding of the cultural and cognitive implications of the digital technologies, to promote their best social uses and to study the phenomenon of human collective intelligence. He introduced the collective intelligence concept in his 1994 book Collective Intelligence *and has written a dozen of books on this subject that have been translated in more than 12 languages and are studied in many universities all over the world. Professor Lévy currently teaches at the communication department of the University of Ottawa (Canada), where he holds a Canada Research Chair in Collective Intelligence. Lévy is Fellow of the Royal Society of Canada and received several awards and academic distinctions.* @plevy *on Twitter.*
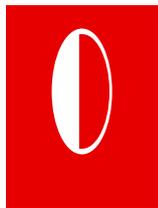
OUR COMMUNICATIONS – TRANSMISSION AND reception of data – are based on an increasingly complex infrastructure for the automatic manipulation of symbols, which I call the *algorithmic medium* because it *automates the transformation* of data, and not only their conservation, reproduction and dissemination (as with previous media). Both our data-centric society and the algorithmic medium that provides its tools are still at their tentative beginnings. Although it is still hard to imagine today, a huge space will open up for *the transformation and analysis* of the deluge of data we produce daily. But our minds are still fascinated by the Internet's power of *dissemination* of messages, which has almost reached its maximum.

In the vanguard of the new algorithmic episteme, IEML (or any other system that has the same properties) will democratize the categorization and automatic analysis of the ocean of data. The use of IEML[1] to categorize data will create a techno-social environment that is even more favourable for collaborative learning and the distributed production of knowledge. In so doing, it will contribute to the emergence of the algorithmic medium of the future and reflect collective intelligence in the form of ecosystems of ideas.

This text begins by analyzing the structure and functioning of algorithms and shows that the major stages in the evolution of the new medium correspond to the appearance of new systems for encoding and addressing data: the Internet is a universal addressing system for computers and the Web, a universal addressing system for data. However, the Web, in 2016, has many limitations. Levels of digital literacy are still low. Interoperability and semantic transparency are sorely lacking. The majority of its users see the Web only as a big multimedia library or a means of communication, and pay no attention to its capacities for data transformation and analysis. As for those concerned with the processing of *big data*, they are hindered by statistical positivism. In providing a universal addressing system for concepts, IEML takes a decisive step toward the algorithmic medium of the future. The ecosystems of ideas based on this metalanguage will give rise to cognitive augmentations that are even more powerful than those we already enjoy.

WHAT IS AN ALGORITHM?

To help understand the nature of the new medium and its evolution, let us represent as clearly as possible what an algorithm is and how it functions. In simplified explanations of programming, the algorithm is often reduced to a series of instructions or a "recipe." But no series of instructions can play its role without the three following elements: first, an adequate encoding of the data; second, a well-defined set of reified operators or functions that act as black boxes; third, a system of precisely addressed containers capable of recording initial data, intermediate results and the end result. The rules – or instructions – have no meaning except in relation to the code, the operators and the memory addresses.

I will now detail these aspects of the algorithm and use that analysis to periodize the evolution of the algorithmic medium. We will see that the major stages in the growth of this medium are precisely related to the appearance of *new systems of addressing and encoding,* both for the containers of data and for the operators. Based on IEML[2], the coming stage of development of the algorithmic medium will provide simultaneously a new type of encoding (semantic encoding) and a new system of virtual containers (semantic addressing).

ENCODING OF DATA

For automatic processing, data must first be encoded appropriately and uniformly. This involves not only binary encoding (zero and one), but more specialized types of encoding such as encoding of numbers (in base two, eight, ten, sixteen, etc.), that of characters used in writing, that of images (pixels), that of sounds (sampling), and so on.

OPERATORS

We must then imagine a set of tools or specialized micromachines for carrying out certain tasks on the data. Let us call these specialized tools "operators." The operators are precisely identified, and they act in a determined or mechanical way, always the same way. There obviously has to be a correspondence or a match between the encoding of the data and the functioning of the operators.

The operators were first identified insider computers: they are the elementary electronic circuits that make up processors. But we can consider any processor of data – however complex it is – as a "black box" serving as a macro-operator. Thus the protocol of the Internet, in addressing the computers in the network, at the same time set up a universal addressing system for operators.

CONTAINERS

In addition to a code for the data and a set of operators, we have to imagine a storehouse of data whose basic boxes or "containers" are completely *addressed:* a logical system of recording with a smooth surface for writing, erasing and reading. It is clear that the encoding of data, the operations applied to them and the mode of recording them – and therefore their addressing – must be harmonized to optimize processing.

The first addressing system of the containers is internal to computers, and it is therefore managed by the various operating systems (for example, UNIX, Windows, Apple OS, etc.). But at the beginning of the 1990s, a universal addressing system for containers was established above that layer of internal addressing: the URLs of the World Wide Web.

INSTRUCTIONS

The fourth and last aspect of an algorithm is an ordered set of rules – or a control mechanism – that organizes the recursive circulation of data between the containers and the operators. The circulation is initiated by a data flow that goes from containers to the appropriate operators and then directs the results of the operations to precisely addressed containers. A set of tests (if…, then…) determines the choice of containers from which the

data to be processed are drawn, the choice of operators and the choice of containers in which the results are recorded. The circulation of data ends when a test has determined that processing is complete. At that point, the result of the processing – a set of encoded data – is located at a precise address in the system of containers.

THE GROWTH OF THE NEW MEDIUM

To shape the future development of the algorithmic medium, we have to first look at its historical evolution.

AUTOMATIC CALCULATION (1940-1970)

From when can we date the advent of the algorithmic medium? We might be tempted to give its date of birth as 1937, since it was in that year that Alan Turing (1912-1954) published his famous article introducing the concept of the universal machine, that is, the formal structure of a computer. The article represents calculable functions as *programs* of the universal machine, that is, essentially, algorithms. We could also choose 1945, because in June of that year, John von Neumann (1903-1957) published his "First draft of a report on the EDVAC," in which he presented the basic architecture of computers: 1) a memory containing data and programs (the latter encoding algorithms); 2) an arithmetic, logical calculation unit; and 3) a control unit capable of interpreting the instructions of the programs contained in the memory. Since the seminal texts of Alan Turing and John von Neumann represent only theoretical advances, we could date the new era from the construction and actual use of the first computers, in the 1950s. It is clear, however, that (in spite of the prescience of a few visionaries[3]) until the end of the 1970s, it was still hard to talk about an algorithmic medium. One of the main reasons is that the computers at that time were still big, costly, closed machines whose input and output interfaces could only be manipulated by experts. Although already in its infancy, the algorithmic medium was not yet socially prevalent.

It should be noted that between 1950 and 1980 (before Internet connections became the norm), data flows circulated mainly between *containers and operators with local addresses* enclosed in a single machine.

THE INTERNET AND PERSONAL COMPUTERS (1970-1995)

A new trend emerged in the 1970s and became dominant in the 1980s: the interconnection of computers. The Internet protocol (invented in 1969) won out over its competitors in addressing machines in

telecommunication networks. This was also the period when computing became personal. The digital was now seen as a vector of transformation and communication of all symbols, not only numbers. The activities of mail, telecommunications, publishing, the press, and radio and television broadcasting began to converge.

At the stage of the Internet and personal computers, data processed by algorithms were always stored in containers with local addresses, but – in addition to those addresses – *operators now had universal physical addresses in the global network.* Consequently, algorithmic operators could "collaborate," and the range of types of processing and applications expanded significantly.

It was only with the arrival of the Web, around 1995, however, that the Internet became the medium of most communication – to the point of irreversibly affecting the functioning of the traditional media and most economic, political and cultural institutions.

The revolution of the Web can be explained essentially as the *creation of a universal system of physical addresses for containers.* This system, of course, is URLs. It should be noted that – like the Internet protocol for operators – this universal system is added to the local addresses of the containers of data, it does not eliminate them. Tim Berners-Lee's ingenious idea may be described as follows: by inventing a universal addressing system for data, he made possible the shift from a multitude of actual databases (each controlled by one computer) to a single virtual database for all computers. One of the main benefits is the possibility of creating hyperlinks among any of the data of that universal virtual database: "the Web."

From then on, the effective power and the capacity for collaboration – or inter-operation – between algorithms increased and diversified enormously, since both operators and containers now possessed universal addresses. The basic programmable machine became the network itself, as is shown by the spread of *cloud computing.*

The decade 2010-2020 is seeing the beginning of the transition to a data-centric society. Indeed, starting with this phase of social utilization of the new medium, the majority of interactions among people take place through the Internet, whether purely for socialization or for information, work, research, learning, consumption, political action, gaming, watches, and so on. At the same time, algorithms increasingly serve as the interface for relationships between people, relationships among data, and relationships between people

and data. The increase in conflicts around ownership and free accessibility of data, and around openness and transparency of algorithms, are clear signs of a transition to a data-centric society. However, in spite of their already decisive role, algorithms are not yet perceived in the collective consciousness as the new medium of human communication and thought. People were still fascinated by the logic of dissemination of previous media.

The next stage in the evolution of the algorithmic medium – the semantic sphere based on IEML – will provide a conceptual addressing system for data. But before we look at the future, we need to think about the limitations of the contemporary Web. Indeed, the Web was invented to help solve problems in interconnecting data that arose around 1990, at a time when one percent of the world's population (mainly Anglophone) was connected. But now in 2014, new problems have arisen involving the difficulties of translating and processing data, as well as the low level of digital literacy. When these problems become too pronounced (probably around 2020, when more than half the world's population will be connected), we will be obliged to adopt a conceptual addressing system *on top of* the layer of physical addressing of the WWW.

THE LIMITATIONS OF THE WEB IN 2016

THE INADEQUACY OF THE LOGIC OF DISSEMINATION

From Gutenberg until the middle of the twentieth century, the main technical effect of the media was the mechanical recording, reproduction and transmission of the symbols of human communication. Examples include printing (newspapers, magazines, books), the recording industry, movies, telephone, radio and television. While there were also technologies for calculation, or automatic *transformation* of symbols, the automatic calculators available before computers were not very powerful and their usefulness was limited.

The first computers had little impact on social communication because of their cost, the complexity of using them and the small number of owners (essentially big corporations, some scientific laboratories and the government administrations of rich countries). It was only beginning in the 1980s that the development of personal computing provided a growing proportion of the population with powerful tools for *producing messages,* whether these were texts, tables of numbers, images or music. From then on, the democratization of printers and the development of communication networks among computers, as well as the increased number

of radio and television networks, gradually under-mined the monopoly on the massive dissemination of messages that had traditionally belonged to pub-lishers, professional journalists and the major televi-sion networks[4]. This revolution in dissemination accel-erated with the arrival of the World Wide Web in the mid-1990s and blossomed into the new kind of global multimedia public sphere that prevails now at the beginning of the twenty-first century.

In terms of the structure of social communication, the essential characteristic of the new public sphere is that it permits anyone to produce messages, to transmit to a community without borders and to access messages pro-duced and transmitted by others. This freedom of com-munication is all the more effective since its exercise is practically free and does not require any prior technical knowledge. In spite of the limits I will describe below, we have to welcome the new horizon of communication that is now offered to us: at the rate at which the num-ber of connections is growing, almost all human beings in the next generation will be able to disseminate their messages to the entire planet for free and effortlessly.

It is certain that automatic manipulation – or transfor-mation – of symbols has been practiced since the 1960s and 1970s. I have also already noted that a large pro-portion of personal computing was used to produce information and not only to disseminate it. Finally, the major corporations of the Web such as Google, Amazon, eBay, Apple, Facebook, Twitter and Netflix daily process huge masses of data in veritable "infor-mation factories" that are entirely automated. In spite of that, the majority of people still see and use the Internet as a tool for the dissemination and reception of information, in continuity with the mass media since printing and, later, televi-sion. It is a little as if the Web gave every individ-ual the power of a publishing house, a television network and a multimedia postal service in real time, as well as access to an omnipresent global multimedia library. Just as the first printed books – incunabula – closely copied the form of manuscripts, we still use the Internet to achieve or maximize the power of dissemination of pre-vious media. Everyone can transmit universally. Everyone can receive from anywhere.

No doubt we will have to exhaust the technical possibilities of automatic *dissemination* – the power of the media of the last four centuries – in order to experience and begin to assimilate intellectually and culturally the almost unex-ploited potential of automatic *transformation* – the power of the media of centuries to come. That is why I am again speaking of the *algorithmic* medium: to emphasize digital communication's capacity for automatic transformation. Of course,

the transformation or processing power of the new medium can only be actualized on the basis of the irreversible achievement of the previous medium, the universal dissemination or ubiquity of infor-mation. That was nearly fully achieved at the beginning of the twenty-first century, and com-ing generations will gradually adapt to automatic processing of the massive flow of global data, with all its unpredictable cultural consequences. There are at this time three limits to this process of adaptation: users' literacy, the absence of semantic interoperability and the statistical pos-itivism that today governs data analysis.

THE PROBLEM OF DIGITAL LITERACY

The first limit of the contemporary algorithmic medium is related to the skills of social groups and individuals: the higher their education level (elementary, secondary, university), the better developed their critical thinking[5], the greater their mastery of the new tools for manipulation of symbols and the more capable they are of turning the algorithmic medium to their advan-tage. As access points and mobile devices increase in number, the thorny question of the digital divide is less and less related to the availability of hardware and increasingly concerns problems of print literacy, media literacy and education. With-out any particular skills in programming or even in using digital tools, the power provided by ordinary reading and writing is greatly increased by the algo-rithmic medium: we gain access to possibilities for expression, social relationships and information such as we could not even have dreamed of in the nine-teenth century[6] This power will be further increased when, in the schools of the future, traditional literacy, digital literacy and understanding of ecosystems of ideas are integrated. Then, starting at a very young age, chil-dren will be introduced to categorization and evaluation of data, collection and analysis of large masses informa-tion and programming of semantic circuits.

THE ABSENCE OF SEMANTIC INTEROPERABILITY

The second limit is semantic, since, while technical con-nection is tending to become universal, the communica-tion of meaning still remains fragmented according to the boundaries of languages, systems of classification, disciplines and other cultural worlds that are more or less unconnected. The "semantic Web" promoted by Tim Berners-Lee since the late 1990s is very useful for translating logical relationships among data. But it has not fulfilled its promise with regard to the interoper-ability of meaning, in spite of the authority of its promoter and the contributions of many teams of

engineers. As I showed in the first volume of *The Semantic Sphere*[7], it is impossible to fully process semantic problems while remaining within the narrow limits of logic. Moreover, the essentially statistical methods used by Google and the numerous systems of automatic translation available provide tools to assist with translation, but they have not succeeded any better than the "semantic Web" in opening up a true space of translinguistic communication. Statistics are no more effective than logic in automating the processing of meaning. Here again, we lack a *coding* of linguistic meaning that would make it truly calculable in all its complexity. It is to meet this need that IEML is automatically translated into natural languages in semantic networks.

STATISTICAL POSITIVISM

The general public's access to the power of dissemination of the Web and the flows of digital data that now result from all human activities confront us with the following problem: how to transform the torrents of data into rivers of knowledge? The solution to this problem will determine the next stage in the evolution of the algorithmic medium. Certain enthusiastic observers of the statistical processing of big data*,* such as Chris Anderson, the former editor-in-chief of *Wired,* were quick to declare that scientific theories – in general! – were now obsolete[8]. In this view, we now need only flows of data and powerful statistical algorithms operating in the computing centres of the *cloud*: theories – and therefore the hypotheses they propose and the reflections from which they emerge – belong to a bygone stage of the scientific method. It appears that numbers speak for themselves. But this obviously involves forgetting that it is necessary, before any calculation, to determine the relevant data, to know exactly what is being counted and to name – that is, to categorize – the emerging patterns. In addition, no statistical correlation directly provides causal relationships. These are necessarily hypotheses to *explain* the correlations revealed by statistical calculations. Under the guise of revolutionary thought, Chris Anderson and his like are reviving the old positivist, empiricist epistemology that was fashionable in the nineteenth century, according to which only inductive reasoning (that is, reasoning based solely on data) is scientific. This position amounts to repressing or ignoring the theories – and therefore the risky hypotheses based on individual thought – that are necessarily at work in any process of data analysis and that are expressed in decisions of selection, identification and categorization. One cannot undertake statistical processing and interpret its results without any theory. Once again, the only choice we have is to leave the

theories implicit or to explicate them. Explicating a theory allows us to put it in perspective, compare it with other theories, share it, generalize from it, criticize it and improve it[9]. This is even one of the main components of what is known as critical thinking, which secondary and university education is supposed to develop in students.

Beyond empirical observation, scientific knowledge has always been concerned with the categorization and correct description of phenomenal data, description that is necessarily consistent with more or less formalized theories. By describing functional relationships between variables, theory offers a conceptual grasp of the phenomenal world that makes it possible (at least partially) to predict and control it. The data of today correspond to what the epistemology of past centuries called phenomena. To extend this metaphor, the algorithms for analyzing flows of data of today correspond to the observation tools of traditional science. These algorithms show us patterns, that is, ultimately, images. But the fact that we are capable of using the power of the algorithmic medium to *observe* data does not mean we should stop here on this promising path. We now need to use the calculating power of the Internet to *theorize* (categorize, model, explain, share, discuss) our observations, without forgetting to make our theorizing available to the rich collective intelligence.

In their 2013 book on big data, Viktor Mayer-Schonberger and Kenneth Cukier, while emphasizing the distinction between correlation and causality, predicted that we would take more and more interest in correlations and less and less in causality, which put them firmly in the empiricist camp. Their book nevertheless provides an excellent argument against statistical positivism. Indeed, they recount the very beautiful story of Matthew Maury, an American naval officer who in the mid-nineteenth century compiled data from log books in the official archives to establish reliable maps of winds and currents[10]. Those maps were constructed from an accumulation of empirical data. But with all due respect for Cukier and Mayer-Schonberger, I would point out that such an accumulation would never have been useful, or even feasible, without the system of geographic coordinates of meridians and parallels, which is anything but empirical and based on data. Similarly, it is only by adopting a system of semantic coordinates such as IEML that we will be able to organize and share data flows in a useful way.

Today, most of the algorithms that manage routing of recommendations and searching of data are opaque, since they are protected trade secrets of major corporations of the Web. As for the analytic algorithms, they are, for the most part, not only opaque but also beyond the reach of most Internet users for both technical and economic reasons. However, it is

impossible to produce reliable knowledge using secret methods. We must obviously consider the contemporary state of the algorithmic medium to be transitory.

What is more, if we want to solve the problem of the extraction of useful information from the deluge of big data, we will not be able to eternally limit ourselves to statistical algorithms working on the type of organization of digital memory that exists in 2016. We will sooner or later, and the sooner the better, have to implement an organization of memory designed *from the start* for semantic processing. We will only be able to adapt culturally to the exponential growth of data – and therefore transform these data into reflected knowledge – through a qualitative change of the algorithmic medium, including the adoption of a system of semantic coordinates such as IEML.

FIGURE 2 ~ *The four interdependent levels of the algorithmic medium..*

THE SEMANTIC SPHERE AND ITS CONCEPTUAL ADDRESSING (2020-)

It is notoriously difficult to observe or recognize what does not yet exist, and even more, the absence of what does not yet exist. However, what is blocking the development of the algorithmic medium – and with it, the advent of a new civilization – is precisely the absence of a universal, calculable system of semantic metadata. I would like to point out that the IEML metalanguage is the first, and to my knowledge (in 2016) the only, candidate for this new role of a system of semantic coordinates for data.

We already have a universal physical addressing system for data (the Web) and a universal physical addressing system for operators (the Internet). In its full deployment phase, the algorithmic medium will also include a *universal semantic code: IEML.* This system of metadata – conceived from the outset to optimize the calculability of meaning while multiplying its differentiation infinitely – will open

the algorithmic medium to semantic interoperability and lead to new types of symbolic manipulation. Just as the Web made it possible to go from a great many actual databases to one universal virtual database (but based on a physical addressing system), IEML will make it possible to go from a universal physical addressing system to a universal conceptual addressing system. The semantic sphere continues the process of virtualization of containers to its final conclusion, because its semantic circuits – which are generated by an algebra – act as data containers. It will be possible to use the *same* conceptual addressing system in operations as varied as communication, translation, exploration, searching and three-dimensional display of semantic relationships.

Today's *data* correspond to the *phenomena* of traditional science, and we need calculable, interoperable *metadata* that correspond to scientific *theories and models*. IEML is precisely an algorithmic tool for theorization and categorization capable of exploiting the calculating power of the *cloud* and providing an indispensable complement to the statistical tools for observing patterns. The situation of data analysis before and after IEML can be compared to that of cartography before and after the adoption of a universal system of geometric coordinates. The data that will be categorized in IEML will be able to be processed much more efficiently than today, because the categories and the semantic relationships between categories will then become not only calculable but automatically translatable from one language to another[11]. In addition, IEML will permit *comparison* of the results of the analysis of the same set of data according to different categorization rules (theories!).

When this symbolic system for conceptual analysis and synthesis is democratically accessible to everyone, translated automatically into all languages and easily manipulated by means of a simple tablet, then it will
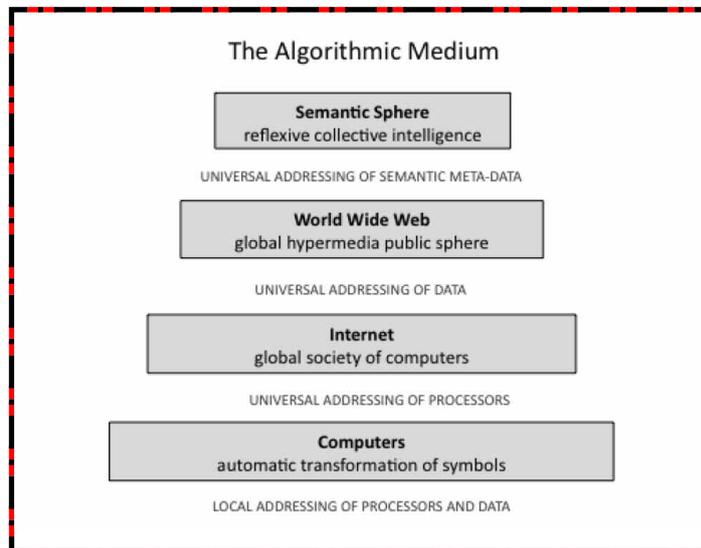
be possible to navigate the ocean of data, and the algorithmic medium will be tested directly as a tool for cognitive augmentation – personal and social – and not only for dissemination. Then a positive feedback loop between the collective testing and creation of tools will lead to a take-off of the algorithmic intelligence of the future.

In FIGURE 1, the increasingly powerful levels of automatic calculation are represented by rectangles. Each level is based on the "lower" levels that precede it in order of historical emergence. Each level is therefore influenced by the lower levels. But, conversely, each new level gives the lower levels an additional socio-technical determination, since it uses them for a new purpose.

The addressing systems, which are represented under the rectangles, can be considered the successive solutions – influenced by different socio-technical contexts – to the perennial problem of increasing the power of automatic calculation. An addressing system thus plays the role of a step on a stairway that lets you go from one level of calculation to a higher level. The last addressing system, that of metadata, is supplied by IEML or any other system of *encoding of linguistic meaning* that makes that meaning calculable, exactly as the system of pixels made images manipulable by means of algorithms.

We know that the algorithmic medium is not only a medium of communication or dissemination of information but also, especially, a ubiquitous environment for the automatic transformation of symbols. We also know that a society's capacities for analysis, synthesis and prediction are based ultimately on the structure of its memory, and in particular its system for encoding and organizing data. As we saw in the previous section, the only thing the algorithmic medium now in construction lacks to become the matrix of a new episteme that is more powerful than today's, which has not yet broken its ties to the typographical era, is a system of semantic metadata that is equal to the calculating power of algorithms.

MEMORY, COMMUNICATION AND INTUITION

It is now accepted that computers increase our *memory* capacities, in which I include not only capacities for recording and recall, but also those for analysis, synthesis and prediction. The algorithmic medium also increases our capacities for *communication,* in particular in terms of the breadth of the network of contacts and the reception, transmission and volume of flows of messages. Finally, the new medium increases our capacities for *intuition,* because it increases our sensory-motor interactions (especially gestural, tactile, visual and sound interactions) with large numbers of people, documents and environments, whether they are real, distant, simulated, fictional or mixed. These augmentations of memory, communication and intuition influence each other to produce an overall augmentation of our field of cognitive activity.

Semantic encoding, that is, the system of semantic metadata based on IEML, *will greatly increase* the field of augmented cognitive activity that I have described. It will produce a second level of cognitive complexity that will enter into dynamic relationship with the one described above to give rise to algorithmic intelligence. As we will see, semantic coding will generate a reflexivity of memory, a new perspectivism of intellectual intuition and an interoperability of communication.

REFLEXIVE MEMORY

The technical process of objectivation and augmentation of human memory began with the invention of writing and continued up to the development of the Web. But in speaking of *reflexive memory*, I go beyond Google and Wikipedia. In the future, the structure and evolution of our memory and the way we use it will become transparent and open to comparison and critical analysis. Indeed, communities will be able to observe – in the form of ecosystems of ideas – the evolution and current state of their cognitive activities and apply their capacities for analysis, synthesis and prediction to the social management of their knowledge and learning. At the same time, individuals will become capable of managing their personal knowledge and learning in relation to the various communities to which they belong. So much so that this reflexive memory will enable a new dialectic – a virtuous circle – of personal and collective knowledge management. The representation of memory in the form of ecosystems of ideas will allow individuals to make maximum use of the personal growth and cross-pollination brought about by their circulation among communities.

PERSPECTIVIST INTELLECTUAL INTUITION

Semantic coding will give us a new sensory-motor intuition of the perspectivist nature of the information universe. Here we have to distinguish between the conceptual perspective and the contextual perspective.

The *conceptual* perspective organizes the relationships among terms, sentences and texts in IEML so

that each of these semantic units can be processed as a point of view, or a virtual "centre" of the ecosystems of ideas, organizing the other units around it according to the types of relationships it has with them and their distance from it.

In IEML, the elementary units of meaning are terms, which are organized in the IEML dictionary in paradigms, that is, in systems of semantic relationships among terms. In the IEML dictionary, each term organizes the other terms of the same paradigm around it according to its semantic relationships with them. The different paradigms of the IEML dictionary are in principle independent of each other and none has precedence over the others *a priori*. Each of them can, in principle, be used to filter or categorize any set of data.

The sentences, texts and hypertexts in IEML represent paths between the terms of various paradigms, and these paths in turn organize the other paths around them according to their relationships and semantic proximity in the ecosystems of ideas. It will be possible to display this cascade of semantic perspectives and points of view using three-dimensional holograms in an immersive interactive mode.

Let us now examine the *contextual* perspective, which places in symmetry not the concepts within an ecosystem of ideas, but the ecosystems of ideas themselves, that is, the way in which various communities at different times categorize and evaluate data. It will thus be possible to display and explore the same set of data interactively according to the meaning and value it has for a large number of communities.

Reflexive memory, perspectivist intuition, interoperable and transparent communication together produce a cognitive augmentation characteristic of algorithmic intelligence, an augmentation more powerful than that of today.

INTEROPERABLE AND TRANSPARENT COMMUNICATION

The *interoperability of communication* will first concern the semantic compatibility of various theories, disciplines, universes of practices and cultures that will be able to be translated into IEML and will thus become not only comparable but also capable of exchanging concepts and operating rules without loss of their uniqueness. Semantic interoperability will also cover the automatic translation of IEML concepts into natural languages. Thanks to this pivot language, any semantic network in any natural language will be translated automatically into any other natural language. As a result, through the

IEML code, people will be able to transmit and receive messages and categorize data in their own languages while communicating with people who use other languages. Here again, we need to think about cultural interoperability (communication in spite of differences in conceptual organization) and linguistic interoperability (communication in spite of differences in language) together; they will reinforce each other as a result of semantic coding.

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1 The IEML project is described in my book *The Semantic Sphere,* vol. 1, London: ISTE/Wiley, 2011. IEML is an artificial language that allows the automatic computing of the semantic relationships internal to its texts and of the semantic relationships between its texts.

2 Or on any other system of semantic encoding with similar properties.

3 Such as Joseph Licklider (1915-1990), Douglas Engelbart (1925-2013) and Ted Nelson (1937-).

4 A monopoly that was very often regulated or controlled by governments.

5 Critical thinking here means the capacity to assess the transparency of an information source, verify its accuracy through cross-referencing and decode its implicit assumptions and theories.

6 Castells, *Communication Power* (Oxford UP, 2009) and other works; Barry Wellman and Lee Rainie, *Networked: The New Social Operating System* (MIT Press, 2012); and other works by Wellman show clearly that, according to the best empirical studies, and contrary to the myth popularized by anti-technology journalists and intellectuals, people who participate in social networks generally have a social capital and a feeling of power over their own lives that are greater than those of people who do not.

7 *The Semantic Sphere,* vol. 1 (London: ISTE/Wiley 2011), especially Chapter 8.

8 See Chris Anderson, "The End of Theory: The Data Deluge Makes the Scientific Method Obsolete," *Wired,* June 23, 2008.

9 Among the very abundant literature on the subject, see the following books by two great epistemologists of the twentieth century: Karl Popper, *Objective Knowledge: An Evolutionary Approach* (Oxford: Clarendon Press, 1972); Michael Polanyi, *Personal Knowledge: Towards a Post-Critical Philosophy* (University of Chicago Press, 1974; first published in 1964).

10 In *Big Data: A Revolution* (cited above): 73-77.

11 To be more precise, the hypertextual semantic networks will be able to be translated automatically for all languages in the IEML multilingual dictionary.

⊙ ♦ ⊙

# ABSTRACTS :: SUMMARIES

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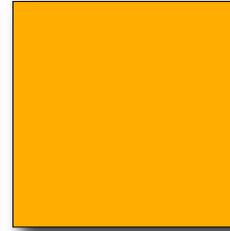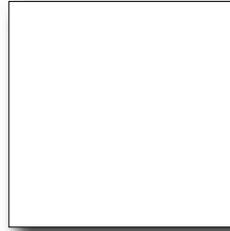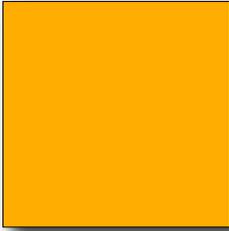
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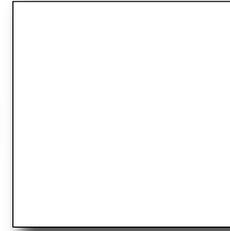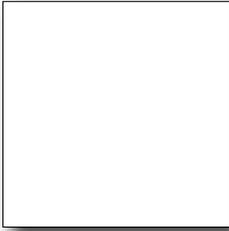
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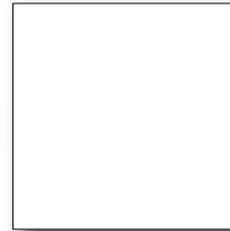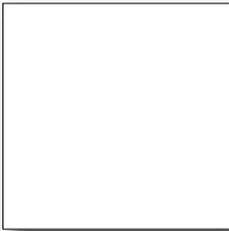
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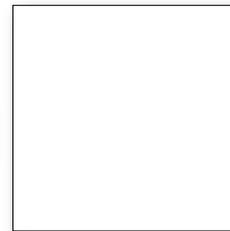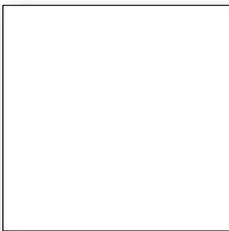
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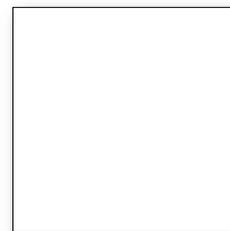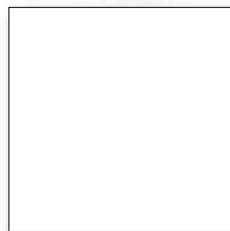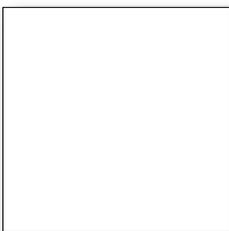
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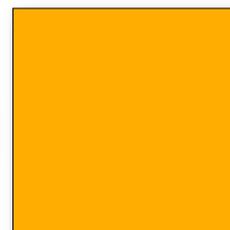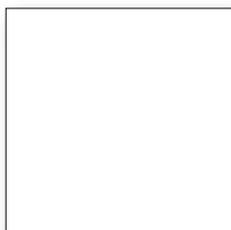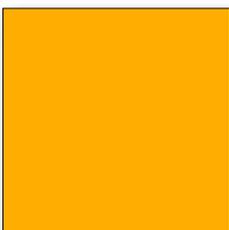
ZUBIZARRETA

LA DAME À LA LICORNE ∞ TOUCH

MÓNICA EDWARDS-SCHACHTER

ON THE INTERRELATIONSHIPS BETWEEN
CREATIVITY, LEARNING AND
SOCIAL INNOVATION

Collective creativity and social innovation are considered critical to address the grand challenges we are facing in our planet. However, creativity is usually acknowledged and explained at individual level and creativity or the creation capacity and innovation are usually treated as independently. How is creativity defined as a collective phenomenon? How can creativity be characterized as part of a learning process in knowledge society? What does creativity mean in the context of social innovation? This paper attempts to answer these questions, presenting an overall view of the main theoretical elements, debates and research trends on the role of creativity as a dimension embedded in socio-cultural practices and how they relate to learning processes and the emergence of social innovation.

KEYWORDS ~ Collective creativity, social innovation, learning. ∞ [27-34].

PIERRE LÉVY

INNOVATION IN ENCODING

IEML is an artificial language that allows the automatic computing of (a) the semantic relationships internal to its texts and of (b) the semantic relationships between its texts. Such an innovation could have a positive impact on the development of human collective intelligence. While we are currently limited to logical and statistical analytics, semantic coding could allow large scale computing on the meaning of data, provided that these data are categorized in IEML. Moreover "big data" algorithms are currently monopolized by big companies and big governments. But according to the perspective adopted here, the algorithmic tools of the future will put data-analytics, machine learning and reflexive collective intelligence in the hands of the majority of Internet users.

I will first describe the main components of an algorithm (code, operators, containers, instructions), then I will show that the growth of the algorithmic medium has been shaped by innovations in coding and containers addressing. The current limitations of the web (absence of semantic interoperability and statistical positivism) could be overcome by the invention of a new coding system aimed at making the meaning computable. Finally I will describe the cognitive gains that can be secured from this innovation.

KEYWORDS ~ Artificial language, IEML, sematic relationship, data analysis. ∞ [59-66].

STEVE MCINTOSH

TOWARD A METHOD
FOR EVOLVING CONSCIOUSNESS

This article is excerpted from book, *The Presence of the Infinite: The Spiritual Experience of Beauty, Truth, and Goodness*, by Steve McIntosh (Quest Books, 2015). The article explores the potential of a new method for evolving consciousness through spiritual experience. The potential for such a method follows from the insight that human evolution can be fostered most effectively through the experience and creation of spiritual realities.

The article explores "Eight Premises" which point to the possibility of a new approach that can solve some of humanity's most pressing social problems by increasing the scope of what people are able to value.

KEYWORDS ~ Evolving consciousness, spiritual practice, creativity, social problems. ∞ [51-58].

STANISLAV PANIN

NOTIONS OF EVOLUTION AND ENLIGHTENMENT
IN THE LATE NINETEENTH AND EARLY
TWENTIETH CENTURY ESOTERIC LITERATURE

From the nineteenth century onwards, the idea of evolution has been playing an important role in Western culture. Charles Darwin successfully propagated this idea in the academia and it is no surprise that today some scholars talk about "the evolutionary paradigm" in the sciences. However, the idea of evolution was popular not only in the academia, but also among participants of different esoteric circles of that time. Some of the prominent figures, who focused on the idea of evolution, were Helena Blavatsky, Carl du Prel and Konstantin Tsiolkovsky. In their works, the idea of evolution in biological sense developed into the idea of collective transformation of humankind that will lead to the principally new state of being. Blavatsky and her fellow theosophists called this future state of humanity "the sixth race," whereas for Tsiolkovsky it was a "radiant humanity". Although the names were different, the concept itself was common in many senses, and the idea of enlightenment played a crucial role in it.

Throughout the history of Western culture, the word enlightenment had different senses. Augustine developed the concept of divine illumination that is still important nowadays for Christian philosophy and mysticism. However, in the eighteenth century, a new notion of enlightenment emerged that provides the period with its name – the Age of Enlightenment. Although many authors of the period were critical about traditional spirituality and concentrated on scientific exploration of the nature, F. Yates has shown that their ideas have their roots in such Western esoteric currents as Rosicrucianism. Finally, in the nineteenth century, European thinkers adopted the third concept of enlightenment from Eastern religions, particularly from Buddhism and Hinduism. These concepts of enlightenment merged in the late nineteenth century esoteric literature and influenced the views on the future development of humanity provided by the authors of this period.

KEYWORDS ~ Evolutionary paradigm, collective transformation, esotericism, enlightenment. ∞ [41-45].

GERARD J. PUCCIO

DEMOCRATIZING CREATIVITY: HOW CREATIVE
THINKING CONTRIBUTES TO INDIVIDUAL,
ORGANIZATIONAL AND SOCIETAL SUCCESS

Creativity has always been a competitive advantage of the human species and in the hyper-changing world of the 21st century creative thinking and problem solving are considered by many to be essential survival skills – professionally and personally. The purpose of this paper is to outline some of the key benefits associated with applied and deliberate creativity. Through this exploration it is hoped that the reader

will gain a deeper appreciation for the nature of creativity, thereby recognizing the important role creative thinking plays in his or her life. As a discipline creativity research and education has grown dramatically since the pioneering days of the 1950's. Today there are more than a dozen journals in the field and countless books, as well as numerous creativity scholars, educators, and trainers. That said, the scientific and applied understanding of creativity has not been well indoctrinated into society's psyche; misconceptions still abound. It is hoped that this review of the many benefits of creativity will serve as a call to action, facilitating the reader to be more aware of and concerned for the development of his or her own innate creative power.

KEYWORDS ~ **Creative power**, applied creativity, education. ∞ [19-26].

LOUISE SUNDARARAJAN
INDIGENIZING CREATIVITY: A CREATIVE SOLUTION TO ORIENTALISM IN CROSS-CULTURAL PSYCHOLOGY

In its assessment of the creativity of non-western cultures, cross-cultural psychology tends to be oblivious of local excellence. I examine the contributing factors of this blind-sight, with special focus on a form of biased representation of the other, known as Orientalism. For instance, as Hook (2005) points out, there is a recurring slippage between "the ideals, the norms of the valorised Western culture, and those of the dominated culture, which comes to be the demoted *other* of all of these values." Indeed, when cross-cultural psychology comes with robust empirical evidence to bolster its claim that the West is more creative than non-western cultures, it becomes near impossible for the latter to refuse to "accept some miniature version of yourself as a doctrine to be passed out on a course syllabus". As a solution to the long shadows of Orientalism in psychology, I propose the approach of indigenous psychology, which is particularly suited for a study of local excellence. For illustration, traditional Chinese forms of creativity will be examined.

KEYWORDS ~ Orientalism, indigenous psycology, Chinese creativity, the *other*. ∞ [35-40].

CHARLES TART
ENLIGHTENMENT AND CREATIVITY: GRAPPLING WITH THE ANGEL/DEVIL OF "NON-DUALITY"

Important aspects of our lives are referred to with such imprecise terms as enlightenment, creativity, and non-duality, but what are these actually about? How do we separate the sense from the nonsense? The author, whose 1969 *Altered States of Consciousness* book helped open science to the study of consciousness and whose 1975 *Transpersonal Psychologies* book helped establish a field of psychology dedicated to discovering and usefully applying what is real about our "spiritual" nature, here wrestles non-duality, cultural conditioning, state-specific sciences, and the like from more than half a century's perspective spent working to build constructive bridges between the best of science and the best of spirituality.

KEYWORDS ~ Enlightenment, duality, non-duality, spirituality, cultural conditioning. ∞ [1-7].

PAUL VON WARD
COLLECTIVE AND EVOLVING HUMAN CONSCIOUSNESS

How each individual's consciousness is not only linked to other humans and other Earth species, but with non-physical centers of both individuals and group consciousness. Furthermore, I hope to validate my thesis that each individual's consciousness evolves through a series of lifetimes. These two phenomena should support the concept that consciousness is the foundation of our living universe.

KEYWORDS ~ Individual and group consciousness, conscious evolution. ∞ [47-49].

ROSA ZUBIZARRETA
PARTICIPATORY PUBLIC POLICY MICROCOSMS: DIVERSITY AND EMPATHY AS GENERATORS OF CREATIVE WHOLENESS

One limitation of the "majority wins" approach to democracy is its "argument-as-battle" mode of discourse, based on the underlying epistemological assumption that finding truth is best served by playing "king-of-the-hill". This dominator mode of discourse is embedded in our larger culture, yet alternatives are beginning to emerge. Within the realm of politics, the evolutionary impulse to work creatively with differences is currently manifesting significant democratic experiments whose underlying dynamics could be described metaphorically with the following equations: (microcosm of larger society) • (supportive facilitation) = holotropic outcome; (holotropic outcome) • (widespread storysharing) = societal learning. Two instances are explored briefly, MacLean's "Canadian experiment" and South Africa's Mont Fleur scenarios. A third is explored more fully: Vorarlberg, an Austrian state, has hosted more than 35 ad-hoc Civic Councils for generating high-quality participatory public policy inputs. These randomly-selected microcosms have repeatedly evoked collective wisdom, systemic insights, and powerful convergences. This work is coordinated by Vorarlberg's State Office for Future-Related Issues using Dynamic Facilitation, a non-linear, empathy-based methodology for the Civic Councils, and World Café for the subsequent public Civic Cafés. Given the role of local municipalities and regions in sponsoring these Councils, institutional good faith / responsiveness has been found as key for positive outcomes, modifying slightly the above equations. The wide-spread societal learning from these various collective experiments can be understood as generating shifts in our shared appreciative systems, as delineated by Vickers; also as steps toward high-leverage shifts in our shared paradigms, as described by Meadows.

KEYWORDS ~ Democracy, supportive facilitation, paradigm shift, Civic Councils, World Café. ∞ [9-17].

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Shaping the Invisible into Form.
Are small things to make a great life.

MOMO

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**DISCLOSING
SHARED COGITATIONS**

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FROM EMPATHY TO WOLHNESS
FROM DUALITY TO NONSENSE
FROM CREATIVITY TO LEARNING
FROM EVOLUTION TO NONPHYSICAL
FROM INNOVATION TO ENCODING
FROM PARTICIPATION TO MICROCOSM
FROM ENLIGHTENMENT TO ESOTERICISM
FROM SOCIETAL SUCCESS TO DEMOCRACY
FROM SOCIAL INNOVATION TO CONSCIOUSNESS
ARE SOME OF THE VISIONS UNVEILED IN THIS

CREATIVITY
&
COLLECTIVE
ENLIGHTENMENT
ENDEAVOUR

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