ABSTRACTS

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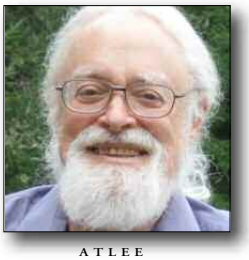
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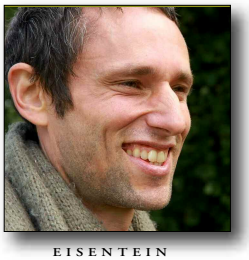
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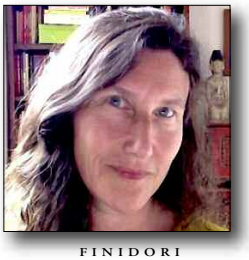
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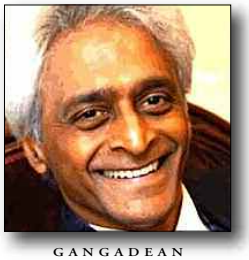
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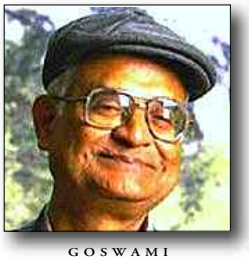
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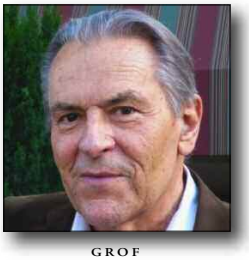
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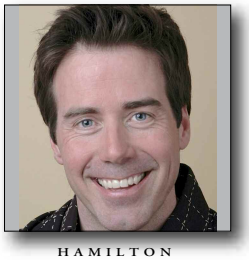
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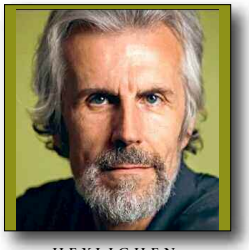
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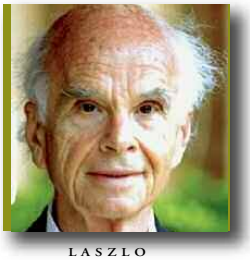
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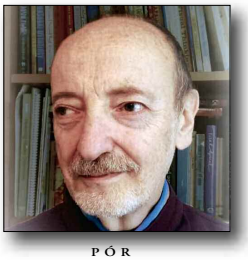
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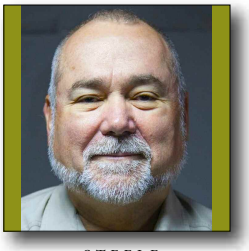
STEELE

ADEBAYO AKOMOLAFE

THE TREES SILL SPEAK: THE COLLECTIVE INTELLIGENCE OF THE NATURAL WORLD

The Enlightenment bequeathed to us a dualistic model of the universe, pitting science against superstition, logic against irrationality, order against chaos, civilization against nature, and the glorious sentience of humankind against the dead, mindless motions of a mute cosmos. As such, we have co-developed a social arrangement that thrives on *this* logic of separation – a cultural monoculture that treats the 'natural world', much to our peril, as fodder for the purposes of economic growth and 'development'. However, new insights in scientific research into quantum phenomena and a surging interest in indigenous knowledge systems are changing that narrative – instead suggesting not only that consciousness is fundamental to the way the universe works (and not merely an epiphenomenon of brain physics) but that the cosmos is alive in ways our most advanced sciences cannot yet articulate. It is now increasingly useful to think of trees, people, non-human beings, and even ecosystems as a collective intelligence, a kind of planetary 'brain' acting in ways that may not seem intelligent when understood from a fragmented perspective, but shows intelligence when modeled from a holistic viewpoint.

In this essay, I reflect on the implications of an intelligent cosmos on the subject of human agency, and bring these reflections to bear on contemporary theories of social change – especially in these times of urgent multiconvergent crises. Drawing from an African proverb that states 'the times are urgent, let us slow down', I hope to deepen the conversation about today's civilizational impasses and the possibilities for radical planetary futures by stressing other-than-human intelligences, plural knowledge fields and reality models, and shamanic access to 'subtle realms'.

KEYWORDS ~ Consciousness, natural world, social change. | [115-118].

TOM ATLEE

THE ROLE OF COLLECTIVE INTELLIGENCE IN THE WISE DEMOCRACY NEEDED FOR HUMANITY'S SURVIVAL

This article proposes that the primary function of intelligence is to sustain a dynamic system's balance between environmental control and adaptability. A dynamic system needs to remain in tune with its changing environments so that its actions continue to be successful. It does this through impacting its environment and adapting itself to changing conditions. Both strategies depend on awareness of environmental realities and their relevance to the success and survival of the intelligent system.

Human collective intelligence in technological, economic, and cultural realms has led to the rapid evolution of human civilization's capacity to impact its environment. Humanity's problem-solving capabilities have translated problematic circumstances into new forms of impact, a process known as progress. However, this process has today projected extremes of actual and potential impact into unprecedented scales and realms that challenge not only our ability to respond but the very basis of our responsive capacities – the nature of our intelligence itself. Approaches to collective intelligence attend variously to computerized systems (and their networks); to the quality of information/knowledge systems and conversational methodologies; to human diversity (including diverse cognitive capacities); to spiritual and intuitive practices and collective consciousness; to the dynamics of collaboration, aggregation, and stigmergy; and to social dynamics, especially those related to power.

The most important realm in which collective intelligence is least developed – and, in fact, is actively undermined by ideological and self-interested applications of collective intelligence – is the realm where whole-society decisions are made, namely politics and governance. The integration and application of multiple approaches to collective intelligence to this realm – and the expansion of collective intelligence to manifest as collective wisdom – are necessary to avoid the collapse of civilization through rapidly emerging crises generated by our lopsided collective intelligence-driven powers in technological, economic and cultural realms.

KEYWORDS ~ System's balance, adaptability, dynamic system, multiple approach, collective wisdom. | [5-16].

ARTHUR COLMAN ~ PILAR MONTERO

THE NEW LONGEVITY

For the first time in history, there is a large and rapidly growing subgroup of men and women over 65, currently approximately 14% of the population of most developed and some developing countries who share a great deal in common. We call this life stage longevity and its members longevites (as opposed to seniors and the aged) to emphasize the positive and creative potential inherent in this expanding cohort within the world population. Most literature on the population explosion of the aging has emphasized pragmatic factors, e.g. economic cost, medical services, etc. rather than considering the *intergroup transfer of knowledge that is a consequence of this newly defined entity in our world.*

Longevites are a group bounded by age 65 to the death of its members. It is in continuous, dynamic interrelation and intercourse with the other subsystems in our human culture and peppered with back and forth meaningful and consequential projections. As the group struggles to define itself, it learns and shares the many ways it varies from the earlier stages of life it has already passaged. We give theory and examples of transformations in consciousness, collective intelligence and wisdom within the longevity group. Some of the categories we discuss have to do with attitudes toward time (present and future), spirit, truth telling, and a greater appreciation for psycho-ecstatic states associated with death.

Finally, we propose that in the potential psyche of the longevites is a substrate of rituals and symbols about the dance with death that once brought into awareness will enrich the entire human collective's desire to embrace the sacred drama of life.

KEYWORDS ~ Longevity, aging, demographic shift, transformation, rituals, death. | [153-162].

DERRICK DE KERCKHOVE
CONNECTED INTELLIGENCE FOR THE CIVIL SOCIETY: THE INTERNET AS A SOCIAL LIMBIC SYSTEM

I adopted the term connective as a sub category of collective intelligence to indicate cognitive relationships that include specific configurations and proper attribution to individual participants. The assumption is that all forms of group intelligence are subsumed by the term collective. But it isn't so. At best collective may signify the overall cognitive achievement of a community over a given period of time. Connective, however, reflects the form, duration and outcome of specific cognitive activities performed by groups of individually identifiable persons working together. It applies in particular to social relations and interactions that are carried by networks. The Internet is an emotional as well as cognitive environment. It offers and stimulates different levels of involvement from simple collaborative practices to emotional engagement in social movements. Considering that Civil Society needs and uses intelligent strategies for real time activism, it may be opportune to refine our approach to intelligence.

KEYWORDS ~ Cognitive relationships, connective intelligence, collaborative practices, Big Data. | [71-75].

CHARLES EISENSTEIN
QUALITATIVE DIMESNIONS OF COLLECTIVE INTELLIGENCE: INTENTION, WISDOM AND SOUL

This essay plays with two definitions of collective intelligence, drawing on two meanings of the word "intelligent" that bring to bear relevant arguments from the philosophy of mind, particularly in reference to artificial intelligence (AI) and its distinction between "strong AI" and "weak AI." One definition associates intelligence with the ability to perform tasks involving logic, reasoning, pattern recognition, etc., an ability that can be quantified and measured. Most theory and research on collective intelligence works with this definition. Another sense of the word associates intelligence with some kind of consciousness or awareness, and would distinguish (per Searle) between real intelligence and the mere mechanical solving of problems. It is qualitative and its presence can only be inferred, not measured. I will explore the question of whether this sort of intelligence, as well as the problem-solving variety, is present in collectives. Do groups have a sentience that transcends the sentience of their parts? Do they have, whether in actuality or in potential, a capacity for morality or wisdom that cannot be reduced to mere problem-solving efficiency? Is it meaningful to speak of the desire, the intention, the purposiveness of a group as distinct from that of its members? And if so, how can these qualities be developed in socially desirable ways? I will adopt a transdisciplinary approach to exploring these questions, drawing upon notions of intersubjectivity, the social construction of self, crowd psychology, emergent phenomena, and concepts of group mind from mysticism, indigenous worldviews, and depth psychology.

KEYWORDS ~ Artificial intelligence, consciousness, group sentience, intersubjectivity, group mind. | [65-69].

HELENE FINIDORI
COLLECTIVE INTELLIGENCE IS A COMMON THAT NEEDS PROTECION AND A DEDICATE LANGUAGE

Technology is what boosts the capacity of individuals and communities to become authors of their own stories, and what enables collective intelligence to become aware of itself and to fulfil its long awaited promise. It is also what can lock up potential inside black boxes for just a few to benefit from.

We are facing a paradox. It seems that at the same time as collective intelligence is making itself increasingly palpable and promising as a whole, the possibility of it being actionable locally and effectively, enabling us to get ourselves out of a planetary predicament, is becoming remote.

In this article, I look at how collective intelligence is hindered or being captured as it comes into being, with the threat of leaving us deprived from a significant source of latent agency, and I suggest what it would take to reclaim it back.

I build upon the Ecology for Transformative Action, which I set the stage for in the last issue of this journal, to examine the condition under which technology and systems dynamics can be turned towards the greater good and how collective intelligence can be mobilized as a force for systemic change. In particular, I explore how a pattern language for systemic change regenerative of commons could be the means of expression of operationalized collective intelligence.

KEYWORDS ~ Ecology for transformative action, technology, system dynamics, pattern language, systemic change. | [79-89].

ASHOK GANGADEAN
AWAKENING COLLECTIVE GLOBAL INTELLIGENCE: THE POWER OF DEEP DIALOGUE

When we step back from our more localized cultural narratives, perspectives, worldviews and disciplinary orientations and dilate our hearts and minds into the more expansive and inclusive global space whence our diverse worldviews co-originate and co-arise, striking new patterns and insights come into relief that were not accessible before. When we dilate our rational and spiritual intelligence into the ((Source Field)) and gain access to the long emerging ((Logos Code)) that flows through all our diverse worldviews, religions, ideologies and cultures we move from monologue to ((deep dialogue)) and enter this Primal Common Ground of deep consensus, convergence, connectivity and synergy across and between worlds. This Deep Dialogue literacy, technology and intelligence is what empowers us to rise together in ((Collective Intelligence)) across the deeply entrenched borders that divide our cultures and worlds. Gaining access to this ((Primal Logos Code)) through the rational arts of Deep

Dialogue is thus key to cultivating genuine ((Collective Intelligence)) in this dilated global light. The ontological medicine of Deep Dialogue across and between worlds is vital for cultivating authentic ((Collective Intelligence)) and tapping the resources of ((Global Wisdom)) for our Global Age. Source Intelligence, skills of Deep Dialogue and the cultivation of Global Consciousness are keys to the cultivation and embodiment of Collective Intelligence as we face the evolutionary challenges of deep communication and finding consensus and synergy across borders. Thus, we cannot enter ((Collective Intelligence)) within the divisive, fragmented and polarized spaces of monologue cultures, but must mature as mindful and awakened Humans in the arts of Deep Dialogue. We are not egosapiens, but LogoSapiens. And it is in mature dialogue cultures that we humans flourish.

KEYWORDS ~ Deep dialogue, global consciousness, source intelligence. | [139-147].

AMIT GOSWAMI
LOVE AND THE AWAKENING OF THE HEART CENTRE: HOW IT MAY PREVENT, EVEN HEAL WOMEN'S BREAST CANCER

This is a prime example of new ways to deal with old problems of disease when we invoke the primacy-of-consciousness worldview to medicine. I will first show the connection of the phenomenon of love, love as the basis of collective intelligence, the so-called heart chakra, and the immune system functioning. The exploration of this connection throws new light on the connection of suppression of love and cancer, especially breast cancer. I next explore the question: how best to center oneself in love and the heart and prevent cancer? I will show that the answer lies in awakening the self of the heart and living it.

KEYWORDS ~ Consciousness, love, heart chakra, immune system, cancer. | [149-152].

STANISLAV GROF
ARCHETYPES, MYTHIC IMAGINATION AND MODERN SOCIETY: THE RE-ENCHANTMENT OF THE WORLD

In this paper the Author stresses the importance of mythic imagination and archetypal psychology for modern society with a brief discussion of the nature and dynamics of the archetypes and how the understanding of their significance has changed over the centuries. Following, Grof addresses specifically the implication of archetypal thinking for a variety of disciplines and its relevance for the global crisis we are currently facing.

KEYWORDS ~ mythic imagination, archetypal psychology, archetypes, archetype thinking. | [27-37].

CRAIG HAMILTON
COLLECTIVE INTELLIGENCE AND THE EVOLUTION OF SELF AND CULTURE

In this time of global crisis and opportunity, collective intelligence practices have demonstrated considerable promise in helping organizations and groups access higher-order potentials and synergistic solutions (Hamilton, 2004). However, for many of today's global scale problems, there is often general agreement on needed action, yet great difficulty marshalling individual and collective motivation for change. Open mind, open heart, and open will (Scharmer, 2009) have been identified as facilitators of collective synergy, yet these qualities have yet to be institutionalized and promoted within culture.

After experiencing the impact of collective awakening experiences in a community setting, Craig Hamilton began exploring the potential for collective transformative engagement within a virtual context. Over the past five years, his teachings have reached tens of thousands and have supported the development of a global learning community based in principles of evolutionary culture and practices for a life of awakening to higher purpose and emergent potential – for the sake of the whole. In this interview, Craig Hamilton shares his evolving understanding of collective intelligence practices and their potential for enabling needed transformation of self and culture. Author George Pór also participates in the interview, offering an opportunity for exploration of resonances and contrasts with his concept of collective sentience.

KEYWORDS ~ Collective synergy, transformative engagement, evolutionary culture. | [119-126].

FRANCIS HEYLIGHEN
CHALLENGE PROPAGATION: TOWARDS A THEORY OF DITRIBUTED AND GLOBAL BRAIN

We sketch a foundation for a new theory of distributed intelligence, based on the concept of challenge propagation, which extends the mechanism of spreading activation in neural networks to the collective intelligence emerging from a network of interacting agents. Challenge propagation is a form of self-organizing, distributed processing that allows agents to collectively tackle challenges too complex for a single agent, and that can be mathematically and computationally modelled. The basic idea is to combine the notion of "challenge", which is defined as a phenomenon that elicits action from an agent, with the notion of "propagation", which denotes the process by which such phenomenon is iteratively transmitted from agent to agent. A challenge is a generalization of the notions of problem, opportunity and activation. It can be characterized by valence (positive or negative), prospect, mystery and difficulty. An agent's action on a challenge will typically "relax" the challenge, but not resolve it altogether, so that some degree of challenge remains for further agents to act upon. Propagation occurs either via a shared medium in which challenging traces are left for others (stigmergy), or by via a network of links learned through reinforcement of successful transmission.

KEYWORDS ~ Challenge propagation, distributed intelligence, ontology of action, complex systems, Global Brain, society of mind. | [51-63].

NORMAN LEE JOHNSON
THE APPLIED SCIENCE OF COLLECTIVE INTELLIGENCE: SOLVING THE GRAND CHALLENGES FACING HUMANITY

Almost every generation imagines itself on a precipice, where problems seem too complex to solve and the future is bleak. Yet, society survives each time, often reinventing itself. With global climate change, dying oceans, democide, killer epidemics, and other modern crises, humanity may truly be at the precipice where our actions in the next decade will determine the future of humankind.

In this article, we discuss how proactive collective intelligence is the game-changing resource that offers hope, extending its role beyond the "wizard behind the curtain" in the past. Based on research over the last two decades, the advantages and limitations of collective intelligence can be now understood. When added to the traditional spectrum of problem-solving methodologies and leadership, collective intelligence using diverse groups can extend the complexity of problems that can be solved – defining when and how diverse collectives can outperform experts, while being more robust.

Because expression and compatibility of diversity are required for collective intelligence, we show how managing social identity (us versus other) is the key to enabling diversity, particularly when diverse views are in conflict or contain biases. We conclude that future methodologies may need to embrace biases that have embedded truths captured within situated understandings of the complex problem domain.

Finally, a practical example of a grand challenge project illustrates the implementation of above concepts to solve a problem of international importance. This project used advanced risk assessment methods, similar to Open Spaces and World Café, that efficiently captured diverse knowledge, even when participants were biased and in conflict.

KEYWORDS ~ Collective intelligence, complexity, leadership, diversity, bias, objectivity, social identity, emergent solutions, risk assessment, crowdsourcing, social organization and transformation, cooperation, competition, prediction markets. | [97-107].

ERVIN LASZLO
THE ONE MIND IN THE COSMOS AND ITS MANIFESTATIONS IN OUR CONSCIOUSNESS

In this paper the Author maintains that clear evidence are coming to light about conscious experience beyond the range of sense and beyond the body itself, proving that individual consciousness does not end with the physical death. To the mainstream view on consciousness being a product of the brain, Laszlo propounds a paradigm in which consciousness is neither produced nor linked to a living brain, but is rather transmitted by the brain. This perspective rises the question: transmitted from where and how? To which the holofield theory answers postulating that consciousness might well be the projection of a cosmic coded hologram field – the Akashic field – accessible to the brain and the nervous system. A concept also widely discussed as the "holographic universe" in contemporary physics. We cannot speak of consciousness in the plural as the overall number of minds in the universe is one, our body may be separate, but our minds is not. If we would realize and take to heart this realisation, we could overcome the critical challenges of our time.

KEYWORDS ~ consciousness, brain, Akashic field, holofield theory, holographic univeres. | [1-4].

PIERRE LÉVY
THE PHILOSOPHICAL CONCEPT OF ALGORITHMIC INTELLIGENCE

The paper presents the case for an augmented and reflexive collective intelligence using the ubiquitous recording and computing power of the algorithmic medium.

The first part of the paper tells the research journey of the author since the publication of his book *Collective Intelligence*, twenty years ago. This scientific journey has led to the invention of IEML, an artificial language that self-translates in natural languages and endowed with computable semantics. When data are categorized in IEML, their semantic relationships are automatically computed. Moreover, as IEML provides an algebraic account of linguistic semantics, the modelling of human intelligence, which is precisely based on language, becomes reachable.

The second part of the paper analyses the historical and philosophical implications of this scientific breakthrough. I propose first a description of the reflexive knowledge of Antiquity and the Middle Ages that uses mainly the mirror of an agent intellect. I evoke then a second age of reflexivity, which preserves the universal perspective of the earlier period, but removes the reference to heaven and concentrates on human knowledge. This modern period, characterized by the strengthening of natural sciences and the fragmentation of humanities, reflects its cognitive activity in what Kant baptized a transcendental subject. Finally, I defend the hypothesis that when half the humanity will be connected to the Internet, a third renewal of reflexive knowledge will occur. This version 3.0 will keep the ideals of universality and scientific perfectibility but will rely on an extensive use of technology to increase and systematically reflect our collective minds, and therefore our personal and social learning abilities.

What is at stake is not an artificial intelligence mimicking some individual logical reasoning but the transition from our current typographic intelligence to a collaborative algorithmic intelligence.

KEYWORDS ~ Saugmented and reflexive collective intelligence, IEML, linguistic semantics, age of reflexivity, fragmentation of humanities, internet, collaborative algorithmic intelligence. | [17-25].

TERRI O'FALLON ~ VENITA RAMIREZ ~ GEOFF FITCH
COLLECTIVE INTELLIGENCE FROM THE CASUAL GROUND

Can individuals and collectives benefit one another when they come together through a shared awareness of the ground of being, which we call the causal ground, or

awareness itself? Is it possible for individual consciousness to bend and blend with the consciousness of the collective such that the individual shines even more in the field of the collective holding, while the collective captures the wisdom of the Source itself without burying individual light? From our experiments with collective intelligence and collective consciousness, we have developed an effective approach to support the evolution of this interpenetration of individual and collective consciousness, through a variety of states and stages, while addressing individual and collective shadow.

In this article, we express our experience with this mode of collective/individual intelligence. We will include practical steps that any collective can take to ground themselves in a causal field, the source itself, and to allow creativity to flow through the collective without detracting from any individual. We will offer statistics on the research that we have done to show the results of the evolution of our collective intelligence efforts. We will describe the qualities of conscious collectives that arise at various world-views, and their iterating patterns through the trajectory of collective development, repeating through concrete communities, subtle communities and causal communities, showing how collective intelligence itself is not "one thing" but that it evolves.

The very term "collective intelligence" captures the dream we all have in holding a vision for a better functioning society, globally for all of life. And in the true spirit of the topic, this paper is written from and through the collective intelligence of three people who have been working together in this field for the past ten years.

KEYWORDS ~ Shared awareness, causal ground, individual and collective shadow. | [91-95].

GEORGE PÓR
FROM RIGHT MINDFULNESS TO COLLECTIVE INTELLIGENCE TO COLLECTIVE SENTIENCE: SIGNPOSTS TO THE LATER STAGES OF OUR EVOLUTIONARY JOURNEY

This essay is a wide-ranging exploration into the conditions for realizing the next-level potential of human and social evolution. A starting point for looking at "evolution" is the unending journey resulting from the "dynamic interplay of the passive and the creative polarizations of the Absolute that unfolds itself into the energetic process of differentiation bringing forth the whole of creation." The evolutionary process actually continues through cycles of differentiation, then integration, at a higher level.

We are on the threshold of a new cycle of the spiral, the spiral of consciousness. The previous cycles, archaic, magic, mythic, modern and post-modern consciousness served us well by leading us so far. However, becoming stuck with them is becoming stuck with an existential threat of intertwining global crises that cannot be solved at the currently dominant modern and post-modern levels. The next cycle is the one of an integral, holistic consciousness that enables the integration of the inner and outer technologies and sciences, deep intuition and systems thinking, spirituality and precision of inquiry.

In this essay I explore some of themes that are core to our move into the next cycle, such as, collective intelligence, collective sentience, evolutionary guidance systems, integral and shared mindfulness.

KEYWORDS ~ Mindfulness, ethics, collective sentience, social organism, evolutionary ethos. | [39-49].

JIM ROUGH
THE CIRCLE: STRUCTURING FOR COLLECTIVE INTELLIGENCE

Triangle, Box and Circle are three fundamental ways humans can organize themselves for collective intelligence. The Triangle is where a leader is ultimately in charge; the Box is where a social contract or constitution is ultimately in charge; and the Circle is where the ultimate authority is a living conversation of "We the People." Today as we shift from independence to interdependence, our current Box form of democracy increasingly yields "collective stupidity" instead of "collective intelligence." We must shift to the Circle.

Key to making this shift are three social innovations: 1) choice-creating is the necessary form of whole-system conversation. Distinct from "dialogue," "decision-making," or "brainstorming" it is where people creatively and collaboratively face difficult issues and achieve win/win unity. 2) Dynamic Facilitation can reliably evoke choice-creating in small groups. 3) The Wisdom Council Process uses Dynamic Facilitation and random people to spark the spirit of choice-creating in large systems. Because the Wisdom Council process is safe yet proven, it opens new doors of possibility for leveraging collective intelligence at all levels –the organization, community, state, nation and world.

KEYWORDS ~ living conversation, "We the People", interdependence, whole-system conversation, Dynamic Facilitation, Wisdom Council. | [109-113].

ROBERT D. STEELE
APPLIED COLLECTIVE INTELLIGENCE: HUMAN-CENTRIC HOLISTIC ANALYTICS OF TRUE COST ECONOMICS IN CONTEXT OF OPEN SOURCE EVERYTHING

The emerging discipline of Collective Intelligence (CI) has been badly mis-directed by a combination of the faddish focus on "wisdom of the crowds" without conversation or dynamic facilitation, and an academic ivory tower fascination with artificial intelligence, something I studied deeply in the 1980's for the Central Intelligence Agency. CI must be appreciated in a cosmic and spiritual context as well as an ecological and social context that respects the inherent intelligence and communications skills of plants and animals along with the emerging understanding of how all matter is energy and energy is form of communication, CI in the 21st Century must focus on the true meaning of intelligence as evidence-based decision-support, rooted in holistic analytics, true cost economics, and open source everything. In this article I provide a

roadmap for eradicating corruption and waste in all forms through the creation of a World Brain Institute, a School of Future-Oriented Hybrid Governance, and an Open Source Everything Innovation Hub. My hope is that we can reinvent intelligence to re-engineer the human academy, economy, governance, and society such that the five billion poorest are empowered to create infinite sustainable wealth at the same time that we stop, in a non-violent manner, the pathologies of Western capitalism, colonialism, and militarism.

KEYWORDS ~ "Wisdom of the crowds", dynamic facilitation, artificial intelligence, communication, holistic analytics, true cost economics, open source, corruption, World Brain Institute. | [127-137].

SET
IN EIGHT,
NINE AND TEN POINTS
MONOTYPE ADOBE GARAMOND PRO
TWO POINTS LEADED, ACCORDING TO
SPANDA CREATIVE UNIT'S LAYOUT
AND PRINTED IN THE HAGUE,
JANUARY MMXV.

The next Buddha may take the form of a community,
a community practicing understanding and lovingkindness,
a community practicing mindful living.

THICH NHAT NANH