CREATIVE INQUIRY:
NAVIGATING THE ORDER AND DISORDER OF OUR PLANETARY CULTURE

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(Work in Progress)

INTRODUCTION

> The battle I see taking place is not between religious believers with firm moral commitments and secular relativists who lack conviction. It is a battle that cuts between the so-called religious/secular divide. It is a battle between those who find rigid moral absolutes appealing, those who think that nuance and subtlety mask indecisiveness, those who embellish their ideological prejudices with the language of religious piety, and those who approach the world with a more open, fallibilistic mentality—one that eschews the quest for absolute certainty. Such a mentality is not only compatible with a religious orientation; it is essential to keeping a religious tradition alive to new situations and contingencies. What we are confronting today is *not* a clash of civilizations, but a *clash of mentalities*. And the outcome of this clash has significant *practical* consequences for how we live our everyday lives—for our morality, politics, and religion. (Bernstein, 2005, pp. 16-17)

In the past, human societies were much more homogenous. Most people didn't travel very much, and many never wandered more than 20 miles beyond their home in their whole life. This was a world of relative certainty and simplicity. A community's social, political, cultural, and religious views were all most of its members knew. Over the years, all of this has changed. Historians are showing us that travel, commerce and exchanges across continents were more frequent than we might have thought, but for the majority of the world's population, homogeneity rather than diversity was the rule. Now the compression of time and space has created an interconnected world with an incredible network of exchanges. This transformation has not been unproblematic. It

has led to a world of pluralism and uncertainty, and the reactions to this complexity have increasingly been marked by polarization.

 In a world of pluralism and uncertainty, human beings are continuously faced with choices because there are few established ways of doing things, and there is increasing novelty and differentiation. There is a vast range of products available on the marketplace, from ice-cream flavors to TV stations to computers, and there are complex existential choices about what to do with one's life, the loss of lifetime employment, changes in gender relations and gender identification, looming environmental catastrophes, immigration, global insecurity, and personal identity. The complexity, pluralism, and uncertainty of life is overwhelming at times. We are arguably in the middle of the *Future Shock* discussed by Alvin Toffler.

In this essay I want the context of our understanding of knowledge and inquiry. I outline two perspectives to knowledge and inquiry, Narcissistic and Reproductive views. These views are sometimes referred to in a more philosophical context as the clash of Order and Disorder, Absolutism and Relativism, or Fundamentalism and Nihilism. I will be drawing extensively on this discourse in an effort to articulate an alternative, which I call *Creative Inquiry*.

Inquiry as a Path to the Future

Edgar Morin (1999) writes that we are facing a *Crisis of the Future*. We seem to have lost the clear (if admittedly on hindsight problematic) clear visions of the future of earlier times. Where once there was a vision of progress now there seems a void. The very engines of "progress" have turned into problems, and the term progress has not only become problematic—it seems to have fallen out of favor, and is now used very infrequently. The promise of industry and technology has also led to ecological disaster. Individualism has also led to alienation. The motorcar has also led to pollution and congestion. Nuclear energy has also led to the very real fear of global annihilation.

One way this crisis manifests is precisely through two main forms of response. One stressing Absolutist Order (e.g., Fundamentalism) and the other stressing Disorder and every man for himself (Nihilism). These responses manifest both in our philosophical discourse (cf. Bernstein, 1983) and in the world at large (cf. Anderson, 1990).

The critical nature of the situation has arguably pushed to a polarization of perspectives. Although they manifest in different forms, with different names, and have been interpreted in different ways, the underlying premise still brings us back to two opposing positions, one providing a firm foundation for life (cognitive, but also moral and cultural), the other providing none. Is all certainty, all foundation gone, and hence all hope for the future? The feeling that there are no foundations has, I believe, made us unable to think about positive futures. In the same way that it is suggested by some

religious groups that it is impossible to be ethical without a religious foundation, this lack of foundation has, I believe made it very hard to envision positive futures (Ogilvy, 1995) precisely because we are used to thinking about the future on the basis of a foundation, whether science, dialectical materialism, or religion.

Immanuel Kant asked, What can I know? What should I do? What can I hope for? The inability to answer these questions in any meaningful way other than in the extremes of Absolutist Order or the Disorder of Nihilistic consumerism is central to the crisis of the future. Going beyond these choices requires human creativity, and, I would argue, it requires us to be able to *inquire* into the world in a way that goes beyond Reproductive pre-established answers or pure Narcissistic self-interest. In a world of uncertainty, learning how to learn, how to inquire creatively, offers an opportunity to participate in the world in a more complex way. In a pluralistic world we are constantly faced with difference, novelty, and uncertainty. Traditional Reproductive education has prepared us to deal with the known, but not the unknown. With certainty but not uncertainty. With homogeneity, but not pluralism. With stability, but not change. Narcissistic education, most dominant in the anti-authoritarian 60s, has rejected the traditional Reproductive approaches and defined itself in opposition to it. It celebrates what is left out of traditional, Reproductive education, namely subjectivity, personal history, feelings, play, and imagination. Neither prepares us to address the challenge of the future.

My point here is not to offer answers to Kant's questions. My point rather is to propose that at present, we need to engage his questions deeply, but our educational, social, and cultural systems do not prepare is to do so. We literally don't know how to think about them. Simply put, our ability to inquire into the world, and into ourselves, is underdeveloped.

As I already suggested, I propose there are two major *approaches* to knowledge, both of which have been represented in educational institutions: Reproductive education, which stresses the importance of objectivity and the acquisition of knowledge from an external authority. This is what has traditionally been understood as 'education,' in the form of schooling. Learning the established canon, the great books, the material our culture considers essential for us to be good members of society. Reproductive education provides us with answers from authoritative sources. We learn established ways of addressing existing problems. In this sense, in its most extreme version, Reproductive education is the kind of education criticized by the great cyberneticist Heinz Von Foerster (1990), who argued that much of what passes for education treats students as if they were *trivial machines*. In a trivial machine, the output is entirely predictable from the input. In order to be successful, the student must effectively reproduce the authority's input. Any deviation from the input is considered "noise." The inquirer is considered entirely dependent on the authority. Reproductive education does not prepare us for the challenge of *creating* a new world, of participating in a new way in the planetary context. It does not prepare us for a world of uncertainty, pluralism,

novelty, and change. And it also does not prepare us to create ourselves, to become new kinds of citizens in the planetary culture of the 21st century (Bocchi & Ceruti, 2004).

The more recent, arguably postmodern, phenomenon of Narcissism stresses the importance of subjectivity over the objectivity of external authority. It privileges the self as the source of authority. Knowledge and its traditional sources have largely lost their authority and are viewed mainly in terms of how they can satisfy, support, and rationalize the project of the ego. Narcissistic learners reject Reproductive education. They challenge authority and the mainstream. They do not believe in any 'objective' truth or right or wrong. But in this sense, as their approach becomes closer and closer to ineffectual nihilism, they paradoxically become trivial machines as well. Reproductive and Narcissistic approaches manifest as reactions to the overwhelming complexity of pluralism and uncertainty, and suggest an *approach to knowledge*. Later on in these pages I will sketch out a possible alternative, an *approach to inquiry*, one that I refer to as *Creative Inquiry*.

Reproductive and Narcissistic

Reproductivism privileges a pre-established Order, whether meta-narratives provided by religion, science, or simply social conformism and nationalism. In an era of great anxiety, when many views compete for dominance, it can easily become strident religious fundamentalism, scientific faith, or militaristic nationalism (Montuori, 2005a). The assumption is that uncertainty and pluralism are manifestations of Disorder, and

will eventually be eliminated. Anything that does not fit in the tight definition of Order is viewed as Disorder, and is the result of ignorance or rejection of the right Order. Deviance from the established Order is to be avoided. The rise of educational institutions based on fundamentalist religious principles, such as Islamic fundamentalist Madrassas and Christian fundamentalist universities in the United States like Bob Jones University are an indicator of the anxiety created by pluralism and uncertainty. In a world of uncertainty and insecurity, they provide clear and unambiguous frameworks for living. Their binary, disjunctive logic tells us who to be for, and who to be against.

Narcissism, on the other hand, privileges Disorder. It holds that there is no privileged framework to make sense of the world, no "King Order," no "meta-narrative." And yet in the context of this Disorder, one has to somehow survive. The manifestations of that urge to survive take the form of economic, 'Materialist Narcissism' or salvific, 'Spiritual Narcissism.' This Narcissism translates into consumerism, including what the Tibetan teacher Chogyam Trungpa called 'spiritual materialism.' In the United States high school children demand automobiles, ipods, computers, video games, $150 jeans and all sorts of expensive toys, and "self-help" dominates books, television programs, and workshops on creating a self that, through acquisition, can withstand the collective loss of meaning, can fill the emptiness with consumer products and experiences.

Order and Disorder

> The old view was based upon clear and distinct ideas and was ushered in by Descartes, among other thinkers. It gave birth to the belief that concepts could

be clearly and uniformly defined, that the world could be considered a closed system and understood in the same way that a machine could be understood. Underlying the old view was a single, unified point of view; a viewpoint originally attributed to God but subsequently adopted as the objective eye of science. The new view, on the other hand, will be based upon ambiguity, upon alternate realities, as well as upon multiple points of view of observers who cannot be abstracted from what they are observing.
(Low, 2002 p.5)

A polarization between order and disorder is historically common (Morin, 1994). It is reflected on the one hand in positions seeking to re-establish a foundational, totalizing order, and eliminating all that is perceived as disorder, and on the other in nihilist, relativist, positions which fear that with no terra firma, with all absolutes gone, there's literally nothing to hang on to, and anything--or nothing--goes.

Living in this world of pluralism, uncertainty, and complexity is an invitation to clearly understand the generative potential of *disorder*. This presents the first and most important shift in thinking, which flies in the face of everything that was held dear in the reign of King Order, whether that order was provided by God or by Science or by the Laws of Dialectical Materialism (Morin, 1994). In the old theocratic or scientific or ideological order of "metanarratives," of grand, totalizing interpretive frameworks that provided-- and created--order (Lyotard, 1979), we were told to follow the grand musical score that defined our tasks and the actions we were to perform. Any deviation was profoundly problematic. The Inquisition, Auschwitz, and ethnic cleansing represent the extremes of this will to purification to create the pristine Order (Bocchi & Ceruti, 2002). And it is this obsession with order and purity and their enforcement, among other

things, that led to the post-modern rejection of these kinds of Lyotardian "totalizing metanarratives." In their view. there is not one correct musical score we should all perform. And attempts at imposing such a score have usually led to disasters, humanity's darkest hours.

If once upon a time religion, and then science, provided us with an image of an orderly, knowable, and determined world, in our age this image has progressively crumbled (Bocchi & Ceruti, 2002). Toulmin (1982) has argued that the "hidden agenda" of modernity was to create a completely rational, orderly world. Part of that project included the complete elimination of disorder: order was viewed positively, disorder negatively. What form of organization--be it social, economic, cognitive, or musical-- emerges from such a view of order and disorder? An organization--understood here as any complex system ranging from the cognitive to the industrial--that attempts to eliminate all disorder moves perilously close towards becoming a closed, homogeneous, frozen system (Kauffman, 1995; Morin, 1994).

Pluralism and uncertainty in the postmodern world present a considerable challenge for knowledge and inquiry (Rosenau, 1992). Reproductive education is based on what Low refers to above as the 'old view.' In the context of our postmodern world it seeks to drastically reduce complexity and create an overarching, inviolate Order. Narcissism, on the other hand, loses itself in the complexity and ambiguity of the postmodern world, in the Disorder of the world and in the grief for the absence of Order. Either there is a

foundation that can create a perfect Order, or there is not, in which case we live in a world ruled by Disorder, and it is "every man for himself." Both approaches exhibit a disjunctive logic in their approach to the relationship between Order and Disorder.

Cartesian Anxiety

Underlying this dichotomizing is what Bernstein (1983) calls *Cartesian Anxiety*: Either there are true, real, and absolute foundations for knowledge, or there are not. If there are, then modernism was fundamentally right and we can safely proceed with the enlightenment project: knowledge is an edifice we build, every day becoming stronger and closer to the truth. We can be certain of where we are headed and how we can get there. But if there are no absolute, unshakeable foundations, we are lost--unable to make sense of this world, with no reasons for living, apart perhaps from looking after number one: this is nihilism.

As Bernstein (1983, p. 18) writes about Cartesian Anxiety,

It is the quest for some fixed point, some stable rock upon which we can secure our lives against the vicissitudes that constantly threaten us. The specter that hovers in the background of this journey is not just radical epistemological skepticism but the dread of madness and chaos where nothing is fixed, where we can neither touch bottom nor support ourselves on the surface. With a chilling clarity Descartes leads us with an apparent and ineluctable necessity to a grand and seductive Either/Or. Either there is some support for our being, a fixed foundation for our knowledge, or we cannot escape the forces of darkness that envelop us with madness, with intellectual and moral chaos.

Reproductive education clings to a stable rock, and Narcissistic education has abandoned all hope of finding it. Both in Materialist and Spiritual Narcissism, we often find refuge in the body, the material dimension of life. The manifestations range from the focus on fashion and beauty (including through cosmetic surgery) to yoga and other physical disciplines of the body (Ogilvy, 1995).

In our complex society, this disjunctive logic does not adequately frame the question, posing a false dichotomy. It approaches the complexity of our situation with a logic of simplicity, which, as Morin has argued, mutilates the complexity of the real. A complex logic, as I will show later, offers us a much richer and generative approach. Before I address the logic of complexity, I want to address another key issue. Cartesian anxiety emerges in the quest for knowledge in a disembodied way, as a pure *cogito*. And in the realm of the pure cogito, the absolute disjunction of the logic of either/or can function effectively. But life is not like that, as Gregory Bateson was fond of saying. In the embodied and embedded experience of existence, we are always already "thrown" into a world, and the possibility for such clear-cut distinctions is much more problematic. In some respects, therefore, the Narcissistic reaction to Reproductive education, in its desire for self-expression and creativity, but also in its recognition of *the body*, provides us with a pointer to the embodying of knowledge.

Beyond the cogito

Tradition would have it that experience is either a subjective or an objective affair, that the world is there and that we either see it as it is or we see it through our subjectivity. However when we follow the guiding thread of circularity and its natural history, we may look at that quandary from a different perspective: that of *participation* and *interpretation*, where the subject and the object are inseparably meshed. This is interdependence is revealed to the extent that nowhere can I start with a pure account of either one, and wherever I choose to start is like a fractal that only reflects back precisely what I do: to describe it. By this logic, we stand in relation to the world as in a mirror that does not tell us how the world is: neither does it tell us how it is not. It reveals that it possible to be the way we are being, and to act the way we have acted. It reveals that our experience is *viable*. (Varela, 1984, pp. 309-323.)

Let me summarize my argument thus far. In an era of uncertainty, and pluralism, there has been an increasing tendency to deal with the world's complexity through one of two choices. The first is what I am calling Reproductive, or a conformity to some ultimate source of absolute *objective* knowledge and certainty. The other I am calling Narcissistic, where the self, self-interest, and *subjectivity* become the only arbiters of what constitutes knowledge. Varela's view outlined above points to a third possibility. Going beyond the objective/subjective and Reproductive/Narcissistic dichotomy, and finding some ideal foundation, Varela proposes a perspective based on *participation, interpretation*, and *viability*. I want to return to the musical metaphor to explore this.

Higgins (1991, p.3) discusses the effects of the focus on musical scores on music and aesthetics in the West by pointing out that musical aestheticians began focusing on the musical score, and the correct performance of the musical score, at the expense of performance, emotion, context (where is the performance held), and subjectivity. In other words, the score became more important than the actual performance, because

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the score was considered to be the sublime embodiment of the greatest artistic achievement. The actual performance was, by definition, always prone to error, to misinterpretation, to contingency. It was ultimately an inferior copy of the score.

She goes on to state that improvisation, which has had a long history in Western music, also came to be viewed as an aberration, precisely because it reflected a lack of, or deviation from, the score, a valorization of subjectivity and emotionality which was, among other things, associated with more "primitive" and African elements. After 1800, improvisation became somewhat of a dirty word, referring to a less developed, pre-literate form of music that had been superseded by the order and rationality of the Western form (Goehr, 1992). This development parallels a trend in the scholarly West to focus on the objective, the measurable, the rational and the ordered, at the expense of that which appears subjective, qualitative, emotive, and disordered. It also reflects the privileging of certain special individuals as composers, others only as performers, and others as listeners, much the same way that social science has privileged the knowledge of expert researchers of that of those being researched. Much of philosophy and social science thinking has been deeply influenced by this approach, although critiques have been emerging with increasing conviction over the past few decades.

The Cartesian Anxiety views our present situation in a disjunctive fashion: either there is a musical score, or there is no score, in which case music loses all semblance of order and becomes almost random. With his focus on participation and interpretation, Varela

stresses that we are not simply disembodied "cogitos." We are actually embedded and

embodied in the world, participating, not merely observing.

> The false idea of a context-free rationality thus results from failing to understand fully the historical dimension of human meaning, knowledge, and reason. It is based on the illusion that we might somehow think ourselves *outside* or *above* time, tapping into the eternal and unchangeable. (Johnson, 1993, p. 228)

Am I observing the universe, or am I participating in it, asked the cyberneticist Heinz von

Foerster? Am I standing outside it, or am I in the middle of it? Am I listening to the music

or am I also performing it? If life is the game, or the song that we are playing, then, Von

Foerster and Varela argue, we are playing it, not merely watching or listening. And

participation is improvisation, because life does not occur in a vacuum, it occurs always

in a network of inter-retro-actions and organization, in a constant play of order,

disorder, and organization, where our the result of our actions is out of our control,

once they are performed. Von Foerster and Varela are moving us away from a view that

focuses only on the *observation* of the musical score, and stressing the participation and

interpretation of musical *performance*.

We can choose to view ourselves participating, participating as inquirers, rather than

being disembodied cogitos and consumers of knowledge. Furthermore, along with the

participation comes *interpretation*. We interpret in order to understand the world. The

art of hermeneutics emerged of course in the need for biblical interpretation, and as we

can see, particularly in more complex situations, interpretations are not univocal.

Reproductive learner is faced with a plurality of interpretations of the external authority, and Narcissistic learner is faced with a plurality of interpretations of self and self-interest. Indeed, there are so many of them, for the Reproductivist there is a need to stick with one interpretation, whereas for the Narcissist any interpretation becomes almost arbitrary and meaningless because there are no criteria to assess the differences and their *value*.

Participation and interpretation can be seen, from the perspective of the old view, of Order, of the Cartesian Anxiety, as the experience of being lost in pluralism and uncertainty rather than the ceretainty of univocality. But whereas the loss of the musical score is a disaster from one perspective, leading precisely to Cartesian Anxiety, there is a different perspective. This perspective, as I have suggested, is remarkably similar to the difference between the classical and the jazz musician. For the classical perspective, particularly the approach that is focused on the score as the ultimate expression of music, interpretation and participation, uncertainty and pluralism are all negatives. The *lived experience* of a classical player is of course, all about performance and interpretation. But having established that, there is more.

For disembodied cogitos, the Order of the objective works fine. It is unsullied by the contingency in the participation in life, in what Morin calls *the ecology of action*, which is the source of uncertainty, unpredictability, contingency, all of which are not always amenable to the Order of Reproductive knowledge. More is needed, the capacity to deal

with novelty, with the unforeseen, the *improvisus*. In other words, beyond the focus on musical *performance* rather than merely a focus on the pristine *score*, we are now facing the complexity of performance, and moving into the realm of musical improvisation.

In a jazz context, participation and interpretation are central to the musical experience, and pluralism and uncertainty are seen as generative of a good musical performance. In other words, the focus is not on predictability, but on the *appreciation and generation of novelty* within a context. Jazz performance thrives on the unexpected, on the way that pluralism, in the sense of the interaction and participation of musicians navigating order and disorder, can generate, for example new aesthetically pleasing interpretations of "standards."

In other words, jazz arguably thrives on precisely that which creates the Cartesian Anxiety. Jazz does not work with an absolute foundation in the sense of a fixed score that lays out every note to be played. Rather, it has a history, a tradition. Being a good improvising jazz performer involves participation and interpretation in order to generate uncertainty for the listener. Uncertainty is here understood as information rich novelty. Pluralism and uncertainty, from the jazz perspective, are precisely the generative source of creativity, of novelty, of beauty and of interest. Bernstein frames spontaneity and unpredictability dramatically:

Radical evil is making human beings superfluous as human beings. This happens as soon as all unpredictability –which, in human beings, is equivalent to spontaneity—is eliminated. Bernstein, 2005, p.5

Spontaneity, novelty, humanity's generative capacity—creativity--is central to our humanness. The practice of improvisation in music is mostly associated with jazz. In Western classical music in the 20th century improvisation was almost completely absent, until the 60s, and even then it was used in an avant-garde fringe. When jazz first appeared, it was critiqued by western critics as being primitive. The element of improvisation in particular, was seen as the result of an inability to read music.

What was not mentioned was that improvisation was central to the Western musical tradition, and that the great composers—Bach, Handel, Scarlatti, Beethoven Chopin, Liszt, for instance--were all excellent improvisers. Instrumentalists improvised freely on themes, and until around 1800, with the emergence of the "genius" figure of the composer and copyright, music was interpreted much more freely. The score was more of a sketch, and sticking to it was not sacrosanct. Improvisation, which was such a central part of music performance before 1800, gradually disappeared. Today, classical musicians generally struggle mightily to improvise. They can read music that is already written, they can follow a difficult score, but they can't create music on the spot.

I am not suggesting jazz is in some way better than classical music, or any such comparison. My goal is to show that improvisation was an essential part of pre-Modern

music and was eliminated from the musical curriculum as well as musical performance. This change reflected the establishment of Modernity. The organization of music took on an industrial scale, with its focus on Order, on the Great Man, and on the legal and aesthetic reasons to make the individual subservient to the whole (copyright, the symphony orchestra), with the whole in turn being the vision of the composer.

For jazz musicians, improvisation involves much the same that a conversation on a specific topic might. There is a theme, whether the current political situation or a movie or the (mis)behavior of a friend or colleague, and once that theme is established, the people—two or more—talk within certain constraints. They must typically speak in the same language, speak fairly grammatically, in a way that is coherent, stays on topic, acknowledges and responds to others, and so on—the basic rules of conversation. Musicians share these kinds of rules. They have conversation on songs that have a melody and a chord progression and so on. The focus is not on following a score, but on generating new music (in the same way that a conversation can be interesting for a variety of reasons, including the introduction of a novel idea, a new fact, a new perspective on an issue), and unpredictability becomes not a bug but a feature. Information is a function of unpredictability. In a larger aesthetic context, jazz artists work with constraints and possibilities, and learn to navigate a world where it is incumbent on them to be original, and where the band members may also in turn surprise each other in such a way that they push each other to greater originality.

It should not surprise us that jazz has been used in management and even political contexts to show, among other things, a very different relationship to uncertainty and the unexpected. It's certainly the case that in a postnormal world, the ability to deal with the unforeseen (the term improvisation has roots in the Latin improvises, or unforeseen), and also to be creative, generating the unforeseen and the unexpected, takes on considerable importance.

I mention this because I believe our educational systems, and our understanding of knowledge, are also still in the grip of a Modern, Industrial paradigm. We are still educating for what I have called Reproductive Learning, learning that reproduces the texts, the teacher, and the social system, in the same way the musician learns to reproduce the score.

The difference between the Modern Classical view and the Improvisational view is dramatic. In the former, there is a set score, and excellence involves the most faithful adherence to that score, which comes top down from the composer to the orchestra conductor and down to the musicians. In the latter, the score (what is written out) is typically confined to the melody, and the musician's excellence is determined by the ability to compose on the spot almost always in the context of, and interacting with, the other musicians in the group. The music is an emergent property that arises from the interaction of the musicians. It is not determined to-down buy the composer, and it is

not pre-determined, as a classical concert would be, where one can follow the score note for note, and know exactly where one is going.

Creative Inquiry

Beyond Reproductive and Narcisisstic lies a third alternative. It is a fundamental attitude to the word that embraces uncertainty, pluralism, and complexity. It recognizes that making meaning in such a world is a creative act, indeed a co-creative act. It also recognizes that creativity in this broader sense is not simply the creation of a product, but a process that manifests as a way of approaching and being in the world. This approach does not seek to impose pre-established frameworks at all costs, nor does it reject the value of all frameworks except for one's own self-interest. This third alternative, Creative Inquiry, sees life as an ongoing process of inquiry and exploration. The psychologist Frank Barron argued that creative individuals have a "cosmological motive," meaning that they seek to create their own ever-changing universe of meaning. Perhaps this is akin to the way a jazz performer (or any artist) creates a universe through his or her body of work, through his or her interactions in a context, with other musicians, audiences, critics, etc. The difference being that in Creative Inquiry the body of work is one's life.

Following Morin, in Creative Inquiry, the opposition between Order and Disorder is replaced by the tetrad Order/Disorder/Interaction/Organization (Morin, 1994). Rather than viewing Order and Disorder as mutually exclusive, we can now see them as

engaged in an ongoing process of interaction to *create* an organization of knowledge. Order without Disorder is frozen, static, unable and unwilling to change. Change emerges precisely out of the Disorder that challenges the existing order. As Taylor (2001, p. 121) writes, "disorder does not simply destroy order, structure, and organization, but is also a condition of their formation and reformation." In other words, disorder is essential for the creation of new and more inclusive order.

A focus on absolute Order requires a closed system that rejects all new matter and information. But no living system is closed, so there is no escaping the reality of Disorder. The question, then, becomes what to do with it—suppression or integration. Reproductive education suppresses all views that do not fit into its Order. Narcissistic education is unable to give a sense of wider meaning to life because Disorder reigns, and every Order is ultimately arbitrary. In Creative Inquiry, Disorder is viewed as an opportunity for inquiry, rather than only as a challenge to the Order. Organization of knowledge is viewed as an ongoing process, rather than as fixed, once-and-for-all framework that is not open to evolutionary changes. Barron writes that

> Increasing complexity puts a strain upon an organism's ability to integrate phenomena; one solution of the difficulty is to inhibit the development of the greater level of complexity, and thus avoid the temporary disintegration that would otherwise have resulted. (Barron,1963, p.150)

Reproductive and Narcississtic education inhibit the development of greater levels of complexity. Barron goes on to state that individuals with a preference for simple order

attempt to maintain an equilibrium, which according to Barron (1968, p.198-199) "depends essentially upon exclusion, a kind of perceptual distortion which consists in refusing to see parts of reality that cannot be assimilated to some preconceived system."

In Reproductive education, what is not assimilated is the world of subjectivity. In Narcissism, it is the objective world of human community and values. Creative Inquirers, on the other hand, court disorder and complexity because they wish to integrate them into a higher order—yet simple—synthesis. Barron likens their goal to the achievement of mathematical elegance, "to allow into the perceptual system the greatest possible richness of experience, while yet finding in this complexity some overall pattern" (1968, p.199).

In Creative Inquiry, rather than suggest we are atoms, Newtonian objects who need to either accept certain (Reproductive) directions (whether divine, or laws of nature, for instance) or are unable to communicate because of the incommensurability and disorder of a plurality of (Narcissistic) perspectives, this more ecological view highlights the role of our embeddedness in a context, our ability to learn from it and contribute to it, and the need to listen and learn from divergent perspectives. We are creating our worlds in the context of an environment that is creating us. If our knowledge is a self-eco-re-organizing system, as Morin argues, we can understand that it does not arise--cannot arise--in isolation from our environment. Our environment is in us, just as we are

in the environment. As Morin (1994) argues, it is not a question of whether there is an objective world out there we can know (naive realism and foundationalism) or just a subjective set of interpretations (naive constructionism and foundationlessness), but rather that we are in the world and the world is in us, through our history of bio-psycho-social development. The relationship between subjective and objective is one of ongoing (creative) inquiry.

Our evolutionary history as bio-psycho-social beings is in fact Nature or the world within us, working through us, as we are also in the world and Nature, working though them. We are both inherent in Nature and separate, in an ongoing dialogical process of communication, construction, and translation. This is a process of self-eco-re-organization, of an autonomous (but not isolated) system that organizes itself and its environment, and is in turn (e)co-organized by that environment. There is a retroactive and recursive process occurring whereby, for instance, individuals make a community, but the community also makes the individuals. In disjunctive thought we tend to look at *either* individuals *or* organizations. As Morin summarizes his epistemological position, we are left with a critical realism, a realism that is at once relative, relational, and multiple. Our realism is critical and also *creative* because, despite the fact that our present viability demonstrates to some extent its adequate nature, our knowledge is never absolute or complete, and always remains an open, self-reflexive, self-critical, self-renewing system. It is therefore also creative realism, which recognizes the ongoing role of creative *inquiry* in our existence.

Improvisation, Creativity, Complexity

Creative Inquiry starts from a position of uncertainty and foundationlessness. And as

Morin asks,

> Does knowing that knowledge cannot be guaranteed by a foundation not mean that we have already acquired a first fundamental knowledge? And should this not lead us to abandon the architectural metaphor, in which the term "foundation" assumes an indispensable meaning, in favor of a musical metaphor of construction in movement that transforms in its very movement the constitutive elements that form it? And might we not also consider the knowledge of knowledge as a construction in movement? (Morin, 1989, pp. 21-22)

I would like to reflect on the notion that life in a complex world, and a life which reflects

and values the complexity of *both* self and world, requires the ability to *improvise*--to

deal with, and indeed to create, the unforeseen, the *surprise* Kauffman speaks of when

he says "Networks near the edge of chaos--the compromise between order and

surprise--appear best able to coordinate complex activities, and best able to evolve as

well." (p. 26).

The Latin root of improvisation is *improvisus*, or unforeseen. Life, and improvisation,

require the ability to both *react* appropriately to unforeseen events, and actually

generate those events--to act creatively and innovatively. A jazz musician, for example

both *generates* novelty, by making rhythmic, rhythmic, or melodic choices that are

surprising, and reacts to the novelty generated by his or her fellow band-members. A

piano player, for instance, might place an unusual chord behind a soloist in what would normally be a predictable progression. This creates a slightly different context, a surprise, which can lead the experienced improvising soloist to find new ways to navigate a song (Berliner, 1994). This kind of creative dialogue is at the heart of much of what makes jazz a unique art form and an example of self-organizing social creativity in small groups (Montuori & Purser, 1999).

Ogilvy (1995) has argued that we must go beyond a universalist, totalizing philosophy of "all" or a nihilistic "none," and embrace a "philosophy of some." This is arguably what the social creativity of collective improvisation points towards. No metanarratives in the form of a score that has to be rigidly followed note for note, but not nihilist chaos either. The all-encompassing metanarratives are replaced by a proliferation of creative "somes," of "little narratives" as Lyotard calls them. Every jazz group creates such a little narrative, such an organization, drawing on existing traditions, individual capacities, and innovations to create its own, more or less successful little narrative within the context of a self-organizing community of practice (Manghi, 1990). Not individual versus community, but individual *and* community, some solos, some ensemble parts. The tetrad of Order/Disorder/Interaction/Organization is an ongoing creative process. The organization is, as Morin calls it, a process of self-eco-re-organization.

Self-eco-re-organization

If Reproductive inquiry privileges an external "objective" source of authority, and Narcissistic inquiry privileges an internal "subjective" source of authority, Creative Inquiry emerges out of the dialogue between Subjective and Objective. Reproductive is a process of eco-organization, whereby the environment organizes the knowing system. Narcissistic education is a form of limited self-organization, where the operations of the system organize the knowledge without much reference to larger the larger socio-ecological context. The goal here is autonomy, but in the same way that in Reproductive education we find errors of translation and interpretation, in Narcissistic education the autonomy is problematic because, as complexity theory shows us, increasing autonomy actually involves deeper immersion—and greater dependence—with the environment. The person who believes it is possible to simply pick and choose bits of information without relationship to the larger context (narcissistic consumerism) finds herself increasingly alienated from the world in which she has to exist.

The organization of life--of our lived experience--demands creativity and innovation, particularly if we understand organization not statically, but as a constant process. Self-organization in creative systems becomes what Morin (1994) calls self-eco-*re*-organization, suggesting that the nature of the organization changes as well, that it is an ongoing process. Research shows that creative individuals are more at home with complexity and disorder than most people (Barron, 1994). Creative Inquiry, which aims to embody the characteristics of creativity, involves a preference for complexity over

simplicity—an attitude of being intrigued, puzzled, excited by complexity rather than afraid of it. Creative thought is marked by the active search for phenomena that destabilize order, that puzzle cognitive schemata and cannot be immediately understood. Creativity involves constant organizing, dis-organizing, and re-organizing. It involves actively breaking down assumptions, givens, traditions, pushing boundaries and moving out of comfort zones. Creativity means shaking things up, both inside ourselves and in the world around us, and constant re-organizing of both cognitive schemata and, to a greater or lesser extent, the domain of the creative person's activity (Barron, 1994, 1990; Barron, Montuori, & Barron, 1997; May, 1977; Tardif & Sternberg, 1988).

Indeed, creative thought and behavior live at the temperature of their own destruction (Morin, 1994), all the while feeding on, and courting, uncertainty. The term "ego-strength," as used by Barron (1990), refers to the capacity to rally from setback, to learn from experience, to be a constantly dis-organizing and re-organizing system without falling apart completely. The paradoxical nature of creativity (Hampden-Turner, 1999) emerges as Creative Inquiry involves being secure enough in themselves to allow themselves to become insecure, strong enough to become vulnerable, organized enough to become temporarily disorganized. Ideas and impulses outside conscious attention are characterized by turbulence and instability. Creativity involves a generalized preference for apparent disorder, and unconscious processes. Creativity therefore requires an unusual respect for forces and phenomena that appear chaotic, confused, and irrational (Barron, 1990).

Creative Inquiry seeks to make sense of phenomena that appear to be chaotic, and seeks to create a higher-order simplicity--one that incorporates the complex, disorderly phenomena in a broader, more inclusive, more open perspective. According to Barron's research (1994, 1990), truly creative individuals are ready to abandon old classifications, in an ongoing process of creation and re-creation. They acknowledge that life, and their own lives in particular, are rich with new possibilities. Disorder offers the potentiality for new order, as Von Foerster's (1983) generic systems principle "order from noise" suggests.

Tolerance for ambiguity (Barron, 1990) is a characteristic of Creative Inquiry manifested most obviously in the unwillingness to immediately have an answer, and retain openness to not-knowing and personal insecurity. The experience of complexity is marked by ambiguity, and the willingness to experience some stress and confusion and not immediately impose order on the ambiguous phenomenon in question is a hallmark of creativity. Improvisation requires this ability to accept ambiguity, to be unclear about where one is going, to navigate uncharted territory and thrive on the challenge, pushing one's capacity to remain open to novelty and surprise and somehow "metabolize" it (Berliner, 1994).

The dialogical nature of the creative process is shown most explicitly in Rothenberg's (1979) "Janusian thinking." This involves the interaction of two concepts without there

necessarily being a "resolution" into a higher synthesis, as in Hegelian dialectics. This theme has been developed by Morin with his notion of the *dialogic*. Creative Inquiry requires the cultivation of dialogical and complex cognitive and personality characteristics. Barron's extensive research at the Institute for Personality Assessment and Research at the University of California Berkeley (summarized in Barron, 1990) demonstrates that creative individuals are both more primitive and more cultured, more destructive and more constructive, crazier and saner, than the average person. They are shown to be most complex and dialogical in the area of gender, as the research indicates that creative individuals are not limited by stereotypical gender behaviors. They do not have either stereotypically "male" or "female" personality characteristics. Rather, they move freely across a spectrum of possible "human" behaviors.

One of the single most important factors of Creative Inquiry is independence of judgment (Barron, 1988). Clearly, creative individuals are not trapped in given cultural patterns, as the findings regarding gender roles suggest. They succeed in stepping beyond deterministic conformity. They pride themselves on, and actively cultivate the ability to think for themselves, and develop new plans of action, or certainly to take a meta-position beyond the accepted givens of one's society (Sternberg & Lubart, 1995).

Inquiry as self-eco-re-inquiry

Creative Inquiry resonates with Ceruti's (1994) articulation the historical nature of the shift in our knowing from a systems/cybernetic perspective by pointing out that the

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latter has rejected the ideal of a fundamental, objective vantage point, the result of a neutralization of the observer's values and perspectives: an 'objective' bystander rather than a participant. No neutral language is possible or even desirable, and the observer cannot be considered as somehow standing outside of the events that are observed. In our century we have moved from viewing knowledge as a cumulatively built edifice to one of context--an ecology of knowledge. This eliminates the possibility of the knower as outsider, or bystander, and reflects an awareness of how knowledge stands not outside our world, but is in it, is in fact constitutive of our world, and all knowledge passes through problem formulations, categories, and disciplines. Knowledge from this perspective has no foundations, but it does have a history. Ceruti writes that knowledge is therefore beginning to study its own origins. In a shift triggered by Von Foerster's (1983) development of the cybernetics of cybernetics, we are studying not just observed systems, but the observing system, the context from which knowledge emerges. This is a shift from acquired knowledge (and the idea of possessing) to the roots and matrices of knowledge in history, biology, anthropology, politics, and so forth (the historically constituted and constitutive nature of knowledge).

Creative Inquiry is an ongoing process that involves a shift in perspective from cognitive foundation/foundationlessness to an existential situating of the knower in space and time with constraints and possibilities. The inquirer may not have ultimate foundations, but she has a history, exists in the present, and a future. Rather than a cognitive foundation, we have the "thrownness" of a person, a being, in a specific context. This

history becomes itself a subject for inquiry, an opportunity to understand the matrices that makes knowledge and knowing possible. These matrices are historical, social, cultural, political, psychological. Knowing becomes a self-reflective, transdisciplinary process (Montuori, 2005b). And the lived experience of individuals in fact already resides somewhere other than the polarized extremes of Order and Disorder. Excavating our lived experience in the process of inquiry allows us to become aware of the relationship between our theories *about* the world, and our actual practice and experience in the world.

Creative Inquiry therefore involves a process of investigation into the context of knowledge in space and time, the historical constraints and the possibilities that emerge from those particular constraints. The relationship between constraints and possibilities is a dialogical one, in Morin's terms: they are cooperative/concurrent/antagonistic. Constraints are not exclusively limits to our possibilities, they also generate possibilities. The choice to follow a certain course of study or career will preclude us from engaging in other directions, but at the same time open up a new set of possibilities. Developing the skills necessary to play the piano may mean we have less or no time to devote to becoming a world-class soccer player, but the skills developed in the process open up a world of possibilities in terms of our musical experience and capacities, allowing us to perform on the piano in ways that would not have been possible had we not chosen that trajectory.

Creative Inquiry stresses the integration of the observer in the inquiry. Gregory Bateson spoke of a

revision in scientific thought which has been occurring in many fields, from physics to biology. The observer must be included within the focus of observation, and what can be studied is always a relationship or an infinite regress of relationships. Never a "thing." (1972, p. 246)

In Creative Inquiry, this proposition should taken very seriously. So seriously, in fact, that all inquiry can be viewed as self-inquiry. If we take the role of the inquirer seriously, if we reject the view that the inquirer and his "subjectivity" needs to be bracketed, and should rather itself become a focus of inquiry, if we follow the premises of the second cybernetics of *observing* systems rather than *observed* systems, then inquiry becomes a different process. Reproductive education leaves out the crucial role of the inquirer and his or her horizon and creativity. Narcissistic education dives into the observing system, but in a deeply mutilated way, without questioning the nature of the self-environment relationship.

Creative Inquiry directs our attention to the construction of knowledge through this evolutionary process. Integrating the observer therefore means self-inquiry through, among other things, unpacking the evolutionary identity of the inquirer's "situated self-consciousness." As Winter writes,

> "Situated self-consciousness," in this view, is a two-part process. First, it involves the capacity to unravel or trace back the strands by which our constructions

weave the world together. Although we may be situated in a web of belief, there is nothing that prevents us from making those beliefs *translucent*, and thus amenable to reflection. Nothing, that is, except for a lack of imagination,
Second, situated self-consciousness involves the ability to imagine how the world might be constructed differently....In either event, situated self-consciousness depends upon an act of the imagination that transports one "beyond" his or her previous conceptions....it is a process of rendering our constructions translucent and then seeing past them to different, perhaps more productive constructions.

Winter, S., cited in Johnson, (1993)

Creativity therefore takes on a double role. On the one hand, it is needed to "unravel or trace back" the way that we construct our world, our "thrownness," our "facticity," our evolutionary trajectory, the very fact that knowing exists in a context of being in time. It allows us to uncover our origins as human beings with a history, cultural conditioning, habits, constraints and possibilities. And creativity also allows us to explore the extent to which we are our history, but also offers us insights into our ability to envision and create our future (Bocchi and Ceruti, 2002).

Creative Inquiry offers us the opportunity to explore the knower in the process of knowing (Montuori, 2006). It views inquiry as a creative process—a process of self-eco-re-creation. It goes beyond the conformism of Reproductive education and the ultimate meaninglessness of Narcissistic learning to engage in a process of collaborative self-eco-creation, and invites us to see the crisis of the future as an opportunity for inquiry, for a greater understanding of where who we are and where we are coming from, our planetary context and the web of interactions that we are embedded in. It invites us to

understand our past and envision possible futures, in a process of collaborative creativity, as an inquiry—not as narcissistically isolated and self-centered individuals.

Concluding remarks

In this essay I have sketched out three approaches to the present Crisis of the Future. I have looked at this crisis from three perspectives. Two involve approaches to *knowledge*, Reproductive and Narcissistic. The third involves an approach to *inquiry*, which recognizes the creative and constitutive role of inquiry as a way of thinking about the future.

What Creative Inquiry points to first of all is a) an ongoing dialogical process rather than a static opposition, thus addressing the double bind of Cartesian Anxiety b) the necessary interaction (rather than polarization) of order and disorder in living systems, and c) the fact that Order and Disorder are always in the context of a process of interaction that involves organization. This organization is not a disembodied cogito, but a participation in existence—a self-eco-re-organization. Living systems "navigate" that edge between order and disorder, where one extreme would involve rigidity, and the other dissolution.

The communicative element in our simultaneous inherence and separation in the world allows for a constant dialog in relationship to increase our possibilities in the face of constraints. Creative Inquiry therefore stresses the importance of complexity, heterogeneity and diversity (Morin, 1994), and views the ethical imperative as an

invitation to act always so as to increase the number of choices (Von Foerster, 1990). This is a form of dialogical consciousness, which can be critical of self and others particularly when we reduce diversity and heterogeneity of views, when voices are silenced, and when we attempt to shut down the very dialogue that makes our existence possible. The concern is also to increase possibilities for ourselves and for others, and to ensure there is a sufficient capacity for contexts which allow diversity to emerge. Acting is creating and creates irreversible historical events. And this creation does not occur in isolation--it occurs in interactions and interdependence. Unlike solipsistic views that argue we have only an interpretation of the world, which may be totally arbitrary and contingent, from the self-eco-re-organizing perspective we have an active, embodied relationship with the world, rather than just a description of it. Our knowledge is therefore at all times relational, and relative, but real and consequential nevertheless. It is not an isolated cogito, but an embodied, embedded process.

Creative Inquiry emerges out of the constant self-eco-re-organization of self and other, subjectivity and objectivity, order and disorder, unity and diversity, knowing and not-knowing. The music we make is with others, at all times. Our creative process, our creative inquiry can be likened to the exploration of jazz musicians as they explore and learn together new ways to participate in the interpretation of songs they have chosen. These songs become vehicles for improvisation, where the interaction of the musicians leads to a new organization that emerges from the interaction of order and disorder.

Creative Inquiry is an invitation to creatively participate in our *common* destiny, and in our *community* of destiny. It is an invitation to learn, to embrace the complexity, difference, pluralism, uncertainty, and to approach life itself with an attitude of inquiry, rather than conform to pre-existing frameworks or recede into self-absorption. To return to Anderson's image that opened this article, Creative Inquiry suggests there is an alternative to the closed system of a Reproductive religious or ethnic system, and the closed system of endless Narcissistic consumerism. Both are ultimately passive, and neither recognizes the human gift of creativity. If Reproductivism privileges Objectivity (in the sense of external authority) and Community, and Narcissism privileges Subjectivity and Individuality, Creative Inquiry invites us to explore who we are in community, where our beliefs originate, how we engage the process of knowing and of inquiry, and how we may collaboratively envision and create better futures for ourselves and those who are to come after us.

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