

Research Across Boundaries: Introduction to the First Part of the Special Issue

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In the coming century, there will be an urgent need for scholars who go beyond the isolated facts; who make connections across the disciplines; and who begin to discover a more coherent view of knowledge and a more integrated, more authentic view of life. (Boyer, 1994, p. 118)

Background and Foreground

In the context of an unprecedented proliferation of research specializations and the pressing problem-solving needs in society, Ernest Boyer and other scholars, have emphasized the special role for research that connects knowledge and that spans boundaries. This *scholarship of integration* complements traditional modes of specialization of knowledge. Major advances in boundary spanning research across the seams of separate paradigms, disciplines, cultures and contexts have been made in many places in recent years. Multi-paradigm and multi-method research, translation research movements, trans- and meta-disciplinary approaches, as well as cross-cultural or cross-sector participatory projects are emerging in and across many fields of research. It is no accident that these developments are surfacing at this juncture in planetary evolution.

Down through the ages, each generation of humanity has faced its own challenges, its own demons, and its own possibilities for expanding the possibilities. Sometimes the challenges are accepted, the will, the heart and the hands are tested, and life deepens and expands. Sometimes the challenges are rejected and avoided, our demons get the better of us, we turn in on ourselves

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and the possibilities afforded by human birth close down. Whatever our choices have been in the past, humanity has moved on. But something new presents itself in these current days. We are living in an unprecedented historical epoch, the *Anthropocene* (Steffen et al, 2011).

The human has irrevocably changed the planet. The impact of our actions are coming back to haunt us and our children. The challenges are now global, local and everything in between, they are with us now and they stretch out into the distant intergenerational future, they include the whole Earth system and every living thing that travels with her, they involve every aspect of the countless bio-social systems that network across her surface and which course through the inter-subjective experience of every plant and animal. The possibilities for responding to the planetary challenges, and the implication of those responses, are extreme and they stretch out between a vision for and acceptance of a profound deepening of planetary potentials and a life-destroying, fear-laden rejection of the realities that demand our attention.

Science, the humanities, religion, art, the storehouses of cultural and indigenous knowledge, the world of lived practice and life experience will all generate their own contributions to meeting or avoiding the local, regional and global challenges that beset us. Many possibilities exist in considering these options but, whatever path we choose as individuals or as a single global family, never before have the global stakes been so high, never before has the need for planet-wide decision-making, for big-picture explanations and solutions been so pressing. Never before has human society, as a single entity, been required to develop a coherent global approach to dealing with the challenges that now confront it.

And it is no coincidence that the unfolding planetary challenge should also be accompanied by the emergence of global forms of knowing and of accessing knowledge. In no previous times has so much knowledge been intentionally produced, stored and disseminated, has there been such an extensive body of expertise in so many distinct research specializations. It is only now, in these last few years, that the products of so many knowledge traditions, institutions of learning, independent scholars, research collectives and commercial research sources from so many regions, cultures and historical periods have become accessible to so many people across the globe. The web and depth of knowledge is vast and it is available. But what sense can and will we make of it all? Down which pathways will all this knowledge lead us?

It is no coincidence that in these critical times of a global anthropogenic cocktail of crises, we are also immersed in an ocean of experience, of data, information and knowledge. Do we have the wisdom to not only develop shared knowledge from this ocean of information but also to make shared sense of it? And are we able to make use of the bigger pictures we gain from boundary-crossing experience and reflection to engage in large-scale and long-term coordinated action? This is needed to enable a dignified life for the many throughout the Great Transition (Raskin et al, 2002; Spratt et al, 2010). Under complex and volatile conditions boundary-crossing competence is also considered more and more important as a complement for domain-specific expertise (see e.g. Engeström, Engeström & Kärkkäinen, 1997, Horlick-Jones & Sime, 2004).

Responding to the need for shared sense making, there is a widespread and growing call today for building connections across disciplines, paradigms, cultures, and worldviews (see for instance Dussel, 2009; Giri, 2002, as well as Nelson and Raman in this issue). And indeed, in recent years various advances have been made in boundary-crossing research that facilitates (re)connections

between theory and practice, facts and values, history and future, sciences and humanities, the knowledge traditions of East and West, North and South. Gasper (2004) says that

we should recognize and promote a complex intellectual 'eco-system' with multiple legitimate types of life-form, sub-system, and of interaction of ideas, inquirers and users (p. 310) ... an eco-system within which many species and hybrids co-exist and interact ... A complex eco-system requires a complex system of concepts and models to describe and understand it. ... Interaction requires mutually accessible and acceptable intellectual frameworks. (p. 327)

In navigating through the hazards of the Great Transition we need conceptual visions with the requisite complexity and scope. Towards this end the Luxembourg Symposium was organized.

The Luxembourg Symposium

The international symposium “Research across Boundaries – Advances in Theory-building” was held at the University of Luxembourg in June of 2010. It brought together, for the first time, many leading boundary spanning and meta-level researchers from more than 15 countries across all continents and as many different research areas. In what became a set of truly global dialogues, the participants presented and commented an astounding array of contemporary integrative frameworks, as well as inter- and transdisciplinary reviews and research practices across various fields of inquiry of high relevance for the future.

This special issue brings together the contributions of many of the scholars and visionaries that participated in the symposium, plus a couple of complementary papers of resonating researchers who couldn't make it to the event itself but were keen to make a contribution nevertheless. Our invitation was to deliver summary accounts of sustained boundary-crossing research and (meta)theory-building, often of a lifetime, to colleagues rooted in other research domains. The contributors were called to make the essentials of their sophisticated views, or more focused parts thereof, accessible to the interested public and to provide extended bibliographies for those attracted to explore the original sources of their work. Our guiding idea was to encourage boundary-crossing, on a meta-level, between mature boundary-crossing approaches that, somehow paradoxically, did not yet, or barely, come in touch with each other. The scientific committee of the symposium and its helpers volunteered to identify and invite these boundary-crossing scholars and to facilitate their meta-boundary-crossing dialogues and polylogues.

As a result, the Luxembourg symposium saw contributions offered that stemmed from quantum theoretical inspirations to cybernetics and complexity approaches, from action theory to semiotics and integrative meta-theorizing. The philosophical underpinnings included meta-paradigms like transdisciplinarity, integral theory, critical realism, relational contextualism, global ethics, as well as participatory and emancipatory worldviews. Issues of boundary-crossing research paradigms and communities, of sense-making tools and theory families, institutional barriers and opportunities were all intimately considered. The symposium provided an opportunity for these and other issues to be discussed in the context of uncovering convergences

and divergences, of proposing novel angles on integrative sense-making and on some of the failures and successes of past attempts at boundary-crossing research.

This special issue presents reworked papers prepared for the symposium. By reworked we mean that all the papers here have undergone a process of review and reappraisal. The dialogical approach that was undergirding the symposium and the process thereafter presented authors with multiple opportunities for gathering feedback and comment. Subsequent to this, papers also underwent a peer review process and authors had an opportunity to re-edit and improve their contributions. This special issue is the result of that extensive process. Given the number of contributions, it will be published in two parts. The first part is now available. The second part will follow soon. Let us now give an overview of the contents of the first part.

Themes and Seams

The special issue starts with some reflections on the Research across Boundaries Symposium from Jonathan Reams and Helmut Reich who, along with us (Markus Molz and Mark Edwards), were members of the scientific committee for the event. Reams and Reich describe the process by which the symposium was developed and structured as well as some of the outcomes that it generated. They comment in particular on the proposal for a University for the Future³ and the need for higher education and research institutions specifically redesigned and refocused in such a way that they become catalysers of sustainable and dignified pathways through the challenges of the Great Transition. We would like to add that the originally intended follow-up symposium is now scheduled for fall 2013 precisely with a focus on Transformative Higher Education.⁴ It is also noteworthy that the Critical Realism & Integral Theory Symposium in fall 2011 in California⁵ resulted from the first time encounter between Roy Bhaskar and Sean Esbjörn-Hargens at the Research across Boundaries Symposium.

The papers that are based on the symposium keynote speeches of Ruben Nelson and Varadaraja V. Raman, complemented by Ananta Kumar Giri, emphasize the point that learning, thinking and acting in an integrated manner is necessary in order to respond to the transformation times we live in. To do this we need to, as Nelson says, “cooperate with our evolution.” There is drama to this story - a drama of scope and scale of the problems, of immense confusion, the drama of awakening. Nelson believes there are signs that *conscious evolution* (Bánáthy, 2000; Eisler, 1998) is possible and is in fact underway. From the scientific domain there are signs that boundary crossing research will contribute to the development of a “new human-centered ‘meta-science’.” Such a science will play a crucial role in the coming decades.

Raman highlights the “extraordinary diversity” of human learning and knowledge and reviews different kinds of boundaries that integrative approaches have to bridge: between academic disciplines, between different cultures, religions and ethical frameworks, but also between science and society and science and spirituality. Each of these bounded perspectives has enriched the world in some way. But one-sidedness, bias and conflict has also been part of this story. Diversity offers the potential for innovative insights but also at times creates discord, fear or

³ see www.u4future.net

⁴ see www.universityfutures.com

⁵ see for instance <http://integrallife.com/node/104939>

ghettoization. The diversity of knowledge and wisdom traditions is becoming more apparent as we move towards the globalization of communication and information. Raman points out that we are not just dealing with “interactions between cultures, but with the interpenetration and interpretations and misinterpretations of cultures.” How might these encounters aid the emergence of consciousness and enhancement of creativity rather than create aggression and retraction. One starting point is to widen our horizons on what knowledge may be important for living with diversity. Harking back to S. P. Snow’s celebrated lecture on “The Two Cultures,” Raman calls for a closer collaboration between science and the humanities, between the worlds of technology and art, and learning and practice. The challenge, Raman argues, is not one of a limited interdisciplinary education but of respectful appreciation “of the fruits of the creative efforts in all disciplines, and to try to be sympathetic to the deepest concerns of those who are not of our particular group.”

Boundary crossing capabilities are essential for the emergence of planetary civilizations that are open and inquisitive rather than closed and fearful. Giri continues along the lines of learning across boundaries and invites to intentionally and actively weave global “networks of agape and creativity.” He emphasizes that ultimately “planetary realizations” don’t arise from cold intelligence or bounded expertise but from heartfelt encounters of humans touching each other respectfully in multiple dimensions of their being. In contrast to the expert, the hierarchical leader, or the ivory tower scholar, Giri foregrounds a deep identity that we can all share with each other regardless our background, the identity of “students of life and friends of the world.” Based on this shared identity loving and caring encounters of co-creation are possible that have the capacity to “overflow” and create new institutions or transform existing institutions. The other way round, Giri says, leaders of existing institutions can do much good when they create open spaces in the midst of their stable organizational structures that can host “planetary conversations” and support the boundary-crossing networks emerging from them. He indicates that this is how a “new enlightenment” can be sparked that is “simultaneously rational and spiritual, individual as well as collective.”

After these broad introductory perspectives, the contributions of Gary Hampson and Nick Maxwell approach the tensions between atomistic and holistic worldviews from historical, philosophical and institutional perspectives. Hampson provides contours of a possible “genealogy and topology of Western integrative thinking.” Historically, science and technology coalescing or originating in the West deployed their world-transforming power by emancipating from religious dogma and developing sophisticated empirical and analytical methodologies. Their undeniable success created a dominance of atomistic thinking which, on the other hand, is often considered as one of the root causes for the contemporary grand challenges. Hampson highlights that throughout Western history there were also always holistic currents and sets out to present a macro-historical lineage of integrative story telling. Using the overarching concepts of “creativity, intuition, love, organicism, and spiritual philosophy,” Hampson takes us on a journey through the syncretisms and integral weavings of “Hermetism, Neoplatonism, Renaissancism, German Humanism and Reconstructive Postmodernism.” This condensed genealogical reading of boundary-crossing, integrative impulses in the Western history of ideas helps us to contextualize current efforts in these directions.

Maxwell squarely lays part of the responsibility for both the generation and the fragmented responses to the contemporary challenges on institutionalized science and its technological

offspring. He devoted his lifetime work to show that global crises have arisen because of the power of science and technology to change physical, biological and social systems while operating on the basis of an institutionalized divide between science and society. But Maxwell doesn't stop with analyzing the situation. He also makes proposals for institutional transformation so that universities become places of wisdom; a crucial mission that goes beyond the accumulation and exploitation of fragmented knowledge. Maxwell argues that universities, researchers and scientific institutions require "a kind of inquiry rationally devoted to helping humanity make progress towards as good a world as possible." For this he coins and substantiates the notion of "wisdom inquiry" and contrasts it with "knowledge inquiry" which is the wanting dominant mode of academic work. Despite the lack of institutional response to Maxwell's thoroughly argued programmatic, many researchers are beginning to understand that a broader vision is needed to solve real world problems and that a substantial institutional redesign and ethical leadership is required to focus science prioritarily on the building of a better world.

The papers of Ananta Giri and Mike King, each in its own way but with complementary foci, look at possibilities and limits of boundary-crossing and integration. In their boundary-crossing scope both authors go beyond the range of scientific disciplines and advance proposals that take into account spiritual perspectives. Giri tackles the paradox of difference and integration in "life, self, culture, society and the world." On the one hand he is aware that diversity needs to be welcomed and that the historical model of enforced integration "based upon annihilation of differences" can't and shouldn't be prolonged into the 21st century. On the other hand, he also sees the dangers of differences being valorized to the level of disconnection and separation in the wake of extreme relativists and communitarian positions. Rather, as Giri states, "differences also have threads of connections among them—they also seek to be part of a respectful and dignified emergent wholeness." Giri is turning this paradox of difference and integration into a generative new ethic and practice of "differential integration" that requires "practices of weakening of entrenched identities and differences through cultivation of non-identities and non-differences." Giri sees this as a "new art of integration which is not totalitarian and oppressive but rather seeks to help us realize our connectedness and potentiality." It is an existential endeavor because it requires of us "weak and gentle integration" where integration starts with the recognition of our "weakness and vulnerability." It also involves artistic sensibilities of "creativity and nurturance" and the ethical requirements for integrative justice, i.e. honoring of the marginalized and the weak.

King basically takes up the same paradox as Giri but with a focus on the sprawling of human knowledge and knowledge domains. King takes a principled and independent stance to problematize knowledge integration, in contrast to many other authors who take this need for granted. He states that "Schrödinger, Ricoeur and Wilber are poles apart in their respective worldviews, but share the idea of an all-embracing knowledge, the welding together of all that is known, the unification of human discourse." King does not only expose in detail why this is not feasible but also why it is not even desirable. For him, the motivation for the unification of knowledge is misplaced. He claims that the appropriate realm for the "search for union" is mysticism, not science. Regards knowledge domains, King does not prone an anything goes approach, though. He recognizes that they can be organized hierarchically, at least partly, and that they have connections which he coins "isthmuses". However, King's "isthmus theory does not provide for the unification of all knowledge domains, but examines *kinships* or *contiguities* between domains that remain far more separate than connected." Into his line of arguments King

weaves a reflection on “outsider scholarship” of the type practiced by “Koestler, Schumacher and Pirsig.” He presents these examples to show that we sometimes must look to the periphery, to the outsider and to the independent scholar to gain the most radical and often most clear-sighted boundary-crossing insights.

Jennifer Gidley and Mark Edwards each introduce new meta-level approaches. The question guiding Gidley’s contribution is “What are the leading-edge discourses that identify new paradigms of thinking and how can they be articulated and meta-cohered?” Gidley initiates the new field of “global knowledge futures” by relating streams of postformal studies, integral studies, planetary studies and futures studies to each other. She works at the “creative margins of these boundary-crossing fields, and seeking out and identifying the territory beyond them where they begin to touch each other.” Using the concept of “imaginaries that cohere” Gidley sets out a new vision for future studies as a field of creativity, imagination, dialogue and collaboration, on the way deconstructing the pervasive ideological discourse on the global knowledge economy and providing a typology of positivist and post-positivist futures approaches. Imagining the future necessarily involves all disciplines and all the potential connections that might exist between them. Hence, futures studies is already an integrative clearing in which all knowledge discourses can enter into dialogue. Gidley offers an intriguing vision of the next stage of its development.

Edwards’ also wants to consciously call out and name the emerging boundary-spanning forms of social science research. With his proposal for an “integral meta-studies,” Edwards provides a platform for the institutional recognition of integrative research. The theme, pointed out by Fritjof Capra several decades ago, of a critical turning point, once again appears here. We have the option of acting “globally to establish a sustainable and sustaining network of world societies or be enmired, for the foreseeable long-term future, in a regressive cycle of ever-deepening global crises.” Integrative forms of meta-level sense-making will be needed for the positive arc of planetary development to occur. Edwards proposes a general schema for “situating this meta-level science” in which multiple branches of meta-level research activities are pursued. He encourages now “a more overt description and institutionalization of meta-level perspectives and practices.” This proposal is not for some new framework or metatheory but for the overt identification of a new arena of research, a meta-level social science that can study, critique and improve our big pictures, dominant practices, grand ideas and the ideologies that derive from them.

The contributions by Julie Thompson Klein and Irena Ateljevic take a different approach to the question of how to discuss and present boundary-crossing approaches. Rather than proposing a meta-layer that creates “meta-coherence,” as Gidley would say, they are discussing the specifics of a group of existing boundary-crossing research paradigms and discourses. This includes their differences, complementarities and interfaces. Klein’s paper helps clarify our understanding of the various streams of transdisciplinarity, a boundary crossing research movement that started some 40 years ago while particularly gaining momentum in recent years. Even though it the label is widely shared and identified with, the transdisciplinary movement is not unified and has a variety of expressions in different countries and research fields. Accordingly, Klein goes into the detail of the nomenclature for transdisciplinary forms of boundary-crossing research approaches. She looks at the clusters of keywords associated with transdisciplinarity. She finds there to be no one central definition and so there are several clusters of terms that are associated with transdisciplinarity. These clusters depend on such things as “differing philosophical outlooks,

contexts of practice, and views of the socio-political function of science and the educational system". Her findings identify a "structured plurality of definitions" of transdisciplinarity which is not characterized by absolute divisions but by linked relationships. Together, these themes provide a "structure to the diversity of activities associated with transdisciplinarity."

Ateljevic's review of "transmodernity" as an umbrella term refers to the kind of appreciative interest that Raman encourages. Moving across such fields as critical economics, philosophy, postcolonial studies, social anthropology, psychology, and social activism, Ateljevic lays out a program for an integrated "transmodern" approach to a scholarship of hope and caring. This perspective comes from Ateljevic notion of "the synchronized phenomenon of emerging higher collective consciousness" as expressed in the "transmodernity paradigm" of Ghisi, the "transmodern philosophy of liberation" of Dussel (see forthcoming second part of the special issue), the "reflective/ living-systems paradigm" of Elgin, the "partnership model of caring economics" of Eisler, the "relational global consciousness of biosphere politics" of Rifkin, the "love ethics" of hooks and the "circularity paradigm of interdependence" of Steinem. Ateljevic wants to relate these disparate, emerging views to each other. She seeks to provide a coordinating language that connects these signs of an emerging paradigm shift that might well constitute 'the new renaissance' of human history.

Several researchers have developed highly integrative metatheories and metamethodologies capable of locating and connecting an array of middle-range theories and models in or across research fields and disciplines in a big picture view. Søren Brier with his cybersemiotics and Bill Torbert with his developmental action inquiry (DAI) are two examples of the huge contributions that leading scholars can make to metatheory and metapractice. Søren Brier, imbued by decades of philosophy of science teaching and research, offers cybersemiotics as his candidate for an overarching framework for integrating other views and, moreover, for creating sound foundations for research in general. He builds this approach out of an integration of the physical, biological, socio-cultural and phenomenological sciences in his model of the "cybersemiotic star". Relying on many different philosophers and scholars, particularly Charles Sanders Peirce and Niklas Luhmann, but also the medieval scholastic realist Duns Scotus, Brier describes his cybersemiotic framework, where "sign processes become the ground reality, on which our conceptions of ourselves, action, meaning and the world are built." He exposes, furthermore, how different kinds and levels of semiotic and proto-semiotic processes arise evolutionary in nature, culture and consciousness, how they come together in human beings and their communications, and how cybersemiotics helps to get this big picture.

The eminent organization and leadership theorist, researcher and practitioner Bill Torbert provides a detailed description and assessment of his collaborative developmental action inquiry (CDAI) "meta-paradigmatic approach to social science and social action." In what he declared to be the last academic journal article he intends to publish in his prolific career, Torbert describes how multiple research paradigms and their associated methodologies are integrated within CDAI.. Because it includes "first person consciousness development approaches, "second person, transformational, mutuality-seeking inquiry," and third person objectivity seeking investigatory techniques, CDAI is not only a formal science but a general method for transformative inquiry and action. It considers and connects individual, organizational and social scientific development. Torbert introduces both objective and subjective data as to the efficacy and validity of CDAI and makes a strong point for the power of the action turn in integrative approaches.

The next two contributions practice boundary-crossing by reviewing a specific interdisciplinary research field while adding their own mark. Michael Kimmel reviews relevant streams from various originally mostly unconnected subdisciplines of different disciplines (such as cognitive linguistics, cognitive anthropology and cognitive psychology) that are in the process of merging more and more into an interdisciplinary field that is focusing on “the arc from the body to culture”. Kimmel makes evident how the body (through kinesthetic schemas), the mind (through concepts and metaphors) and culture (through ideologies and worldviews but also through artifacts and the built environment) interact and influence each other in complex ways without a single causal point of departure. It is easy to forget the role of embodiment when engaging in the flights of abstraction. Michael Kimmel reminds us of the role of the body and of metaphorical mapping in the formation of concepts and conceptual frameworks. His paper reviews approaches to the grounding of ideas in bodily experience. Drawing on the ground breaking work of Lakoff and Johnson, among many others, Kimmel explains which role kinesthetic and bodily templates play in higher order cognitions (including the frameworks discussed in this special issue), and the other way round, how cultural categories are becoming inscribed in our bodies. Kimmel thoroughly reviews different explanations of this complex dialectical process and how, taken together, they can account for certain empirical cases that none of them alone can explain. He presents an artful blend of theoretical review and anthropological examples that also assesses the state of the art of this field and the open questions that need to be tackled to bring it to its next stage.

Rick Szostak takes an original boundary-crossing stance across cultures and disciplines, as well as between science and public policy in regard to the key issue of “human progress.” His paper outlines “a holistic understanding of human progress (its nature, its history, and its future prospects)”. Against cultural relativists and zeitgeist pessimists, he believes that there is a way to capture what most people would accept as desirable development, to trace back in history where how much progress actually occurred, and to make recommendations how to make progress in the time to come in areas in which we have been stagnating or falling back. Szostak’s paper deals with the idea of progress-regress from a new analytical perspective. He views the notion of progress as requiring the integration of ethical, historical, and social scientific analysis in ways that can influence policy-making. This integrative challenge, Szostak argues, can be met through the application of recent developments in interdisciplinary analysis.

The last two contributions of the first part of the special issue revolve around enriching existing interdisciplinary research fields and instigating their further development through boundary-crossing metatheoretical perspectives that were not part of the discourses in these fields before. Both fields featured here are of key relevance in the Great Transition: urban planning and consumer studies. The contribution from Christoph Woiwode is extremely important for its focus on applying boundary crossing research to the topic of urban planning and sustainability. Woiwode is critically appraising a major report of the German Advisory Council for Global Change introducing the important notions of transformation research/ education versus transformative research/ education. In relation to this, Woiwode moves across a broad series of issues, from spirituality, indigenous knowledge, to social transformation, and from climate change, values change to practical challenges of urban planning. He is using integral theory and transdisciplinarity as a means of developing meaning and cohesion across these vastly different knowledge domains that come together in urban planning. Transdisciplinarity (see Klein’s contribution in this issue) offers an important boundary crossing perspective in that it not only

aims to connect scientific knowledge across different disciplines but also to translate that research into something that helps communities to address the very real problems that they face and the opportunities that might also be present. In developing sustaining visions for the future, the need for transdisciplinarity in the planning of cities and in the designing of urban environments will be crucial for achieving any level of authentic sustainability. Woiwode says urban planning and development are “at the center of the climate change adaptation and mitigation debate” and that this creates “an opportunity for hitherto largely neglected integral approaches to gain more importance in mainstream urban planning practice and theory.” Woiwode makes a strong case that transdisciplinarity, through its collaborative and participative methods, offers the kind of integrative and boundary crossing perspective that produce practical research that is relevant to the needs of communities across the world.

Sue McGregor also sets out to introduce transdisciplinary perspectives to perhaps the most crucial research field in the coming age of make or break sustainability: consumer studies. McGregor points out that over-consumption is impacting hugely on poorer members of the global community and that it is affecting the very basis for sustainable life systems. As she puts it, “we have consumed, produced and de-legislated ourselves into a human condition and ecological polycrisis.” McGregor makes the case for a transdisciplinary turn where consumption issues encapsulate not only the “symptomatic issues” of modern consumer society but with “human and ecological problems that manifest and mask themselves as symptoms of ill thought out consumption and greedy corporate behavior.” This turn does not only imply a boundary-crossing beyond the disciplines traditionally involved in consumer studies, but also a boundary-crossing between science and civil society, government and business, in terms of co-developing research conducted for transformative impact. Woiwode’s and McGregor’s examples remind us that any field can and should take advantage of being studied from and empowered through integral and transdisciplinary perspectives.

Openings and Endings

Through the contributions assembled in the first part of this special issue we could already see that there are a number of different and complementary ways to practice and review boundary-crossing research as highlighted in the introduction to each couple of papers. Regarding these different approaches the inherent paradox of the whole thing is striking. Boundaries are ephemeral and real, abstract and completely concrete (as any tour of a conventional university will confirm), they are institutionally ingrained while also being often quite arbitrary. We need boundaries to become who we are and to develop some knowledge at all, and we are also inherently boundless boundary-crossers (Unger, 2007). A lot of boundary work is going on (Gieryn, 1999; Horlick-Jones & Sime, 2004) because the mixed nature of knowledge and social boundaries excludes some communities while empowering others. The opportunity for rearrangement and crossing over boundaries may never be greater than it is currently. But it is simultaneously true that knowledge boundaries, the boundaries of what is “scientific”, and disciplinary boundaries within academic research have never been so grimly reinforced and institutionally upheld as at this time.

The papers here address both ends of this issue. From both within and without, institutional boundaries are being reinforced but also questioned. The imperatives of a world that does not

respect human made boundaries also often break into the plans of mice and men. But it is also true that the boundaries we create and cross have the power to destabilize entire planetary systems, physical, biological and social. We will need to develop methods for managing the lines of responsibility and knowledge that we create. The task before us is no less than planetary stewardship (Steffen et al, 2011) and the role of integrative studies in that management process drawing on well-developed boundary-crossing capabilities will be significant. The articles offered here contribute to that task, as will those featuring in the second part of this special issue in which we will also discuss more the inherent limits of integrative research endeavors and which complements they require to contribute to actual transformation work.

References

- Bánáthy, B. H. (2000). *Guided evolution of society: A systems view*. New York: Kluwer / Plenum.
- Boyer, E. L. (1994). Scholarship reconsidered: Priorities for a new century. In R. Rigby (Ed.) *Universities in the twenty-first century* (pp. 110-132). London: National Commission on Education.
- Eisler, R. (1998). Conscious evolution: Cultural transformation and human agency. In E. Laszlo & D. Loye (Eds.), *The evolutionary outrider: The impact of the human agent on evolution* (pp. 191-207). New York: Praeger.
- Engeström, Y., Engeström, R., & Kärkkäinen, M. (1997). The emerging horizontal dimension of practical intelligence: Polycontextuality and boundary crossing in complex work activities. In R. J. Sternberg & E. Grigorenko (Eds.), *Intelligence, heredity, and environment* (pp. 440-462). Cambridge, UK: Cambridge University Press.
- Dussel, E. (2009). A new age in the history of philosophy: The world dialogue between philosophical traditions. *Philosophy and Social Criticism*, 35(5), 499-516.
- Gaspar, D. (2004). Interdisciplinarity: Building bridges and nurturing a complex ecology of ideas. In A. K. Giri (Ed.), *Creative social research. Rethinking theories and methods* (pp. 308-344). Oxford: Lexington Books.
- Gieryn, T. (1999). *Cultural boundaries of science : Credibility on the line*. Chicago: University of Chicago Press.
- Giri, A. K. (2002). The calling of a creative transdisciplinarity. *Futures*, 34(1), 103-115.
- Horlick-Jones, T., & Sime, J. (2004). Living on the border: Knowledge, risk and transdisciplinarity. *Futures*, 36(4), 441-456.
- Raskin, P., Banuri, T., Gallopin, G., Gutman, P., Hammond, A., Kates, R., & Swart, R. (2002). *Great transition. The promise and lure of the times ahead* (A report of the Global Scenario Group). Boston: Tellus Institute.
- Spratt, S., Simms, A., Neitzert, E., & Ryan-Collins, J. (2010). *The great transition*. London: New Economics Foundation.
- Steffen, W., Persson, Å., Deutsch, L., Zalasiewicz, J., Williams, M., Richardson, K., Svedin, U. (2011). The Anthropocene: From global change to planetary stewardship. *AMBIO: A Journal of the Human Environment*, 40(7), 739-761.
- Unger, R. M. (2007). *The self awakened: Pragmatism unbound*. Cambridge, MA: Harvard University Press.