



*E-Journal of the World Academy of Art & Science*

# ERUDITIO

*“A multidisciplinary forum focused  
on the social consequences and policy  
implications of all forms of knowledge on  
a global basis”*

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## ***Eruditio Vision***

*The vision of the Journal complements and enhances the World Academy's focus on global perspectives in the generation of knowledge from all fields of legitimate inquiry. The Journal also mirrors the World Academy's specific focus and mandate which is to consider the social consequences and policy implications of knowledge in the broadest sense. The vision of the Journal encompasses major challenges facing global society and seeks to examine these issues from an interdisciplinary, multi-method and value guided perspective.*

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## In This Issue

**Fadwa El Guindi**'s brief revisit to the Arab Spring in "[Revisiting the Arab Spring](#)" is a subtle examination of the challenges posed by the Spring. The so-called Arab Spring is not easily generalizable and its consequences are still unfolding. The case of Egypt is probably among the most interesting. Egypt had been under a dictatorship for decades, and the dictatorship was corrupt. There was a considerable amount of dissatisfaction among its citizens. The Arab Spring, as it took off in Egypt, was able to oust Mubarak, who was promptly replaced by a religious fanatic called Morsi. Egyptian protests continued, until Morsi was replaced and a new government inserted together with a new constitution. What is interesting from El Guindi's paper is that Egyptian identity, which is composed of several different subgroups and religious differences, also draws on a deeper level of identity rooted in Egypt's ancient and distinguished historical past. Apparently, Egyptians find those historical roots to be an important aspect around which to cement solidarity within modern Egyptian national identity. It is by no means clear that the changes experienced in Egypt are sustainable with a definite future. But, the author believes that the events surrounding the removal of two dictators provide a sense of optimism that the future for Egyptian nationhood can be more promising.

**Juliano Vargas** and **Joanílio Rodolpho Teixeira** have written an extraordinary and challenging piece in a short, but extremely precise, format. In "[Institutional Challenges to the Labor Market and the Fourth Industrial Revolution in the light of a New Paradigm in Economic Thinking: The Brazilian Case](#)," they confront three formidable theoretical challenges, all of which are basic to new political theory. First, they bring clarity to the institutional context of modern political economy, but provide an important expansion and development of the institutionalized focus, developed by Chang and Evans, by providing a more explicit importance to the role of human agency in institutional dynamics. This provides institutions a level of dynamism and realism appropriate to the challenges of a new political-economic theory. Here the challenge is that institutions in general have a tendency to stabilize community expectations and limit the capacity for creative change. Human agency adds the relevant dynamism to this process. But both of these addenda to the foundations of New Economic Theory must also account for the importance and great challenges of the Fourth Industrial Revolution. The basic challenge of the Fourth Industrial Revolution is the place of labor and work in this process to enhance human progress. For example, it is technology that provides for more economic efficiency and less reliance on work. At some point, economic efficiency and technological change would reduce the weight of labor in the economy, and technology will be produced with radically-reduced markets and economic viability. The authors apply this to the challenges of the Brazilian labor market and provide important insights for the future, not only in the context of the Fourth Industrial Revolution, but the future challenges to New Economic Theory in general. The authors provide a paragraph which provides us with a cautionary view of the future:

"Based on an institutional heterodox approach, and aiming to contribute to the construction of a new paradigm in economic thinking, the objective of this article is to examine the progress of 4IR in developed and developing economies and their impact on the Brazilian labor market. In general terms, it can be seen that the economy and global society are at a crossroads. The 4IR has tremendous potential for improving living conditions in

general, and it also has lamentable potential risks. It is necessary to reflect how this structural change is to be conducted, especially with regard to the relations between the advanced and the developing economies. However, reflection is not enough. It is essential to implement desirable actions (or goals).

“The 4IR will have a strong impact on the organization of the world of work. It will urge emerging countries—the case of Brazil—to rethink their strategies and development models. The greatest socio-economic menace of 4IR in this area is to generate insufficient demand for labor or available labor skills, threatening to throw millions of workers into structural and/or precarious unemployment.”

**Emil Constantinescu** is a brilliant, original, and deep thinker. He consistently explores some of the most fundamental, philosophical, and normative questions about the position of the self-system in the larger political culture of state, continent, and planet. In his article [“Managing Uncertainty – A Challenge for Contemporary Society”](#), he provides profound and mature insights into the political implications of the experience of both servitude and uncertainty. The problem with servitude is often false stability and an effort to freeze social relations. Such an approach benefits the rise of an authoritarian class. On the other hand, there is uncertainty which provokes insecurity. On the other hand, uncertainty is a profound existential challenge. Uncertainty provides more choice for human responsibility for human choice. As Emil Constantinescu says, “Uncertainty grows without awareness of the place that humans occupy in the world.” He also adds, “If man cannot be defined in his intimate structure, can we define the world that holds him?” Emil Constantinescu is a profound and original thinker and this piece is a deep exploration of the fundamental problem of the temptations of an illusory stability and the challenge of profound transformation.

In [“Big Government and Global Governance: Managing Complexity for the New Society,”](#)

**Rodolfo Fiorini** has written a bold, innovative, and explicitly interdisciplinary meditation on the problem of (and a possible solution to) multi-scale ontological uncertainty management. To reduce to the language of normal speak, Fiorini provides us with a proposed solution to the problem of anticipation. In recent years, the World Academy and its allies have focused their attention on the nature and importance of anticipation in human psychological and social processes. The conferences produced surprising levels of complexity. Anticipation, a relatively ordinary idea, proved to entail a wicked level of complexity and profound challenges to a deeper understanding of the security and advancement of the human prospect. A senior Fellow in our Academy, **Momir Durović**, provided a threshold exploration of the complexity of anticipation in the global social process, in an impressive book titled *The Future Has No History*. It seems, to the editor, that the human dimensions of the problem of anticipation touch on nothing less than understanding not only the being of human existence, but its becoming as well. The challenges posed by such an inquiry are manifold, and the ability to both understand and measure the phenomenon turns out to be beyond the reach of normal processes of cognition and science. This is the formidable challenge that Fiorini has sought to explore. His march through the social sciences, advanced physics, cybernetics, and more, emerges with a model to manage “ontological uncertainty”. He proposes a new and more reliable method for conceptualization of the complex multi-scale system implied in understanding the phenomena. The solution, according to Fiorini, lies in what he calls “Fourth Order Cybernetics”. These are listed as follows:

1. Zero Order: a totally isolated open-loop system
2. First Order: system is “self-steering”, isolated from the act of observation
3. Second Order: the influence of observers on “self-steering” now understood
4. Third Order: the process is understood as an interaction, but there’s no addressing of “social response-ability” of observers
5. Fourth Order: multiple realities emerge through the freedom of choice of the observer, who must be self-aware and have “response-ability” for/in action

This is a remarkably original and penetrative piece. It will doubtless provoke much discussion in future volumes of this journal. Fiorini is to be congratulated on the excellence of this submission.

**Gerald Gutenschwager** has provided a convenient and insightful examination of the riddle of human anticipation in “[Planning as the Art of Collective Anticipation](#)”. It seems to me that anticipation implicates an age-old challenge: What do we mean by being? What do we mean by becoming? How are we to understand the interrelationship between being and becoming? Humanity has gone through multiple revolutions in biology, psychology, political economy, and more, but we’re still confronted with what exactly is it that we are as human beings; what are the potentials of our hidden intuitions and psychologies; and where do these potentials suggest we are headed. Can we separate the individual sense of becoming from the collective sense of becoming? Indeed, our very understanding of the stability of the material world is challenged by the ideas of entanglement between microscopic and macroscopic materials that are drawn from the world of quantum physics. Gutenschwager has given us an important introduction to the challenges presented by the art of collective anticipation.

**Juliana Sandi Pinheiro** and **Danielle Sandi Pinheiro** have written an excellent and original study of the role of peace-keeping and stabilization in a country undermined by insecurity, internal gang violence, and chaos. In “[Social Power and Stabilization Strategies: A Case Study of Brazilian Troops Deployment in Haiti](#),” they provide a careful, methodologically-precise effort to examine the interplay of military intervention by the UN and peace-keeping operations, and the importance of peace-keeping and stabilization to the overall improvement of the target population (in this case, Haiti). The lines between peace-keeping and stabilization are not precise; the peace-keepers are often required to do more than merely constrain gangs and the purveyors of anarchy and violence. To ensure that peace-keeping has secure roots, it has to engage in some form of stabilization of the body politic, and that is a form of intervention not necessarily charged to the functions of peace-keeping under the command of military officers. On the other hand, without some form of stabilization, peace-keeping is undermined. The authors have given us a detailed appraisal, combined with tough-minded methods of analysis, to examine the stabilization role of peace-keepers. They have extended their analysis to include a careful examination of the role of anomie in the generation of antisocial violence, and the role of gangs in destabilizing society. This is an extremely insightful analysis into an understanding of the problems of peace-keeping, stabilization, and the importance of understanding the role of anomie in undermining international peace-keeping efforts in situations of complex disorder. This is an excellent piece of scholarship.

In “[Self-determination versus Techno-economic Determinism: Managing the Cultural Challenge of Techno-economic Determinism](#),” **Leon Miller** has provided a challenging article which focuses on the human right to self-determination and its aversion by forces of techno-economic determinism. It is a common place today that our cultural norms are influenced by the technological revolution in communications and other forms of technological innovation and convenience. Perhaps what is less clear is where this dramatic techno-economic force is taking us, and whether it is taking us to a place that subverts the human right to self-determination. His focus here is on the micro-social aspect of techno-economic determinism. The challenge is not only for social commentators to understand the macro-social implications of technological determinism, but also to more deeply understand its micro-social implications. The central point here is that the macro and the micro are deeply inter-dependent and, in fact, inter-determine the human future. The problem of understanding the whole and the part is a crucial human problem, and a critical challenge for the future of the social and political sciences.

**Shlomo Yishai**’s article “[Inspirational thinking: A Manifesto](#)” is a brilliant extrapolation on the impact of the global technological communications era on global identity, global thinking, and the challenges this presents for the future of the global social process. This article gives us a remarkably precise insight into the impact of such phenomena as Google and Facebook, the mother of all social networks. It explores the implications of a radically new form of global interpersonal communications networks. In Yishai’s view, this represents a new global reality. It is a reality that has implications for emotional experience and intellectual self-understanding. One of the insights generated is that all of humanity is now connected through virtual networks, and this is considered to be a new form of global being and identity. According to Yishai, this global giant had its first steps in 2011. It now represents a challenging march into the future, challenging social orders in the world of the 21<sup>st</sup> century. It is an entity that disturbs the reality of our lives, threatens traditional systems, and is indeed a global giant generating a new “life sphere”. The critical question is how humanity will be able to absorb such radical transformations, whose anticipations of the future are uncertain. The author points out that the new global giant challenges democratic government, challenges leadership, challenges security and economy, challenges industry and finance, and ultimately challenges the very identity and personhood of the individual citizen. One of the issues implicated in the new electronic order is that humanity has to become acclimated to radical changes in space and time. The author suggests that we take a long, hard look at the forms of thought that informed us to return what we can learn, and what we might manage from our new technological reality. He provides us with a challenge of a new inspirational thinking. This is a brilliant article.

**Ajay Tejasvi Narasimhan** and **Anand Pillai** have written a very useful article titled “[A Paradigm Shift in Public Service Delivery: The Malaysian PEMANDU](#)” on a little-discussed subject in the context of economic development: the role of public service delivery in improving the development prospects of average people in democracies, and especially average people in relatively underdeveloped spaces. They have written up an article on the Malaysian Performance Management and Delivery Unit, which was set up in Malaysia to improve the country’s public sector delivery services. The model was initially developed in the United Kingdom under the influence of Prime Minister Tony Blair. It was set up as



a response to the fragmented and somewhat disorganized delivery system of the British government and agencies. The Blair approach had four organizational attributes:

- Respected Leadership
- A small size
- Top talent
- A non-hierarchical relationship with the system

Malaysia adopted this approach and modified it to fit its political and economic conditions. In addition to assistance from British experts, the private sector firm McKinsey was also instrumental in facilitating the project. The Malaysians agreed upon a focus on six key areas: reducing crime, fighting corruption, improving student outcomes, raising low-income household living standards, and improving urban public transport. Among the issues that they focused on was governmental and economic transformation. The progress reports suggest considerable success in all areas focused on by the project. The successes achieved in Malaysia suggest that this could be a model for future development. Indeed, the government of the United States' failures in Puerto Rico suggest that such an approach to the delivery of services could be very useful, not only for developing countries, but also for developed ones.

In “[Mastering What Transforms: Dream the Impossible and Go for It,](#)” **Charles Smith** takes a critical perspective on the forms of modern thinking that provide us with the social solidarity of mutuality and success. He does not view the tradition that currently constitutes the dominant cultural paradigm as one that leads to a successful human future. He sees, in this particular model, many limitations on innovation, cooperation, cognitive and analytical discourse, and more. The cultural blinders that these represent he believes will require bravery from all of us if we are to transcend them and not be lost. Smith is deeply influenced by Taoist thinking, which he understands is rooted in the natural order of human intuition. Without a capacity to identify and mobilize this inner intuition, the human capacity for wisdom is diminished. He provides us with important guidelines to cultivate this deeper level of intuit or understanding and wisdom. He provides a multitude of examples where such intuitions have emerged as greater expressions of our culture. The key insight from Tao is that it is transformative and provides profound counterintuitive insights that improve the human capacity for wisdom and enlightenment. This short article is challenging and worthy of considerable thought and reflection, with a view to benefitting from the intuitive insights it suggests are available to all of us. A fine and challenging article.

**Winston P. Nagan**

**Chairman of the Board, World Academy of Art & Science**

**Chair, Program Committee**

**Editor-in-Chief, *Eruditio***



## Revisiting ‘The Arab Spring’

**Fadwa El Guindi**

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### Abstract

*The article presents a critical analysis of the imposed construct of ‘The Arab Spring’. It presents an analytic description of a more realistic picture of what happened in the Arab World. There was discontent fomenting among the Arab peoples following what they saw had happened to them, not initiated by them, starting with the US’ invasion of Iraq, resulting in its breakup as a unified nation, the dismantling of its army and its institutions, the killing of its President, and the growing wave of the ‘Islamic Caliphate’ sweeping the Arab world. Egypt is now, six years after the second phase of the Revolution (2011-2013), growing into a democracy that has been born out of her historical identity, the national character of Egyptians, and the unique societal fabric of integrated diversity that rejects extremism and western-imposed models.*

In this article I will revisit the notion of the ‘Arab Spring’ which I am frequently asked about. Most recently, this question was posed to me directly during the Future of Democracy Roundtable & Planning Workshop held at the Inter-University Centre in Dubrovnik, Croatia (organized by The World Academy of Art and Science and co-organized by The World University Consortium and The Global Round Table) on April 3-5, 2018. Perhaps this article would provide partial answers to that question.

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*“The phrase ‘Arab Spring’ was born in the West to describe a ‘wave’ of protests. In hindsight, the phrase may have been part of an agenda, rather than being descriptive of actual occurring events.”*

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At first, I would like to state that the ‘Arab Spring’ is a construct imposed on sovereign nation-states of the Arab world. The phrase ‘Arab Spring’ has been referred to internally in English as ‘the-so-called Arab Spring’ or in its Arabic translation as “*Al-Rabi’ Al-Arabi*”, usually followed by a corrective indicating that this phrase is imposed on the Arab World. As such, it never really existed as a unified observable condition.

Instead, let me attempt here to give an analytic description of a more realistic picture of what happened in the Arab World. There was discontent fomenting among the Arab peoples following what they saw had happened to them, not initiated by them, starting with the US’ invasion of Iraq, resulting in its breakup as a unified nation, the dismantling of its army and

its institutions, the killing of its President, and the growing wave of the 'Islamic Caliphate' sweeping the Arab world. There was too much destruction and senseless killing. Iraq has never recovered. There was a general feeling of shock among Arabs about what was happening to their region, a region marked by its historical role as a cradle of civilization (El Guindi, 1992).

But there was also visibly growing discontent at the level of particular nation-states. Tunisia and Egypt stood out. In Tunisia people were increasingly unhappy about their deteriorating social and economic conditions and the undemocratic rule of their leaders. In Egypt, the people were fed-up of the 30-year rule by President Mubarak who installed himself as President for Life with his corrupt son as unelected 'heir', a reign of unprecedented corruption, poverty, and abuse of Egyptian resources. A close circle of Mubarak was getting very rich, the people became poorer and poorer, institutions were gradually dismantled, rule of law was falling apart, there was open brutality by the police force (endorsed at the top), and so on.\* The phrase 'deep state' first emerged in the context of Egyptian discontent. Through Facebook, Egyptian youth were fomenting a "revolution".

In the meantime, self-immolation in Tunisia triggered a mass revolt there, which in turn hastened the revolt by Egyptians who made their move at that time. The phrase 'Arab Spring' was born in the West to describe this 'wave' of protests. In hindsight, the phrase may have been part of an agenda, rather than being descriptive of actual occurring events. There was no apparent 'wave' to speak of. In fact, the protests came as different reactions to different conditions in each country, although rooted in an overall discontent already building among the people of the Arab World. A large portion of the discontent was aimed at the US, not at their own governments. A critical look inward was also emerging.

Events in Libya orchestrated by the West, ending with the killing of former President Qaddafi and the destabilization of Libya, and the confusing events destabilizing Syria amid talk of a planned 'regime change', as in Iraq, made most Arabs suspicious of the "external" hand that was working to dismantle and destabilize sovereign Arab States.

Egypt reacted swiftly. The Egyptian people were extremely suspicious of the former Muslim Brother President Morsi, of whom ordinary Egyptians had not previously heard, nor was he among the official recognized candidates running for President following the abdication of President Hosni Mubarak. After President Morsi assumed office, most Egyptians were concerned about the divisive nature of his presidency, the regular brutal terrorist attacks on the police force, the bombing inside Cairo and other cities terrorizing innocent people, the frequent burnings of Coptic Churches and the strong characterization of Christian Egyptians as non-believers, amid 'reliable' rumors that President Morsi had sold 'Sinai' to extremist forces who would turn it into "The Egyptian Province of the Islamic Caliphate". The whole picture was alien to the majority of the Egyptian people.

Egyptians see their nation, *watan*, as a seamless fabric (*nasig*), made of Muslims and Christians, Nubians and Bedouins, Berbers of the Oases, all making up that unique characteristic fabric that is Egypt. There are no fault lines. It is a stable picture since the King of ancient Egypt had unified the lands of the North and the South. Egyptians' love of their land and country is unsurpassed. It is a picture of tolerance and co-existence that was challenged by the rule of President Morsi. Discontent reached its peak. It is the Egyptian society that

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\* See my Op-Ed published in the Los Angeles Times (El Guindi, 1993) which foresaw events of January 25, 2011

was aroused. They felt betrayed. Millions of men, women, and children, Muslims and Copts, veiled and unveiled, went out into the streets, starting with Tahrir Square in Cairo and extending to all of Egypt, demanding the removal of President Morsi. They would not return to home or work until their demands were met. Bakeries were sending free bread to the protesters

and the security and police forces were handing out water bottles to the protesters. Physicians volunteered at open tent clinics in the street to serve protesters who would not leave the streets. Solidarity among the citizens reflected the Egyptian fabric. They trusted their Armed Forces and demanded reform of the security and police forces—a retraining as it were from how they were during former President Mubarak's reign. They were out for Egypt, and in the name of Egypt, and to protect Egypt from terror whether from the inside or from the outside. But their foremost demand, expressed vocally and by signs saying "*irhal*" (leave), was aimed at President Morsi. They would not leave the streets to go back to home or work until President Morsi was removed.

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*"The Arab Spring cannot describe the Egyptian scene."*

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*"The answer to the question of what happened as a result of the Arab Spring is "there never was an Arab Spring"."*

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The Revolution on June 30, 2013 was a turning point for Egypt, leading to the removal of President Morsi, the rewriting of the Constitution written previously by extremist forces and to the installation of a democratic mechanism for presidential election. The people requested Abdel Fattah el-Sisi to run for President. He was President Morsi's choice of Head of the Armed Forces, which was then unknown to the Egyptian people. They saw him as their savior from wrong leadership and from the terror they lived in daily. It was in no way an army coup. He accepted. It was a response to the people's demand. The new Constitution protected Egypt, the Egyptians in all their shades, and established a foundation for a democratic transition of power. Three institutions were to provide checks and balances: elected Parliament, the executive presidency and government, and the justice institution.

Only when President Morsi was removed did Egyptians leave the streets. They elected President Sisi to replace him. The agenda was full as revenge terrorism pervaded the Egyptian streets and there was overwhelming lawlessness and chaos. But Egyptians felt liberated and empowered. They removed two Presidents within a period of two years and elected one they chose. The Constitution limited the term of Presidency to 4 years and the number of terms to two. At that time, the Egyptians were most concerned about their threatened internal and external security. They wanted safe streets.

It is hard to believe where Egypt is today, only six years from those turbulent days. It is moving forward in the right direction and, being newly empowered, Egyptians are back to complaining about "ordinary" matters like food prices and low salaries. Egypt has become a country ruled by law with rapid development and investment. Concerns are raised about 'sustainability'. Are these rapid developments mindful of the 'human' component? On this concern, as applied to the Gulf country of Qatar, see my critique of Sustainability (El Guindi,

2014). Egypt's roots in ancient Egypt were restored, the Coptic population was re-integrated, the Bedouin groups assimilated without melting into the pot. Egyptians are visibly happier and very proud of being Egyptian, a feeling that had become shaky during President Mubarak's long undemocratic reign and marred with anger during the brief period of President Morsi, during which period the Egyptian fabric was being torn into unrecognizable shreds. The present regime understands what Egypt means to the Egyptians.

Egypt is neither considered a state, nor simply a country. Of the various Arabic terms for country (*dawla*, *balad*, *umma*), *watan* which means nation, rather than state, is the closest. It is to many *Um al-Dunya*, the mother of the world. Governments come and go. What remains is Egyptians' love of Egypt, which is now being restored as the primary element in the rapidly moving process of development in every sector of life. The present generation of Egyptians is finding it a bit hard to catch up, but many are aware that what is happening today is for Egypt's future.

The Arab Spring cannot describe the Egyptian scene. Nor can it accurately capture the overall feeling of loss among the Arabs in general. It is a false construct, imposed in a way that would deny any positive developments not included in a 'measurement scale' imposed by the West for reform in the Arab world. But there is a change, variable in pace and degree, for each country. Time will show. In sum, the answer to the question of what happened as a result of the Arab Spring is "there never was an Arab Spring". There are, instead, real popular revolts trying to keep exploitative and extremist forces out and popularly elected people in. The Democracy Index\* divided democracy into 'types': Full Democracy, Flawed Democracy, Hybrid Regime, Authoritarian Regime and thus ranked world nations. The United States is not among the top five. But this taxonomy does not justly reflect nations rebuilding themselves such as the case of Egypt, in which the biggest threat was insecurity and which is now undergoing rapid reform and development. Instead of 'Arab Spring', perhaps Processual Democracy should be added to the typology and the notion of Democracy in general should be broken into its conceptual constituents and gradual processes.

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### **Bibliography**

1. El Guindi, F., 1992 "Waging War On Civilization: Report on the Archeology of Mesopotamia". In *War Crimes: A Report on United States War Crimes Against Iraq*. C. Ramsey, ed. Washington D.C.: Maitonueve Press.
2. El Guindi, F., 1993 "Mubarak Should Call an Election and Step Aside" *Los Angeles Times*.
3. El Guindi, F., 2014 "People, Social Groups, Cultural Practices: From Venn Diagrams to Alternative Paradigms for Sustainable Development". In *Sustainable Development: An Introduction Focusing on the Gulf Region* P. Sillitoe, ed. Pp. 460-480. Oxford: Berghahn Publishers.

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\*See <https://www.eiu.com/topic/democracy-index>

# **Institutional Challenges to the Labor Market and the Fourth Industrial Revolution in the light of a New Paradigm in Economic Thinking: The Brazilian Case\***

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## **Abstract**

*Based on an institutional heterodox approach, in which the role of institutions is central to understand the different trajectories of societies, and aiming to contribute to the construction of a new paradigm in economic thinking, this paper examines the advancement of the Fourth Industrial Revolution (4IR) in developed and developing economies. Such a revolution is in course and Brazil does not present a national strategy to manage this structural change. First, the theoretical elements that underlie the article focus on the role of institutions. Then, the main concepts and implications of 4IR are presented. Next, we discuss how it will affect the labor market in general. From this perspective, an analysis of the Brazilian post-2008 labor market is elaborated, highlighting its potential and difficulties in implementing an efficient development trajectory. It is considered that, in addition to the process of technological catching up, engendering a virtuous circle between 4IR and the Brazilian labor market will require a combination of institutional improvement and dialogue—of an active social and political character, human-centered—with the involvement of Brazil in international and regional development agendas at the domestic and foreign level. This will favor better opportunities for macropolicies and structural changes, a path that tends to make feasible sustainable socioeconomic development with equity and a close association of technology with the national labor market. Therefore, now that a new threat of labor precarization is imminent, the theoretical and methodological framework applied in this research can become an alternative to overcome this historic challenge.*

## **1. Introduction**

The recent acceleration of the Third Industrial Revolution, already considered by some specialists as the 4IR, is in course and its rapid technological transformations, will significantly impact the economic and social order as a whole, presenting itself to humanity

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as one of the greatest challenges of the 21<sup>st</sup> century in terms of risks and opportunities. The most visible disruption caused by this structural change seems to fall on the world of work, in an environment of uncertainty\*, mainly due to the ups and downs of the economic and financial crisis that broke out in 2008. In this context, the world does not present a proper strategy for coping with this reality.

This subject, although incipient, presents a limited bibliography proposing to articulate the relationship between 4IR and the Brazilian labor market. Thus, some research efforts should lead to a serious debate and, at the same time, possibly cover this deficit of economic literature.

Here, for the proposed discussion, a theoretical lens with a heterodox approach of the economy has been adopted, following the perspective of Chang's Institutional Political Economy, combining it with conceptual, statistical and analytical studies of international institutions such as The World Economic Forum (WEF), the Organization for Economic Co-operation and Development (OECD), the Economic Commission for Latin America and the Caribbean (ECLAC), the International Labor Organization (ILO) and other international, regional and national organizations.

Beyond this introduction and the final considerations, the study is divided into four sections: the second one presents the methodological assumptions underlying the article, focusing on the role of institutions, providing theoretical inputs that will permeate the debate on the proposed economic approach and its application to the 4IR issue; the third presents the main concepts and implications of 4IR; the fourth will discuss how it will affect the labor market in general, and the Brazilian market in particular; the fifth examines data on the performance of the Brazilian labor market since 2008 and in terms of trends, also the challenges and possibilities for a successful insertion of the Brazilian labor market in the context of new technologies and how Brazil must act to make such insertion feasible.

## 2. Institutions, Technology and the World of Work: Towards a New Paradigm in Economic Thinking

How have countries *de facto* developed? This is the question that Ha-Joon Chang sought to answer in the book *Kicking Away the Ladder* (2003a). Based on a denominated Institutional Political Economy approach—that emphasizes the effects of historical and socio-political factors on the evolution of economic policies<sup>†</sup>—his main argument was that the advanced countries have historically used policies opposed to the orthodox framework currently advocated by them for emerging countries, hindering the development of the latter. He undertook an analysis that reveals the neoliberal fallacy which is to require from developing nations the presence and imitation of a set of institutions that would be prerequisites for creating an environment conducive to good governance practices.

\* In this article we use the uncertainty view proposed by Minsky (1996, p. 360), expressed as follows: "uncertainty (or unsureness) is a deep property of decentralized systems in which a myriad of independent agents make decisions whose impacts are aggregated into outcomes that emerge over a range of tomorrows".

† It should be noted that critics of the approach proposed by Chang point out as somewhat problematic the selectivity of the evidence used by the author, by supposedly randomly choosing success cases and omitting cases of socioeconomic failures of nations, according to the convenience of the argument constructed. The present paper does not exploit such evidences since the effect on selection of criticisms is smaller when it is examined with the full list of considerations.

In this perspective, the fulfilment of institutional and economic policy conditionalities (especially in industry, commerce and technology)—embodied in the so-called Washington Consensus—would be necessary and sufficient to elevate developing countries to the category of advanced nations.

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*“It is essential to understand the intricacy of culture and institutions, considering the relevance of human agency in institutional change.”*

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Central to his approach are institutions, understood as “devices which enable the achievement of goals requiring supra-individual coordination and, even more important, which are constitutive of the interests and worldviews of economic actors” (Chang & Evans 2005, p. 101). From this definition, it can be seen that institutions change in time and space, according to the historical specificities of each society and economy, with multi-directional interactions between economic factors and existing institutions themselves, impossible to explain by models based only on mainstream archetype.

Chang (2006) sees institutional, cultural, and economic change as mutually influencing—in complex chains of causality—and that, after all, it is the people who do it, though not in the institutional context of their own choice. He criticizes the determinism of conventional economic theory, or the neoliberal discourse, and argues that to supplant it, it is essential to understand the intricacy of culture and institutions, considering the relevance of human agency in institutional change. Moreover, he draws attention to the misconception of denying the diversity of institutions; that is, the impetus to simply transplant an institution into a context other than the original without making the necessary adaptations (the notion of “one-size-fits-all”). This is a relevant problem especially now at the beginning of the 21<sup>st</sup> century, where structural disruptive changes, such as in technology and in the world of work, for example, are evident.

He warns that the success of institutional development is dependent on both formal and informal attributes, and that institutions are the product of shared patterns of thought, imbued with the daily life of society, determining individual actions and the type of social interaction between different groups. Thus, mere institutional imitation is absolutely insufficient to guarantee successful institutional development, once there are a lot of tacit elements in institutions. Accordingly,

if this is the case, importing the formal institution is not going to produce the same outcome [where it was originally successful] because the importing country may be missing the necessary, supporting informal institutions. So, in the same way in which imported technology needs to be adapted to the local conditions, some degree of adaptation is needed in order to make imported institutions work (Chang, 2006, p. 11).



Besides, he points out the connection between institutional innovations and society in which the former, when interpreted as technologies for social management, allows the understanding of socioeconomic catching-up as an extract of institutional improvements in developing countries, from the adapted adoption of existing institutions into other advanced realities. Put another way, the latecomers can introduce institutions from the developed countries and thereby engender better institutions without paying the same price for it.

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*“At the center  
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citizens.”*

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Thus, in the logic of the capitalist system, institutions are those that restrict, constitute and enable human actions, as a complex set of constituent rules of an organization composed, in this specific case, by the market, firms and the State. These three entities interrelate, mold and are shaped by this mode of production, according to the individual circumstances of intentional agents, in a reciprocal dependence between institutions and human action. Then, the notion of a highly pervasive and interdependent institutional web is important, in which:

the capitalist system is made up of a range of institutions, including the markets as institutions of exchange, the firms as institutions of production, and the state as the creator and regulator of the institutions governing their relationships (while itself being a political institution), as well as other informal institutions such as social convention. This suggests that we badly need an explicitly institutionalist perspective that incorporates non-market, non-state institutions as integral elements, and not simply as add-ons (Chang, 2002, p. 8).

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*“The new social science should have a societal scope, be transdisciplinary, with an emphasis on scientific cooperation between economists and other social scientists.”*

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As for the role to be attributed to the State, Chang (2003b) is emphatic: markets, firms and the State are essential institutions for the functioning of the capitalist system and complex societies cannot rule out any of them. The critical point is that the free-market system *stricto sensu* relies exclusively on the law of supply and demand, and it is fundamentally a mistake to generalize it simply because there is no adherence to the reality historically observable. Therefore, the State necessarily has an indispensable active role to play in economic development. The State is, *inter alia*, the last guarantor of property rights and the most important actor in the definition and execution of the public agenda. Thereby, there is no discourse that can fairly justify an institutional primacy of the market, with which this utopia confines itself only to an ideology like any other.

From the historical-institutionalist analysis which he elaborated, it follows that the possibility of socioeconomic development of any nation is the result of the engenderment of numerous factors in synergy over time, constructed by a certain society under different

circumstances that change with time. It should be noted that at the center of events and their unfolding are citizens. It is in this context that Chang's Institutional Political Economy approach can be improved, connected to a new paradigm in economic thinking, with a human-centered and sustainable development framework.

Assuming this view, the refoundation of socio-economic theory is essential in order to provide new perspectives for the establishment of adequate and effective institutions, in line with the global and national multidimensional requirements of the twenty-first century, with a view to improving the general living conditions of people in general. This new social science should have a societal scope, be transdisciplinary, with an emphasis on scientific cooperation between economists and other social scientists. It is imperative to restore the economic paradigm as an inseparable component of society, so much so it should be impossible for it to fully exist outside of a whole social context, and conceived as embedded and as a server of the society's needs (Jacobs, 2015; Hoedl, 2017).

It is necessary to overcome the controversial, dichotomous and not infrequently innocuous debates on mainstream economics between opposing groups of specialists, almost all confined to narrow academic circles, which in large part explains its own limitations. In fact,

we need a new comprehensive and multidisciplinary socioeconomic theory that markedly differs from the present situation and in this vein makes a positive contribution in setting the ground for a new framework. The search for a new vision involves burning political and socioeconomic issues. Without a profound humanistic theory, which can produce significant actions, we are risking increasing uncertainties about democratic civilization (Teixeira & Teixeira, p. 197, 2016).

As it is well known, economic theory is not only dedicated to wealth generation. The economic conception in time and space is closely related to the relations of power established in each society and among societies. There are direct and indirect impacts of this power on institutions, which in turn have repercussions on the economy itself and on the quality of life of citizens. Thus, any economic theory *de facto* has roots in Political Economy, once the economy is strongly influenced by political and social power and vice versa. In this sense, the potential energy of a society's achievement is highlighted, from which emerges the concept of social power, that is "the capacity of the society to direct, organize and utilize that energy for effective action by means of laws, social systems, institutions, knowledge and skills to accomplish social objectives" (Jacobs *et al.*, p. 21, 2017).

Social power impacts on politics, economics, finance, laws, organizations, technology and innovation, the world of work, culture, education and many other aspects that make it possible to realize the common interests of society. So it is necessary to distinguish potential energy from the effective energy of society, as well as its productive application from the destructive one. The gap between them is a result of power allocation.

Emphasis should be placed on the most effective and positive use of social power, with a view to promoting the quality of life of human beings and sustainable development. A myriad of issues are part of this framework, such as: security, freedom, guarantee of fundamental rights, access to education and information, mobility, cultural diversity, creativity, decent

work\* and the like. These institutional connections democratize and direct the application of social power forcefully (d'Orville, 2015). It is a serious mistake to underestimate human and social capacities, since:

human and social capital are unique in that they possess the ability to mobilize and utilize the other forms of capital to enhance performance. There is no inherent limit to the potential of human resourcefulness and social organization. Thus, there is no inherent limit to human development (Jacobs *et al*, p. 36, 2017).

That is why the participation of civil society in designing the course is so necessary. Social power must be the key, and it is important for the individual to have guaranteed their rights to have rights, allowing a qualified qualification in the productive system. This is a perspective of social transformation that seeks to avoid and eliminate the barriers that prevent individuals from having access to what they consider important in their lives. A substantial part of the socioeconomic backwardness is caused by limitations imposed on individuals with regard to restrictions and impediments to the improvement of quality of life and social conditions. Every citizen can and should demand access to a dignified life, through strategies for a more equitable distribution of societal power. The role of the individual in this new paradigm of economic thought is not suppressed; society is not considered an aggregate of autonomous individuals. Each one of us is capable of unique initiatives, being the catalyst and source of social creativity and innovation; actions of a single individual can profoundly impact economic performance. In this sense, individual freedom and collective welfare are complementary.

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*“Actions of a single individual can profoundly impact economic performance.”*

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Therefore, it is necessary to inquire how to reconcile the premises of Institutional Political Economy linked to a new paradigm of economic thought with the rapid structural changes underway, which are specifically facing the technological and world of work scenarios. It is assumed that this is an urgent discussion, since it has become increasingly apparent that economies and societies have moved from an industrial logic (limited by the scarcity of material resources) to service logic (where knowledge and information—immaterial—are unlimited). Obviously, an absolute convergence of economic thought is not expected, even by its nature as a social science, but it is time to think about the economy beyond the dichotomy orthodoxy *versus* heterodoxy, to understand that the true Gordian knot of socioeconomic development is between the past and the future. This finding is paradoxical in the face of a dynamic in which having a reality that is indivisible coexists with an increasingly fragmented scientific knowledge.

In this new era in which knowledge and information will increasingly be the linchpin of economic development, the future trend will be the sciences of society increasingly being judged by their ability to contribute to people's quality of life. In this case, a structural change in its bases must aspire to the formulation of knowledge applicable to this end, in a sustained

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\* The concept of decent work is contained in the document prepared by the 90<sup>th</sup> International Labor Conference, which expressly defines it as the central axis on which the four strategic objectives of the institution converge: i) promote and realize standards and fundamental principles and rights at work; ii) create greater opportunities for women and men for decent employment and income; iii) enhance the coverage and effectiveness of social protection for all; iv) strengthen tripartism and social dialogue (ILO, 2002).

way. Recognizing the limitations of conventional economic theory is an important start, for example, in what concerns the narrow concept of economic efficiency, ignoring the social costs and other implications of maximization and minimization in the production chain. The efficiency of society is totally different compared to the efficiency of firms, where the former must be inclusive while the latter is achieved by replacing workers with machines.

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*“A new paradigm in economic thought must have as its pillars the search for a free, democratic, just, pluralist, supportive and participative society, in which absolute respect for the dignity of the human person should be emphasized.”*

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In accordance with this reasoning, even the use of technology must be rethought as not being an end in itself but intended to serve human needs in all walks of life. Possibly the most obvious of these is the increasingly technological pattern employed in the world of work, a process that if not well conducted can be pernicious even from the standpoint of conventional economic theory. This is due to the possibility of investing in technology aimed at production without having to worry about mitigating the potential harmful effects on consumption, for example. On the other hand, treating technological advances as progress of mankind, in a broad spectrum, is mandatory in this dynamic.

Therefore, in this new paradigm in economic thought there will be a special debate and action on the role of work in the 21<sup>st</sup> century, since the current configuration of the capitalist system cannot ensure decent work for citizens. Various societies have sought answers to the new global dynamics of the world of work, whether through multilateral agreements or through tensions within nations, which denotes the strength of society in affirming the dignity of workers and, consequently, as a fundamental right of citizenship. We must take into account the importance of the active participation of society and its institutions in order to ensure fairness of opportunities, protection of the social fabric and guaranteeing individual and collective rights at work. Work, in addition to ensuring material prosperity, has fundamental relevance for the autonomy of individuals, the construction of identity and social recognition.

Consequently, a new paradigm in economic thought must have as its pillars the search for a free, democratic, just, pluralist, supportive and participative society, in which absolute respect for the dignity of the human person should be emphasized. The economy should favor the practice of market rules, provided that it has as its main objectives better quality of life and equity among citizens. Economic action must be guided by social values, functioning effectively in a dynamic social market economy.

To put it in a nutshell, the theory and methodology set forth in this section will be adopted as the basic premises that will permeate the interpretation of advancement of 4IR in the developed and developing economies and their impacts on the Brazilian labor market. It is assumed that such a foundation will favor a better understanding of the proposed analysis, revealing key aspects of the subject that were neglected in similar investigations. Moreover,

looking at these phenomena by examining their role in the development process implies that this research offers a different point of view in relation to this theme, distinct from the way it has been approached until the present moment.

### 3. The Fourth Industrial Revolution: Structural Change and its Magnitude

The expression “Fourth Industrial Revolution” echoed worldwide first in the Hannover Fair 2011 meeting, which saw the launch of the German government’s High-Tech Strategy 2020 industry 4.0 program, whose main objective is to establish this country at the forefront of the techno-industrial paradigm shift.\* Industry 4.0 refers to smart factories, through decentralization and digitization of productive processes, with which cyber physical systems—characterized by the close union and coordination between physical and computational resources—perform tasks and exchange information autonomously (The Federal Government of Germany, 2011; Kagermann, Wahlster & Helbig, 2013).

From this spectrum emerges the 4IR, which in the words of Schwab (2016a, p. 14-21), is characterized “by a fusion of technologies that is blurring the lines between the physical, digital, and biological spheres”. According to him, highlights of this reality are technological advances in areas such as robotics, nanotechnology, crypto-currency (digital currency), artificial intelligence, big data, cloud computing, internet of things and 3D printing. In this sense, the 4IR is different from previous industrial paradigms, as observed in table 1.

*Table 1: Comparison among Industrial Paradigms*

Industrial paradigm	Period	Technological change	Productive structure
1IR	mid-18 <sup>th</sup> century	mechanical production (via water and coal)	mechanical loom, steam engine
2IR	between the end of the 19 <sup>th</sup> century and the beginning of the 20 <sup>th</sup> century	electricity, petroleum	assembly line
3IR	early 1970s	automation	electronics, information and communication technologies
4IR	present	digitalization	cyber physics

**Source:** adapted from GTAI (2014) and Schwab (2016a).

Although there is no consensus on whether these advances can be considered 4IR or an acceleration of 3IR, certain technological changes will generate significant impacts on the economic and social order as a whole, presenting humanity with one of the major challenges

\* It should be emphasized that there is a State policy behind this phenomenon, denoting a deliberate strategy for the productive insertion of Germany in the context of 4IR. Other governments have outlined similar policies, such as: Australia (*National Industry Investment and Competitiveness Agenda*, 2014), China (*Made in China 2025 Initiative*), South Korea (*Action Plan for implementing its 3<sup>rd</sup> S&T Plan*, 2015), United States (*Strategy for American Innovation*, 2015), India (*Make in India*, 2014), Japan (*5th S&T Basic Plan*, 2016), United Kingdom (*UK Productivity Plan*, 2015), etc (OECD Publishing, 2016). The Brazilian government, for its part, launched the “National Strategy for Science, Technology and Innovation 2016-2019” (Estratégia Nacional de Ciência, Tecnologia e Inovação 2016-2019, Encti, 2016), which will be discussed in section 5.

of XXI century. On this question, Schwab (2016a, p. 1) states that in fact this is a revolution that “entails nothing less than a transformation of humankind”. He also asserts:

we stand on the brink of a technological revolution that will fundamentally alter the way we live, work, and relate to one another. In its scale, scope, and complexity, the transformation will be unlike anything humankind has experienced before. We do not yet know just how it will unfold, but one thing is clear: the response to it must be integrated and comprehensive, involving all stakeholders of the global polity, from the public and private sectors to academia and civil society (non-paged).

Rifkin (2015, p. 11) points out that this process will lead to the replacement of capitalism with a new socioeconomic model, “better suited to organize a society in which more and more goods and services are nearly free”. He predicts that in the not too distant future the rapid technological transformations underway will greatly reduce the marginal cost of production, which will trigger a systemic impact on the economy and society as we know it. He also argues that the current capitalist economy is progressively tending to give way to the economy of sharing and common collaborative goods, opening space for a more cooperative society.

The effects of 4IR on all socioeconomic agents present enormous possibilities for improving living conditions in general, and also have unfortunate potential risks. As written by Davis (2016), “every period of upheaval has winners and losers. And the technologies and systems involved in this latest revolution mean that individuals and groups could win – or lose – a lot”. He affirms that the fact of this revolution being in its beginning makes its impact imprecise, and he points out three great aspects to be addressed: security, identity and inequality.

As for security, the dangers are of fragmentation, segregation and social unrest, which can lead from violent extremism to the transfer of power to spurious non-state actors (see Global Risk Report 2016 – WEF, 2016b). Regarding identity, the paradox is that while the expansion of connectivity makes it possible to access different worldviews and increase the interaction between people and groups, it can raise the level of social polarization and tension. On the other hand, inequality, which has grown since the last quarter of the twentieth century—as Piketty (2013) has shown—can be considerably higher among those who will or will not be able to buy, access and enjoy technological innovations (Davis, 2016).

The challenge of all nations to form an institutional arrangement that does not break with this dynamic is fundamental to mitigate the risks of global geopolitical instability. The greatest risk in a context of very low marginal cost production—labor saver—is the rapid transfer of world manufacturers to the advanced economies, since wages may no longer be a factor of competitiveness between companies.

This will have significant impacts on the global economy and the organization of the world of work. It will impose on emerging countries—the case of Brazil—to rethink their strategies and development models. The greatest socio-economic threat that 4IR could cause is a dynamic of plays that gives away everything to the winning countries and also distributes among them, thus generating an overall insufficient demand for work or labor skills.



#### 4. Labor Market 4.0: the juxtaposition of structural changes

According to *The Future of Jobs Report* (WEF, 2016a), the most visible disruption caused by structural change underway will fall on the world of work. As we move forward, production will tend to increasingly incorporate cyber physics, whereby the comparative advantages of the supply of human labor—at least the conventional ones—will gradually decline. Many existing labor activities today will lose relevance and/or be extinguished. The same report indicates that between 2015 and 2020, 7.1 million jobs will be extinguished (especially those related to administrative routines and production), while approximately 2 million new jobs will be created (mainly in areas related to mathematics, architecture, engineering and computing); the net balance will be the elimination of more than five million jobs. The report also estimates that 65% of children currently entering primary school will work in jobs that do not yet exist\*. It concludes that of the advanced and developing countries/regions, fifteen of them will be hardest hit by 4IR, among which Brazil ranks fifth†.

At the 104<sup>th</sup> International Conference of ILO (2015, p. 2), which was devoted to discussing the future of work, it was stated that 4IR could deepen a paradoxical situation in which

extraordinary advances in the productive capacity of the global economy now provide the material means to eliminate poverty and meet human needs as never before, but are singularly failing to do so. At the same time, the workings of that economy are generating mass unemployment and underemployment and large-scale exclusion, as well as great prosperity and social advances, which are present in tense coexistence within and between our societies.

This structural change in the productive paradigm occurs simultaneously with the ups and downs of the economic and financial crisis that broke out in 2008, which has since unemployed about two hundred million citizens. Considering that about 40 million people are entering the labor market annually, it is estimated that by 2030 the world economy will need to create about six hundred million new jobs—mostly in developing economies—if it is to equalize this difficulty in an inclusive way. It is also necessary to consider the fact that half of the world's population is active in the informal economy—a proportion that has increased even in advanced countries—and that the biggest barriers to decent work are imposed on the poorest citizens, young people, women and the elderly.

There are several reasons why unemployment cannot simply be eradicated fully. It takes time for people to move from one job to another: this is said to cause “frictional” unemployment. If people cannot find jobs because they have outdated skills, they become “structurally” unemployed. No democratic society could tolerate endlessly rising unemployment.

Therefore, the immediate questions to be asked when discussing the future of the world of work are where the jobs will come from and how they will be. These questions are directly related to 4IR, since their answers lead to the conclusion that the institutional and political instruments currently at the disposal of national and international policymakers are not enough to create the necessary jobs with satisfactory quality and quantity.

\* Frey & Osborne (2013) developed an econometric study pointing out that 47% of the existing professions in 2010 in the United States' labor market were at risk, which means that their functions could be computerized in the next ten or twenty years.

† The other fourteen countries/regions are in alphabetical order: South Africa, Germany, Association of Southeast Asian Nations (ASEAN), Australia, China, Gulf Cooperation Council (GCC), United States, France, India, Italy, Japan, Mexico, Turkey and the United Kingdom (WEF, 2016a).



With regard to the Brazilian labor market, the promotion by the OIT\*, † (2016a, 2016b) together with its national government, employers and workers of the so-called “National Dialogues on the Future of Work” (Diálogos Nacionais Sobre o Futuro do Trabalho) has analysed the impacts of 4IR on the organization of work and production in the country. Corroborating in general with the previous analyses, these meetings added the concern that especially in Brazil the projections for the future put in jeopardy the centrality of work as the motor of development and also that there is the fear that there is a technological determinism at a time when a large part of the Brazilian society still does not have access to the most advanced technologies.

Equally relevant is the fear that the global production chain will damage the specific knowledge, the identity of the workers and the bonds of solidarity within that class. In addition, the risks of 4IR have increased in reducing the capacity to stimulate development models combined with social equity‡, which may limit the construction of a development model with national sovereignty that takes into account the inclusion of citizens and decent work. All of these topics are associated with the deepening of Brazil’s insertion in interdependent global capitalism, especially with regard to global value chains and the context of increasing financialization of the economy. Its consequences for the labor market are not clear, especially for the most vulnerable Brazilian workers (OIT, 2016a).

A discussion in the meetings promoted by the ILO focused on the case of Brazil suggested that, in addition to being attentive to the rapid technological changes underway, it is also necessary to consider other aspects of utmost importance in the labor market in an integrated way. In this vein:

current transformations are not only due to advances in technology, but also to society’s values and expectations, as adequate income, [...] these expectations are sharpened by the fact that the wealth that exists today surpasses previous levels, but with great inequality, instability and precariousness of social access (OIT, 2016b, p. 11).

Other concerns that permeated the National Dialogues on the Future of Labor—directly linked to the advancement of 4IR—include, *inter alia*, issues related to the informal economy, income, labor productivity, investment in research and development (R&D) and competitiveness. The next section will focus on the related analysis of these specific aspects and their relations with 4IR and the Brazilian labor market post-2008, highlighting their trends.

## 5. Brazilian Labor Market in the context of 4IR: Challenges & Possibilities

In order to address the theory presented in the second, third and fourth section of the article with some of the main indicators of the Brazilian labor market, this explanation is initiated by the most pressing issue: unemployment. While in a large part of the world the international

\* The acronym OIT in Portuguese has the same meaning as the ILO in English, with only a distinction between languages. Hence, the original font format was maintained in the references.

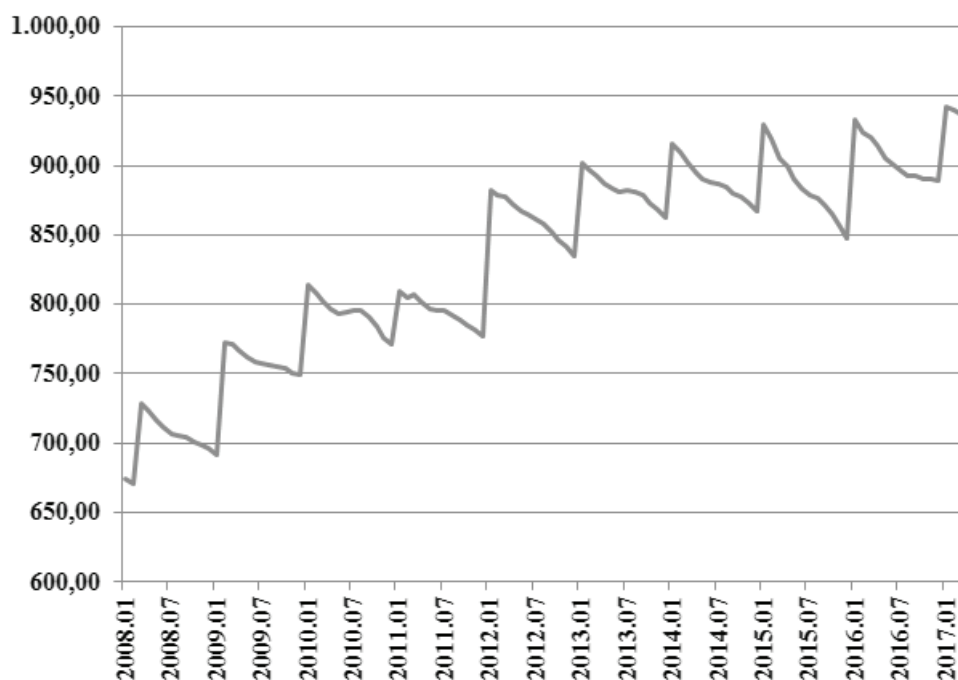
† Brazil is one of the founding members of the organization (established in 1919), which implies that the country remains in line with the general guidelines and ratifies a large number of conventions and recommendations of this international organization. According to material provided by the OIT (2017a), Brazil has ratified 78 of the 189 conventions proposed by the institution.

‡ The issue of equity, which encompasses the improvement of working and living conditions, is at the heart of the debate on ECLAC’s sustainable socio-economic development, progressively integrating its Latin American integration agenda, including 4IR. See ECLAC (2015, 2016).

economic and financial crisis of 2008 had a serious impact on the labor market, the trajectory of the gradual decline of unemployment in Brazil remained until 2014. The consolidated data of the “Monthly Employment Survey” (*Pesquisa Mensal de Emprego*, IBGE/PME, 2016) showed that in 2008 and 2014, unemployment rates—based on the month of December—were 6.8% and 4.3%, respectively. This was due, in particular, to countercyclical policies adopted by the federal government\*, which avoided a more severe impact on the Brazilian labor market.

After that, this process receded. The unemployment rate in 2015 rose to 6.9% and in 2016 to 11.9%. The OIT (2017b) observes that at the end of the third trimester of 2017, 13.1% of Brazil’s economically active population was unemployed, one of the highest among the G20 economies. Brazil will account for 35% of the new unemployed worldwide this year. The report shows a possibility of slight improvement in the occupancy rate in the Brazilian labor market at the end of 2017, which provides a glimpse into positive evolution for the year 2018, being very dependent on a more stable macroeconomic environment (in a year of general elections) and with a consistent rate of Gross Domestic Product (GDP). Nevertheless, it is emphasized that about half of the national workforce carries out economic activities in precarious and/or informal conditions (see Vargas, 2017).

*Figure 1: Minimum Real Wage (in constant R\$ of January 2017, deflated by INPC) Brazil (2008-2017)*



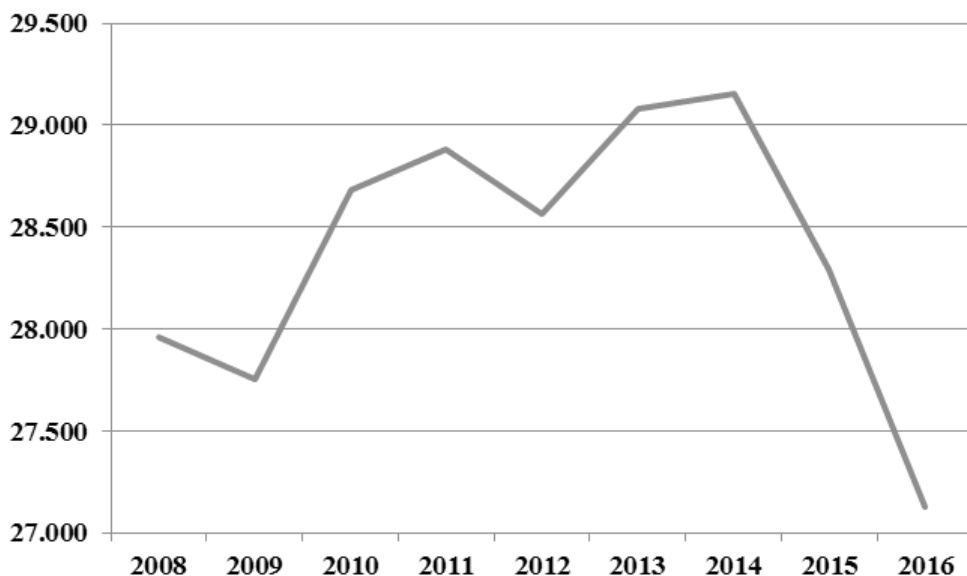
**Source:** IPEADATA, 2017. Elaborated by the authors.

\* For a detailed analysis of the policies implemented by the Brazilian government at the time, see OIT (2011).

Regarding the issue of income, the policy of valuing the minimum wage established in 2007 under a specific rule of adjustment\* favored the public regulation of remuneration, once sustained in time—and combined with other mechanisms, it has supported the growth of wages of less organized workers, while favoring the negotiation of the other categories. The minimum wage increased by almost 30% in real terms (excluding inflation) between 2008 and 2016, implying a significant increase in the salary and the consumption of wage goods. There was considerable improvement in the (functional) distribution of income in this period, mainly due to the dynamism of the Brazilian labor market, also driven by direct income transfer programs aiming at the most vulnerable population (see Saboia, 2015; Alvarez *et al.*, 2017). This improvement was much more significant between 2008 and 2013 (except for 2011), as observed in figure 1.

However, according to official projections, the year of 2017 will be the first since the beginning of the series in which the minimum wage will accumulate a loss of 0.1%. While maintaining the current criterion for the adjustment of the minimum wage, its real value tends to grow very little also in the following years. The question posed by continuing to improve the (functional) distribution of income is whether lower wages should grow proportionally higher than the highest levels, in order to reduce the large difference between the lowest and the highest wages in Brazil. But this can become a problem if they grow at a rate well above labor productivity (GDP/employed population), which has been decreasing in the last two years.

Figure 2: Productivity of work (in constant US\$ of 2014) – Brazil (2008-2016)



Source: The Conference Board, 2017. Elaborated by the authors.

\* This criterion provides for the adjustment according to the "National Index of Consumer Prices" (Índice Nacional de Preços ao Consumidor, INPC) of the previous year plus a real increase corresponding to the variation of the GDP for the previous two years.

Labor productivity is another fundamental indicator for such an analysis, corresponding in Brazil to 88% of the world average, but only one third of the figure in advanced economies. In fact, the stagnation of Brazil's absolute and relative productivity—whatever its measurement categories or the selected productive sector—in relation to the rest of the world is a matter of great concern for the future of the Brazilian labor market (ABDI/IPEA, 2014, 2015).

Data from the Brazilian Central Bank (BRASIL/BCB, 2017) demonstrate that labor productivity showed an average growth rate of 0.5% in the last 20 years, in trend movements significantly correlated to the oscillations in growth. Graph 2 shows that in 2008, labor productivity in Brazil was US \$27,962 per worker and that in 2016 it was US \$27,129 per worker, a level 0.97% lower. For 2017, the forecast was for Brazil to advance 0.5% in this matter (The Conference Board, 2017).

Regarding the R&D, which is central to the 4IR context in terms of generating jobs with quality and income, Brazil presents a performance similar to the topics discussed above, that is, between 2008 and 2014 it advanced in the process of technological catching up, but in 2015 worsened and stagnated at the general level. This is evident, for example, in the so-called Global Innovation Index—the annual ranking of countries based on their capacity and success in the field of innovation. This index, which considers four factors—institutions, political environment, regulatory environment and business environment—in a universe of 127 countries, placed Brazil in the sixty-ninth place in 2016 (same position from 2015). This leaves the country as the worst placed among the so-called BRICS—China (22<sup>nd</sup>), Russia (45<sup>th</sup>), South Africa (57<sup>th</sup>) and India (60<sup>th</sup>)—and only seventh among Latin American and Caribbean countries, behind Chile (46<sup>th</sup>), Costa Rica (53<sup>rd</sup>), Mexico (58<sup>th</sup>), Panama (63<sup>rd</sup>), Colombia (65<sup>th</sup>) and Uruguay (67<sup>th</sup>). The report states that the country's strengths in R&D focus on the quality of its scientific publications, high-tech manufacturing and agribusiness (Cornell University, INSEAD & WIPO, 2017).

When comparing the total number of patent applications, nor is the outcome encouraging. According to table 2, in the comparison among the BRICS from 2008 to 2015 Brazil occupies the penultimate position, only ahead of South Africa. More than the Brazilian position comparatively, the stagnation of the country stands out in question between 2012 and 2015, especially in relation to China's evolution in the same period.

*Table 2: Total Patent Applications (in units) – BRICS – 2008-2015*

Country	2008	2009	2010	2011	2012	2013	2014	2015
China	289.838	314.604	391.177	526.412	652.777	825.136	928.177	1.101.864
India	36.812	34.287	39.762	42.291	43.955	43.031	42.854	45.658
Russia	41.849	38.564	42.500	41.414	44.211	44.914	40.308	45.517
Brazil	23.170	22.406	24.999	28.649	30.435	30.884	30.342	30.219
South Africa	7.941	6.735	6.393	7.245	7.444	7.295	7.552	7.497

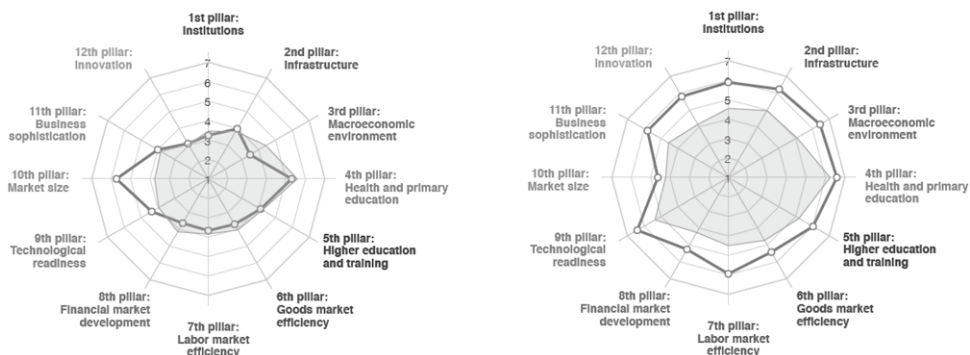
**Source:** Extracted from *WIPO statistics database*, 2017. Elaborated by the authors.

The objective of the federal government, spelled out in the 2016-2019 National Science, Technology and Innovation Strategy (Encti, 2016) proposal is to invest 2% of the national

GDP in R&D by 2019—which would lead Brazil to a level of investment of the OECD average of 2.4% in 2015 (OECD, 2016). It is noteworthy that by the latest available data, in 2013, R&D investment in the country was only 1.24% (WB, 2017), well below the target to be reached.

The analysed aspects, although they do not cover all the structural and productive complexity of the Brazilian economy, assert that Brazil is in an internationally unfavorable competitive position. Such a claim is endorsed, for example, by *The Global Competitiveness Report 2016-2017* (GCI) (WEF, 2016c), in which the country appears eighty-first in a ranking of 138 countries. Since 2012, Brazil has lost twenty-three positions in this annual survey—with a deteriorating trend in subsequent years—that takes into account twelve pillars of competitiveness\*. In the report, this is justified as a result of the “context of negative terms of trade shocks and political turmoil” (WEF, 2016c, p. 126). It can be seen from figure 3 that the country stands out, due to its population size, in the market size compared to Latin America and the Caribbean and Switzerland (first place overall, which is precisely its weak point), which shows that this factor is not preponderant. The aspect in which Brazil presents the worst performance is institutions, mainly due to the increase in insecurity and the perception of worsening quality of the public sector.

Figure 3: Global Competitive Index 2016-2017



Brazil versus Latin America and the Caribbean      Switzerland versus Europe and North America

**Source:** International Monetary Fund; World Economic Outlook Database, 2016. Extracted from WEF, 2016c, p. 126 e 332. Note: in the figure, Brazil and Switzerland are represented by the darker lines, while Latin America/Caribbean and Europe/North America are represented by gray areas.

It is also important to note that in this ranking, Brazil shows itself to be equivalent—in absolute terms—to Latin America and the Caribbean, but far from the European and North American countries, showing its great competitive gap in relation to the advanced economies. In addition, in the pillar of innovation—the most correlated to the 4IR of the GCI—Brazil ranks in the hundredth position (the country’s worst note among the twelve pillars of the index in 2016, 3.1), while in the labor market efficiency issue the country ranks 117<sup>th</sup>.

\* The closer to the number seven—from the edge of the dodecagon, therefore—the better positioned one is in some specific pillar. From the weighted calculation of these twelve pillars is determined the ranking of the countries that make up the ICG.

Based on the argument above, it is evident that the Brazilian labor market presents great challenges as well as significant possibilities in the context of 4IR. The first challenge is directly related to a structural transformation aimed at technological catching up, and having only conventional economic policies will be insufficient. If this process does occur, it will necessarily be in a more uncertain environment—in a world of globalization and financialization—where information, value-adding, and economic integration are the chief determinants of development. In order to do so, it is urgent that Brazil accelerates the step in the quantitative and qualitative development of knowledge.

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*“Reflection is not enough. It is essential to implement desirable actions (or goals).”*

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The second challenge for the technological catching up is the creation of a virtuous circle between 4IR and the Brazilian labor market, which will require: i) internally: the achievement of a (re)structuring agenda of the Brazilian labor market, especially with regard to the institutional improvements in the labor sector and to the deepening of tripartite dialogue, with an active social and political character; ii) externally: among the many aspects in which Brazil needs to move forward (foreign trade, internationalization of companies, professional and intellectual exchange, foreign direct investments, etc.). It is considered as the most important with its progressive involvement in the various international and regional development agendas—without, however, giving up its autonomy—both in the labor field and in the socioeconomic area (such as ILO and ECLAC, for example).

It is precisely in the spirit of these agendas that the structural changes suggested at the domestic and foreign level should be promoted, taking into account Chang’s Institutional Political Economy conceptions and the need to rethink Economic Sciences, in a human-centered way. The *momentum* for economic approach as a whole has increased, especially with respect to the heterodox theory and methodology, to recognize Economic Sciences as interdependent with other fields of human knowledge, based on processes, principles and premises shared by society, tied to its power. Therefore, its aim should be to contribute to the improvement of the general living conditions of human beings.

Given the circumstances, it is imperative to implement national strategies, adapted to the Brazilian reality and specificities in a way that makes it possible to overcome conjunctural short-term and structural long-term problems. More than holding the reins of their destiny, one must be clear about what to do with them. In this sense, it is necessary to take advantage of the concrete possibilities that Brazil has, recognized worldwide in several documents and reports analysed in this research: its great internal market, its potential in relation to the environment, renewable energies, agriculture and other correlated factors. These characteristics need to be better exploited, in the sense of propelling jobs of the future for the Brazilian labor market. This path tends to enable sustainable socioeconomic development with equity and in close association with technology.

## 6. Concluding Remarks

Based on an institutional heterodox approach, and aiming to contribute to the construction of a new paradigm in economic thinking, the objective of this article is to examine the progress of 4IR in developed and developing economies and their impact on the Brazilian

labor market. In general terms, it can be seen that the economy and global society are at a crossroads. The 4IR has tremendous potential for improving living conditions in general, and it also has lamentable potential risks. It is necessary to reflect how this structural change is to be made, especially with regard to the relations between the advanced and the developing economies. However, reflection is not enough. It is essential to implement desirable actions (or goals).

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*“The need to formulate and implement appropriate policies gives decision makers a unique opportunity to offer society new and promising possibilities.”*

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The 4IR will have a strong impact on the organization of the world of work. It will urge emerging countries—the case of Brazil—to rethink their strategies and development models. The greatest socio-economic menace of 4IR in this area is the generation of insufficient demand for labor or available labor skills, which threatens to throw millions of workers into structural and/or precarious unemployment.

As the 4IR moves forward, production will tend to increasingly incorporate cyber physics, with which the comparative advantages of the supply of human labor—at least its conventional standards—will progressively decline. More seriously, this structural change in the productive paradigm occurs simultaneously with the ups and downs of the economic and financial crisis that broke out in 2008 and still impacts the nation.

Concerning the Brazilian labor market, the main consternations are that the centrality of labor as a motor of development is put at risk and that a technological determinism comes at a time when a large part of Brazilian society still does not have access to technology. Also of relevance is the fear that the global production chain will isolate the specific knowledge, the identity of the workers and the bonds of solidarity within this class. Consequently, the risks of 4IR have been raised in reducing the ability to stimulate development models combined with social equity, which may limit the construction of a development model with national sovereignty, which takes into account the inclusion of citizens and decent work. All of these challenges are associated with the deepening of Brazil’s involvement in interdependent global capitalism, especially with regard to global value chains and the context of impacting on the financialization of the economy.

Analytically, it has been shown that Brazil—its labor market in particular—has been revealing important advances in several significant areas from the point of view of socioeconomic development, such as: employment and income, labor productivity, investment in R&D and competitiveness. However, especially from 2014 onwards the country has stagnated or regressed in these aspects because of both conjunctural and structural issues. Unfortunately, *ceteris paribus*, the trends are not too promising in the years to come.

It is clear that the national labor market presents major challenges, and it also presents potential possibilities in the context of 4IR. In addition to the process of catching up technologically, engendering a virtuous circle between the two will require a combination of



institutional improvement and tripartite dialogue at the domestic level—of an active social and political character, human-centered—with the simultaneous involvement of Brazil in the various international and regional development agendas of different institutions on the external plane. This will require the best use of the concrete possibilities that the country has, recognized worldwide, a path that tends to make feasible sustainable socioeconomic development with equity and in close association of technology with its labor market. To this end, policymakers need to place more attention to such issues.

Last but not least, it is recognized that for a structural change in the Brazilian labor market in this direction to take place, it is necessary to architect more synergy with the advanced economies, and for that to happen, not only is a national disposition in promoting the necessary adjustments and transformations needed, given the current conditions which are quite asymmetric in terms of international competitiveness. In order to contemplate this goal, it will be necessary to progressively improve the regulation of economy and governance (of work) and also the greater social and political power of Brazil. International institutions have a key role to play in this regard.

History has shown that technology, in spite of the inevitable setbacks it has caused, has created more jobs than it has destroyed and has also raised living standards overall, in the long run. In the future we hope to reach the same encouraging conclusion about the consequences of this debate, which is emerging with all the needed strength in the present time. In this challenging beginning of the twenty-first century, globalization continues to dismantle socio-economic and technological frontiers. Society can only improve through thought and conscious actions that can positively modify existing adversities, by better taking advantage of new technologies and embracing sustainable development. It is of fundamental and immediate importance and an extended vision of this reality, and through a deep examination of the changes and transformations, can be accomplished on our planet.

The theory elaborated by Chang is promising in this context. His criticisms of the neoliberal conceptions of institutions highlight the urgency of rescuing the historical perspective of development, respecting the particularities of each society. The possibility of socioeconomic development of any nation is the result of the engenderment of numerous factors in synergy over time, constructed by a certain society under different circumstances that change with time. It should be noted that at the center of events and their unfolding are citizens.

The 4IR will play a decisive role in our way of life and production. The need to formulate and implement appropriate policies gives decision makers a unique opportunity to offer society new and promising possibilities. At this moment, when the threat of a new era of labor precarization in the world in general and in Brazil in particular is imminent, attention must be paid to the Institutionalist Political Economy approach, linking it to the construction of a new human-centered paradigm in economic thinking as an alternative to overcome this historical challenge!

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## Bibliography

1. Agência brasileira de desenvolvimento industrial/ instituto de pesquisa econômica aplicada (abdi/ipea). Produtividade no Brasil: desempenho e determinantes. De Negri, F.; Cavalcante, L. F. (Orgs.). v.1 e v.2. Brasília: ABDI/IPEA, 2014, 2015.
2. Alvarez, J.; Benguria, F.; Engbom, N.; Moser, C. *Firms and the Decline in Earnings Inequality in Brazil*. *Columbia Business School Research Paper*, No. 17-47, pp. 1-56, April 2017.
3. Brasil. Ministério da Ciência, Tecnologia e Inovação (MCTI). *Estratégia Nacional de Ciência, Tecnologia e Inovação 2016-2019*. Brasília: Encti, 2016.
4. BRASIL. Banco Central do Brasil (BCB). *Considerações acerca da evolução da produtividade do trabalho e do nível de ocupação no Brasil. Relatório de Inflação*, março 2017. Brasília: BRASIL/BCB, 2017.
5. Chang, H. J. *Breaking the mould: an institutionalist political economy alternative to neo-liberal theory of the market and the state*. *Cambridge Journal of Economics*, v. 26, n. 5, p. 539-559, September 2002.
6. Chang, H. J. *Kicking Away the Ladder: Development Strategy in Historical Perspective*. Athem Press, London, 2003a.
7. Chang, H. J. *Globalisation, economic development and the role of the state*. Penang: TWN; London: Zed Books, 2003b.
8. Chang, H. J. *Understanding the Relationship between Institutions and Economic Development: some theoretical issues*. In: *United Nations University, World Institute for Development Economics Research*, Helsinki, pp. 1-14, July 2006.
9. Chang, H. J.; EVANS, P. *The role of institutions in Economic Change*. In: DYMSKI, G.; PAUL, S. (Eds.) *Re-imagining Growth*. London: Zed Press, pp. 99-140, 2005.
10. Comisión Económica Para América Latina Y El Caribe (Cepal). *Agenda Digital para América Latina y el Caribe (eLAC2018)*. In: *Quinta Conferencia Ministerial sobre la Sociedad de la Información de América Latina y el Caribe*. Ciudad de México, 5 a 7 de agosto de 2015.
11. Comisión Económica Para América Latina Y El Caribe (Cepal). *Horizontes 2030: la igualdad en el centro del desarrollo sostenible*. In: *Trigésimo sexto periodo de sesiones de la CEPAL*. Ciudad de México, 23 a 27 de mayo de 2016.
12. Cornell University, Insead & WIPO. *The Global Innovation Index 2017: Innovation Feeding the World*. Dutta, S.; Lanvin, B.; Wunsch-Vincent, S. (Eds.). 10<sup>th</sup> ed. Ithaca, Fontainebleau and Geneva. 2017.
13. Davis, N. *What is the fourth industrial revolution?* *World Economic Forum*, Geneva, 2016.
14. d'Dorville, H. *New Humanism and Sustainable Development*. *Cadmus*, 2(5), pp. 90-100, October 2015.
15. Frey, B. F.; Osborne, M. A. *The future of employment: how susceptible are jobs to computerisation?* *OMS Working Papers*, September 18, 2013. Available in: [http://www.oxfordmartin.ox.ac.uk/downloads/academic/The\\_Future\\_of\\_Employment.pdf](http://www.oxfordmartin.ox.ac.uk/downloads/academic/The_Future_of_Employment.pdf). Accessed in: June, 2017.
16. *Germany Trade & Investment [GTAI]. Industrie 4.0: Smart manufacturing for the future*. Berlin: GTAI, 2014. Available in: <https://www.manufacturing-policy.eng.cam.ac.uk/documents-folder/policies/germany-industrie-4-0-smart-manufacturing-for-the-future-gtai/view>. Accessed in: May 2017.
17. Hoedl, E. *Economy and Society: Strategies for a More Equal Distribution of Societal Power*. *Cadmus*, 3(3), pp. 142-151, October 2017.
18. Instituto brasileiro de geografia e estatística, pesquisa nacional por amostra de domicílios (IBGE/PNAD). *Taxa de Desemprego (TD)*. Brasília: IBGE/PNAD, 2017. Available in: <http://www.ibge.gov.br>. Accessed in: June 2017.
19. Instituto de pesquisa econômica aplicada (IPEA). *Salário mínimo real – Brasil (2008-2017)*. Brasília: IPEA, 2017. Available in: <http://www.ipeadata.gov.br/>. Accessed in: June 2017.
20. International Labour Organization (ILO). *90<sup>th</sup> Session of the International Labour Conference. Report VI, Decent work and the informal economy*. Geneva: ILO, June 2002.
21. International Labour Organization (ILO). *The future of work centenary initiative. International Labour Conference, 104th Session, Report I*. Geneva: ILO, 2015.
22. International Labour Organization (ILO). *World Employment and Social Outlook: Trends 2017*. Geneva: ILO, 2017.
23. Jacobs, G. *The need for a new paradigm in Economics*. *Review of Keynesian Economics*, 3(1), pp. 1-20, February 2015.
24. Jacobs, G.; Swilling, M.; Nagan, W. P.; Morgan, J.; Gills, B. *Quest for a New Paradigm in Economics – A Synthesis of Views of the New Economics Working Group*. *Cadmus*, 3(2), pp. 10-44, May-June 2017.
25. Kagermann, H., Wahlster, W. & Helbig, J. *Securing the future of German manufacturing industry: Recommendations for implementing the strategic initiative INDUSTRIE 4.0 (Final report of the Industrie 4.0 Working Group)*. ACATECH – National Academy of Science and Engineering, April, 2013. Available in: [http://essay.utwente.nl/70665/1/Balasingham\\_BA\\_MA.pdf](http://essay.utwente.nl/70665/1/Balasingham_BA_MA.pdf). Accessed in: May 2017.
26. Minsky, H. P. *Uncertainty and the Institutional Structure of Capitalist Economies: Remarks Upon Receiving the Veblen-Commons Award*. *Journal of Economic Issues*, v. XXX, n. 2, p. 357-368, June 1996.
27. Organização Internacional Do Trabalho (OIT). *Brasil: Uma estratégia inovadora alavancada pela renda*. Escritório da Organização Internacional do Trabalho, Instituto Internacional de Estudos do Trabalho. Genebra: OIT, 2011.

28. Organização Internacional Do Trabalho (OIT). Primeiro Diálogo Nacional Sobre o Futuro do Trabalho. Brasília: OIT, 2016a.
29. Organização Internacional Do Trabalho (OIT). Segundo e Terceiro Diálogos Nacionais Sobre o Futuro do Trabalho. Brasília: OIT, 2016b.
30. Organização Internacional Do Trabalho (OIT). Convenções ratificadas pelo Brasil. Brasília: OIT, 2017a. Available in: <https://www.ilo.org/brasilia/convencoes/lang--pt/index.htm>. Accessed in: May 2017.
31. Organização Internacional Do Trabalho (OIT). Panorama Laboral 2017: América Latina e Caribe. Lima: OIT, 2017b.
32. Organisation For Economic Co-Operation And Development (OECD). *OECD Science, Technology and Innovation Outlook 2016*. Paris: OECD Publishing, 2016.
33. Piketty, T. *Le Capital au XXIème Siècle*. Éditions de Seuil: Paris, France, 2013.
34. Rifkin, J. *The zero marginal cost society: the internet of things, the collaborative commons, and the eclipse of capitalism*. Palgrave Macmillan, New York, 2015.
35. Saboia, J. M. Mercado de trabalho, políticas sociais e distribuição de renda: *performance* recente e perspectivas. *In*: laplane, M.; Sarti, F.; Cassiolato, J. E. (Orgs.). *Dimensões Estratégicas do Desenvolvimento Brasileiro*. Brasil: em busca de um novo modelo de desenvolvimento. Brasília: Centro de Gestão e Estudos Estratégicos/CEPAL, v. 4, 2015, p. 111-126.
36. Schwab, K. *The fourth industrial revolution*. World Economic Forum, Switzerland, 2016a.
37. Schwab, K. *A quarta revolução industrial*. Edipro: São Paulo, 2016b.
38. The Conference Board. *Growth of GDP, Per Capita Income and Labor Productivity, 2017. The Conference Board Total Economy Database 'Adjust version'*. New York: May 2017. Available in: <https://www.conference-board.org/data/economydatabase/>. Accessed in: December 2017.
39. The Federal Government Of Germany. *The new High-Tech Strategy Innovations for Germany*. Federal Ministry of Education and Research, 2011. Available in: [https://ec.europa.eu/knowledge4policy/publication/new-high-tech-strategy-innovations-germany\\_en](https://ec.europa.eu/knowledge4policy/publication/new-high-tech-strategy-innovations-germany_en) Accessed in: May 2017.
40. The World Bank. *Research and development expenditure (% of GDP): Brazil (2002-2013)*. Washington (D.C.): WB, 2017. Disponível: <http://data.worldbank.org>. Accessed in: June 2017.
41. Teixeira, J. R.; Teixeira, R. M. *Socioeconomic Challenges and Crises: Brazilian Illustration and the Search for a New Paradigm*. Cadmus, 2(6), pp. 196-210, May 2016.
42. Vargas, J. A informalidade no mercado de trabalho: um desafio institucional permanente para a economia brasileira. 1. ed. Saarbrücken: Novas Edições Acadêmicas, 2017.
43. World Intellectual Property Organization (WIPO statistics database). 1: *PCT applications by filing date (2008-2015 - BRICS)*. Available in: <http://www.wipo.int/ipstats/en/>. Accessed in: June 2017.
44. World Economic Forum (WEF). *The Future of Jobs: Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution*. World Economic Forum, Switzerland, 2016a.
45. World Economic Forum (WEF). *The Global Risks Report 2016*. 11th Ed. World Economic Forum, Switzerland, 2016b.
46. World Economic Forum (WEF). *The Global Competitiveness Report 2016/2017*. World Economic Forum, Switzerland, 2016c.

## Managing Uncertainty – A Challenge for Contemporary Society\*

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### Abstract

*The certainty-uncertainty binomial expressed across history is the contradictory human nature and its struggles. Totalitarian systems have exaggerated the value of certainty. Dictators have gained power by promising safety and have remained in power in the name of law and order, while revolutions broke out where immobility became unbearable for the human need for change. Although uncertainty may prove difficult to eliminate or to rule out, it should not be demonized. The best option would be to manage it in an acceptable manner, but for doing this one must first understand it. In terms of both science and art, uncertainty can get a double valence: it is either a catalyst for scientific research and artistic performance or a real danger in promoting authentic values. The difficulty of separating these two perspectives is a great challenge for the contemporary society. The essential difference between political systems is noticed in the way they manage uncertainty. Do these systems acknowledge uncertainty and try to find solutions through dialogue? Or do they try to eliminate uncertainty through the dictate of religions or ideologies? Democratic culture does not deny uncertainty. It helps us ask questions and use dialogue to support human progress. Democratic institutions are founded on the idea that there is no absolute truth and no single answer to any problem. The management of uncertainty is fundamentally related to the essence of life in an open society. Unlike totalitarian regimes that demonize it, democracy can turn uncertainty into progress. This progress is defined by the human aspiration for freedom, solidarity, respect and tolerance. Only dialogue, and not force, could help us manage uncertainty. Faced with uncertainty, risk would be reduced by diversity rather than by uniformity. Calls for ethnic or religious purity are creating major risks, rather than reducing them. The restoration of a relative balance between uncertainty and certainty can only come from an open education based on fundamental human values.*

The second decade of a new century and a new millennium is about to come to an end, and no new and resounding events have occurred in the fields of culture, arts or science, nor is there any indication that they will occur in the near future. This holds true as long as the knowledge society remains a mere theoretical construct for the use of European Union's bureaucracy.

Modernity and postmodernity, which have shaped the evolution of the 20<sup>th</sup> century, regardless of our viewing them as being in opposition or in continuity, gain a defining phenomenological meaning in contemporary society.

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The end of the 20<sup>th</sup> century was stirred by a new relationship between technology and economy, one that has created two shocks: globalization and the explosion of knowledge. Both have brutally amplified the feeling of uncertainty. Those of us who lived for half a century in a world governed by the “logic” of the Cold War can perhaps more clearly perceive the lack of logic in contemporary threats: the proliferation of weapons of mass destruction, international terrorism, the energy crisis, or the global economic crisis, phenomena which are hard to control and which increase the uncertainty that is casting a shadow over the 21<sup>st</sup> century. Robert Cooper<sup>1</sup> warns that in the century we have just entered, the world is at risk of being once more hijacked by chaos and technology. History’s two great destroyers could support each other. And there is sufficient potential for decimation left over from previous centuries, in national, ideological, or religious form, to an extent that could once more create the context for destruction.

Overcoming the conventional barriers of a new millennium that is marked by increasingly acute uncertainty serves to remind us that, due to the impact of technological and scientific development and the First World War, the modern mindset has renounced its certainty-creating fundamentals, the very ones upon which two millennia of European culture and civilization were built.

Aristotelian logic, Euclidian geometry, anthropocentric aesthetics, symmetry in art and architecture, drama, metaphysics, Roman law, Christian moral code, have created images of order, thereby organizing chaos, securing a space for argumentation and rational dialogue.

The Italian Renaissance, Cartesian rationalism, German philosophy, Newtonian physics, Darwinian Enlightenment, Baroque music, neoclassical architecture gave new dimensions to the values of European civilization. It is just as true that, for 2000 years, the model of European civilization did not manage to stand in the way of wars and revolutions, injustices and crimes, but it has encouraged the construction of social and political systems which assured the progress of mankind for a prolonged period of its history.

The certainty-uncertainty dichotomy has traversed all of history, voicing the contradictory nature of Man and his turmoils. Totalitarian systems have exaggerated the value of certainty. Dictators obtained power by promising safety, and have remained in power in the name of order, while revolutions have erupted where immobility became unbearable for Man’s need for change.

Uncertainty cannot be eliminated, nor stifled, but it should also not be demonized. What is desired is for it to be acceptably managed, but, in order to do that, one must first understand it.

What happened to uncertainty throughout the history of humankind? How will it influence our life in the future? These are questions that science, economy, politics, and education have been confronted with, questions which they are under pressure to answer swiftly.

This made me ponder over the relation between “modernity-postmodernity” and “uncertainty”.

What is uncertainty? Uncertainty is, above all, an idea. It is born out of wonder and from curiosity about that which we cannot know and experience directly. Is it synonymous with doubt, or is it more than that? Does uncertainty indicate a sense of insecurity about a problem, or the impossibility to overcome it? Is it an attitude that generates skepticism, or

a mere natural manifestation of the human mind? These are just a few questions, amongst many others, which contribute to an effort to define that which is essentially undefinable—simply because it lacks a *genus proximum* and is surprisingly quick in developing specific differences.

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*“The drive to find uncertainty at the very core of modernism and post-modernism paradoxically came not from philosophy or metaphysics, but from the world of science.”*

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From this dilemma came an approach that is as expansive as it is surprising: to capitalize the moral value of uncertainty. The first dilemma is our own being and existence. Who am I, and where did I come from? Our bewilderment is so great because, throughout time, Man was only capable of deciphering pieces of the great *puzzle*, but never managed to complete it. The natural questions are: who am I, as a person? What truly defines me? A doctor will offer an anatomical description of the human body, the physicist will analyze man based on his actions and his relation to other realities, the biologist will emphasize the privileged position man holds in the animal world, but they can all offer but a partial answer about **what** man is, and not **who** he is.

In one of Blaise Pascal’s writings we can find a certain gradation that must be carefully investigated, in order to understand not only the philosophical development of the idea of uncertainty, but also the way the human intellect chooses to relate to this reality. Pascal was not shy to manifest radical skepticism, with a possible solution only in the space of inevitable death:

*“I know not who put me into the world, nor what the world is, nor what I myself am. I am in terrible ignorance of everything. I know not what my body is, nor my senses, nor my soul, not even that part of me which thinks what I say, which reflects on all and on itself, and knows itself no more than the rest. (...) All I know is that I must soon die, but what I know least is this very death which I cannot escape.”*

Uncertainty grows with our awareness of the place humans occupy in the world. If Man cannot be defined in his intimate structure, can we define the world that holds him? The question is natural, for the world which can contain the human mystery becomes party to it. A mystery is not defined, but is experienced, felt, owned up to. I can know a part of this mystery, the aspects that directly include me, but I cannot know everything about this relation. “I open the book: the book cries / I’m searching for time: time flies / I could sing: I sing not, but I am / It is as though I am, but then I’m not / Whose thought is my thought? / From which story, which idea? / Do I possibly remember / That I was once part of it all?” confessed the Romanian poet Tudor Arghezi in a poem called “Uncertainty”<sup>\*</sup>.

The drive to find uncertainty at the very core of modernism and post-modernism paradoxically came not from philosophy or metaphysics, but from the world of science. This

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<sup>\*</sup> Tudor Arghezi, *Opere*, Academia Română, București



made it necessary to approach this subject in the methodology of scientific research. This new way of philosophising about Man was born in tight connection with the rest of the exact sciences, especially mathematics and physics. Consequently, the fundamentally severe attitude of the scientific researcher became the ideal for the researcher of philosophy, while the attitude of the philosopher of yore was more akin to that of a poet's. This new attitude transformed not only the style, the manner of thinking, but also the way objectives were set; there is no longer an individual approach to build a bold and lasting philosophical edifice—rather, each individual examines one aspect of the phenomenon within a specific domain. The dilemma of uncertainty thus becomes a matter of mathematics, an equation determined by the relation between a set of observed conditions and a series of solutions. Establishing a certain constant does not necessarily involve obtaining a correct solution, but, rather, finding a valid and applicable answer. For a long time, the scientific approach was predominantly cumulative, focused on gathering information and data about reality, structured into classes and categories, according to the domain of research. The scientific researcher collected all this information, structuring it almost exclusively based on its tolerance for proof. Such an approach developed into two independent and, unfortunately, incompatible directions: the reality of fact, of movement, of reactions, of a phenomenon is validated by its provability; any phenomenon that is incompatible with the concept of provability is excluded from the scientific realm and, implicitly, from the realm of the truth. The argumentative system based on essential scientific proof enjoyed a long period of glory.

At the beginning of the 20<sup>th</sup> century, Bertrand Russell and Alfred North Whitehead's<sup>2</sup> monumental *Principia Mathematica* proposed proof and definition as the only method to describe mathematical truth. However, shortly after, Kurt Gödel, one of the distinguished members of the Vienna Circle, used this “universal” principle to prove that “provability is a notion weaker than truth, no matter which axiomatic system is involved” or, in other words, “not everything that is true can be proved true”. Faced with a scientific community determined on eliminating it, uncertainty once more revealed its extraordinary ability to survive. It is surprising that this battle transformed the reality of uncertainty into a manner of investigating reality. It suffices to mention the theory of uncertainty that was developed by Werner Heisenberg, Erwin Schrödinger and Paul Dirac. The principle of uncertainty marked the end of the theory of determinism and ended the dream of finding a model of the completely deterministic universe, because we cannot precisely predict future events if we are unable to precisely measure the current state of the Universe. This new theory became widely popular and became the fundament of quantum mechanics. At the same time, it received several critiques, especially due to its manner of scientifically managing the reality of uncertainty. It is not a mere accident that Albert Einstein rejected the idea of a Universe governed by chance, affirming that “God does not play dice”.

In the fields of literature, art, music, architecture, this new opening was as violent and provocative as it was flourishing. The Avant-garde, despite all its shortcomings, generated an explosion of creativity which revealed a new side of Man.\*

\* Romanian representatives have played a key part in building western modernity: Tristan Tzara and Marcel Iancu, the initiators of the Dada movement, Eugen Ionescu for the theater of the absurd, Brâncuși for modern sculpture, Mircea Eliade in the philosophy of religions, George Enescu with the monumental *Oedipus* in modern music; in science: Odobleja, the creator of Consonant Psychology with an important contribution to the creation of cybernetic science; Gogu Constantinescu, the inventor of sonicity; Nicolae Paulescu, the discoverer of the antidiabetic hormone released by the pancreas, later called insulin; George Roengen, the father of bioeconomic theory, author of the fundamental work *The Entropy Law and the Economic Process*; Nobel laureate George Palade, for micromolecular biology, to list just a few of the names that come up in the works dedicated to the culture and science of the 20<sup>th</sup> century.



Disputes in the areas of mathematics, physics, logic, literature, and art remained without echo in the ethics of the modern and postmodern world. The new vision of the world, the radical split between the immanent and transcendent, going so far as to exclude the latter totally, have imposed a series of attitudes that are provocative in their very nature. For many, the laws of chance have become the governing principle of their very existence, transforming a mathematical reality into an existential relativity. Underneath this conceptualized uncertainty one can increasingly sense a depersonalization, a transformation of Man into a mere individual within a species, who can be the object of any scientific experiment, without moral implications. Deciphering the human genetic code has led to the unprecedented development of genetic engineering, with implications which are difficult to foresee. Ideas such as assisted social control, genetic selection and eugenics are about to become applicable, but losing control over them can have devastating effects. Despite his evolution, Man has become increasingly insecure, his place slowly being taken over by machines, which are themselves governed by uncertainty. Moreover, human society has taken on the shape of the machine, becoming, in fact, a mega-machine run by technocracy. This universal machine can give Man a real feeling of inferiority, of “promethean shame”. If human existence is not perfectly put together, not easy to calculate to the smallest detail, Man becomes a mere servant of the machinery world. According to Günter Anders, one of the prominent philosophers of the 20<sup>th</sup> Century, “ever since God has been dead, ever since there is nobody outside of this world who can know about it, the world itself has become anonymous. Thus, it resembles an island in the ocean, never discovered, never mentioned by anyone. It is of no use that the island is populated by natives, because we, the natives, who know the island, are all anonymous to each other.”<sup>3</sup> This imagery offered by the German philosopher is much like the Hollywood-produced representation presented in *Apocalypse Now*. As a paradox, preserving uncertainty has become the principal responsibility of contemporary man, specifically in order to avoid an apocalyptic solution to this state. Uncertainty becomes a necessity, and registering reality becomes a true *modus vivendi*, leaving room for new interpretations.

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*“The principle of uncertainty is fundamental not only for quantum mechanics, but also for the entire structure of human society.”*

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Postmodernity seems to reflect intensely upon this problem. Its structure is essentially uncertain due simply to the fact that its governing criterion is the lack of any criteria. The critique of modernity, obstinately insisted upon, only confirms that ontological uncertainty has an extraordinary ability to create. The principle of uncertainty is fundamental not only for quantum mechanics, but also for the entire structure of human society. For the first time in human history, postmodern man can adapt this principle to his own horizon, and, in other words, has chosen to question and doubt his own prospects. Such an approach has implicitly led to a severe identity crisis, due to the fact that man can only be aware of his own autistic existence. Everything develops in a horizontal, bleak manner, deprived of the past’s inheritance and of the future’s outlook, the only reality being in the form of the present, dominated by fundamental autism. Society relies almost entirely on the supposed efficiency of the new order of uncertainty, but fails to take into account that this approach does not distinguish between what is and what is not truly valid and viable.

Uncertainty has been conceptualized by the fields of science and philosophy, but it was art that gave it its face, or, better still, its *faces*, that it uses to show itself to humankind. Be it literature, painting, music, sculpture, architecture, dance or cinematography, during the current century uncertainty appears to be the preferred subject for artists. A fundamental role in choosing such a unique theme was the transformation that modernity and postmodernity underwent regarding what constitutes art and what is beautiful. If for Antiquity beauty had, first and foremost, ethical connotations, for modernity this has become a fundamental concept of aesthetics, finally being replaced with the denial of beauty. Essentially, the negation of beauty can produce art, understood as a manifestation of certain realities. According to Paul Klee, “Art does not reproduce what we see; rather, it makes us see”. In other words, an artistic representation is not a mirror-image, but a profound creative act that can transform our vision. Contemporary art thus becomes an instrument for deciphering reality, using its aesthetic and conceptual arsenal.

At the same time as these changes in aesthetic concepts occurred, there was a strong current aimed at rejecting everything that fits into the old canons of an artwork. The limits have been extended to the extremes, in some cases even negating the artistic manifestation. Terms like “beauty” and “ugly” have become extremely relative and easy to adapt to the most diverse contexts—sadly becoming increasingly foreign from what we still consider to be art. The precarity of such a situation has offered an occasion for pseudo-artistic representations, promoting kitsch and “popular” and “vulgar” themes. It is ironic that nowadays the very manifestations that were previously artistically condemned have now become extremely sought out by the general public.

Contemporary art does not seem to be part of the process of cyclicity, but is, rather, a new body, with its own identity, without a past, and with a multitude of options regarding its future, including the possibility of cancelling itself out. These conceptual representations confirm Paul Klee’s opinion, but they reintroduce a notion that seemed to be forgotten: art cannot be objective for the sole reason that it does not intend to, but it is creatively subjective, offering a large variety of sequences of reality. In this context, uncertainty can act as an accelerator, stepping up the ability to express creative feeling and guaranteeing the public’s positive perception. Music and painting are also experiencing this cone of uncertainty. Artistic canons have been eliminated, and replaced with innovation. Sometimes this is taken to the extreme where lack of talent is concealed by surprising sound editing techniques and by appealing to the right to free artistic expression. Codoban goes one step further, accusing the postmodern generation of corrupting evil by not refusing it, such as the case of using kitsch against kitsch (say, the music of Erik Satie).

A less discussed aspect of the relation between art and uncertainty is the fact that strictly aesthetic boundaries are now being challenged, and art has fused with domains that it appears to be incompatible with, such as science. In the excellent film “Pi” (1998) directed by Darren Aronofsky and Sean Gullette, the main character, Max Cohen, a gifted mathematician, is trying to solve his daily problems, including his acute migraines, with the help of numbers. In an obscure atmosphere, a true mathematical carousel is set in place, whose ultimate relevance is not certainty, but uncertainty. The film does not have a *happy end* in a classical sense of the term but, rather, it offers a possible answer to the great dilemma of humanity: who am I and what is the world I am living in? The answer the two directors offer is to not push the limits

of our knowledge and understanding. You can enjoy your existence without giving in to the migraines of reason, simply by enjoying the immediate surrounding reality. Uncertainty can be beneficial as long as it is not a verdict about the relations in the world around us. However, accepting it as the only condition presents the risk of alienation.

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*“Democratic institutions are based on the idea that there is no absolute truth and no one answer to any given problem.”*

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From the perspective of both science and art, uncertainty can have a double role, either as an accelerator of scientific research and artistic manifestation, or as a real danger for promoting authentic values. The difficulty in dissociating the two is a great challenge for contemporary society. We need uncertainty to act as an answer to a far too complicated present, but what are the prospects of this uncertainty? Will God’s death be followed by Man’s death, captive in the cage of endless contradictions? Can we come out of an identity crisis that the postmodern condition has magnified? Marcel Malanca<sup>4</sup> describes three ways in which Man relates to the past and the future: “those who are looking towards the past, turning their backs on the future—the fundamentalists; those who are looking towards the future, turning their backs on the past—the postmodernists; and those who have a two-dimensional view of the past and future, including the man who is set to create value, the man who does not deny himself and does not throw himself readily into chaos”. One way of escaping this trap is to harmonize our thinking with our own life experience. Basarab Nicolescu calls this action **transpolitics**—based on the undeniable right of every human being to have a harmonious balance between their private and social life.

According to Gustav Le Bon<sup>5</sup>, the postmodern condition brings about the fall of nation-states, which are replaced with “psychological crowds”, focused on a single issue. The postmodern condition at the beginning of the 21<sup>st</sup> century is characterized by a lack of unity, by differences that are identified and proclaimed through autonomy and by an independence that has magnified our power lust. In order to find our own place in the modern world it is necessary to find new and lasting social ties. They will be discoverable if we look for common grounds that unite the different domains of knowledge, and the different beings that constitute the collective.

The essential difference between political systems is in the way they manage uncertainty. Do they own up to it, trying to find solutions through dialogue? Or are we trying to eliminate uncertainty through the dictatorial rule of religions and ideologies? Democratic culture does not deny uncertainty. It helps us to ask the right questions and to use dialogue in order to maintain human progress. Democratic institutions are based on the idea that there is no absolute truth and no one answer to any given problem.

Managing uncertainty is connected to the very essence of life in an open society. As opposed to communism, which demonized uncertainty, democracy can transform it into a factor of progress. It is Man’s aspirations for freedom, solidarity, respect, and tolerance that can define this progress. Only dialogue, and certainly not displays of power, can help

us to manage uncertainty. When confronted with uncertainties we will notice that diversity, rather than homogeneity, has the power of reducing risk. An appeal towards ethnic or religious purity creates major risks, instead of reducing them. Reestablishing a relative balance between uncertainty and certainty can only stem from an open process of education, based on the fundamental values of humanity.

The modern mindset has wanted to remain indifferent in the face of history, but history is not indifferent to it.

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*“The current identity crisis calls for unity of human beings and the world.”*

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A great revolution of the 21<sup>st</sup> century can only be one of the mind, believes Basarab Nicolescu, one that will transform individual and social life into an aesthetic and ethical act<sup>6</sup>. Postmodernism has fragmented knowledge, causing an identity crisis. Understanding our current-day world involves the reunification of knowledge. Scientists have had the wisdom to raise our awareness that quantum and Newtonian mechanics apply to different realities and are not mutually exclusive. In the field of art, despite thundering manifestations, avant-garde works coexist in museums with classical masterpieces. Despite the appearance of chaos, modernity can help bring cultures closer together. Socially, postmodernism has led to undeniable progresses in terms of promoting the rights of racial, national, ethnic and sexual minorities. It has taught us to respect differences. The current identity crisis calls for unity of human beings and the world. To build a strategy for hope, before asking what type of a world we want to live in, we must ask ourselves who WE are. The more as we share common values and accept reasonable divergence, the more chances we will have for peace and progress.

We can thus proclaim that the 21<sup>st</sup> century will be a century of synthesis and solidarity, or it will not be at all.

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#### **Notes**

1. Robert Cooper, *The Breaking of Nations – Order and Chaos in the Twenty-First Century*, Londra, 2003
2. Bertrand Russell and Alfred North Whitehead, *Principia Mathematica*, Cambridge University Press, 1997
3. Günter Anders, *Die Antiquiertheit des Menschen*, vol. 1, München, 1983
4. Marcel Malanca, *Criza identității. Între modernism și postmodernism*, Revista Tabor nr. 5, August 2012
5. Gustav Le Bon, *Psychologie des foules*, Alcan, 1895, published in Romanian at Antet publishing house.
6. Basarab Nicolescu, *From Modernity to Cosmodernity – Science, Culture, and Spirituality*, Suny Press, New York, 2014.

## **Big Government and Global Governance: Managing Complexity for the New Society**

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### **Abstract**

*The paper offers an innovative and original proposal as a solution to the problem of multiscale ontological uncertainty management of the complex interaction between big government and global governance. The reason for this effort can be linked to the postulate that society is an arbitrary complex multiscale system of purposive actors experiencing continuous change. Society is an integrated living organism, not merely an assembly of machinery. Current problems are multiscale-order deficiencies, which cannot be fixed by the traditional hierarchical approach alone or by doing what we do better or more intensely, but rather by changing the way we act. This paper makes use of several past guidelines, from McCulloch, Wiener, Conant, Ashby and von Foerster to Bateson, Beer and Rosen's concept of a non-trivial system to arrive at an Anticipatory Learning System (ALS) for managing unexpected perturbations by an antifragility approach, as defined by Taleb. This ALS component can be defined effectively by Computational Information Conservation Theory (CICT), as presented by Fiorini in 2013. In order to achieve an antifragility behavior, the next generation system for global application needs a new fundamental component, which is able to face the problem of multiscale ontological uncertainty management. This way homeostatic operating equilibria can emerge out of a self-organizing landscape of self-structuring attractor points. This paper presents a relevant contribution towards a new post-Bertalanffy Extended Theory of Systems. Due to its intrinsic self-scaling properties, this systems approach can be applied at any system scale: from single quantum system application development to full system governance strategic assessment policies and beyond.*

### **1. Introduction**

Paradoxically, as economic diversification and cultural evolution progress, a big government approach would increasingly fail to lead to good decisions, which is unfortunate. Quite often, from an individual perspective, external events seem to be an entirely random series of happenings. But looked at over a long period of time, and tracking the branching changes in the planet that follow from it, all the chaos does produce a form of identifiable order. Patterns appear out of the chaos. And this, in its essence, is chaos theory: finding order in chaos (Wheatley, 2008). Chaos theory falls into that category of scientific ideas that few actually understand due to its expansive, epic-sounding principles and thoughts, but which many have heard of. Inherent to the theory is the idea that extremely small changes produce enormous effects, but ones that can only be described fully in retrospect. In social systems, any signal is actually small, weak, never strong. Weak signals are “the real foundation of the

whole society.” (Ansoff, 1975; Poli, 2013) Accurate prediction is somewhat impossible and it is known that the occurrence of extreme events cannot be predicted from past history (Taleb, 2015).

In recent years, in many areas of science and practices associated with social systems, economics, psychology, biology, biomedical engineering, there is a growing understanding that we should also take into account the effects of anticipation (accounting for the effects of future states of the system because of changes in the present moment of time). Therefore, the emergence of uncertainty as the consequence of anticipation, as well as the appearance of a variety of scenarios in the behavior of social systems have to be taken into account (Dubois, 1998; Poli, 2010; Miller, Poli & Rossel, 2013). Formalization of the concept of anticipation has also been the subject of many papers, especially since the time of Robert Rosen’s publications (b.1934–d.1998), who considered the fundamental modeling relationship of the system-model-environment (Rosen, 1985). Essentially the mapping relationship points to the process we carry out when we “do science” and exposes this process as one in which there cannot be a biggest model of the world, but only snap-shots thereof.

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*“Our decisions are heavily affected by our cultural heritage.”*

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Anticipation invariably entails complexity in the psychology of the individual self-system; its role in society is largely described as human perspective. By perspective, we mean human subjectivity. Human subjectivity is shaped by the evolution of identities, values, and expectations. It is the self-system guided by perspective that functions in the process of social interaction in the social process of the human community (Nagan, 2015). Actions not yet carried out or supposed are moved to the past. Anterior future generates a proactive ability associated to an increment of problem solving: to describe a future event, one has to “see it as if it had happened”. It is a structuralized thought and therefore leads to action for the execution which one prepares himself for. The simple future seems to lack the planning activity, the anterior future allows one to think of an action as if it was already done (Weich, 1979; Tessarolo, 2007).

Every experience realized by mankind has always provoked further future expectations, to the point that past experience and expectation for the future have progressively separated and expressed through the concept of “progress”. The experience of technical progress implies that it is not possible to foresee when, where and how much rapidly something new will be invented or not (Koselleck, 2009). An innovator is a subject who is not afraid of abandoning tradition, and some of his interpretations initially intended as “deviations from the system”, as “errors”, are nothing but a “displacement of the system” (Tynianov, 1968).

Since the pioneering application of “Cybersyn” to the Chilean economy in the early 1970s (Espejo, 2014) to the recent revisiting of The Viable System Model (VSM), developed by the British operational research and management theorist Stafford Beer (b.1926–d.2002) (Beer, 1972), there has always been a need to understand how complexity is managed in viable organizations (Espejo & Harnden, 1989). Today, environmental conditions are quite different from the 1970s and they are continuously changing at an increasing rate. While the processing power doubles every 1.8 years and the amount of data doubles every 1.2 years, the complexity of networked systems is growing even faster. Both at macro and micro levels decision-making is getting difficult. Almost all decisions are taken under a great risk or uncertainty. There is



only one truth; our decisions are heavily affected by our cultural heritage. (EYCH, 2018). Cultural heritage is the fabric of our lives and societies. It surrounds us in the buildings of our towns and cities; our landscapes, natural sites, monuments and archaeological sites. It is not only made up of literature, art and objects but also by the crafts we learn, the stories we tell, the food we eat, the songs we sing, the films we watch, the thoughts we articulate. The success or failure of our actions is largely determined by the decisions we take. While history tends to judge these in terms of their outcomes, a close examination of the reasoning and processes that lead to those decisions can be salutary. Although there is no common definition of “culture”, it may be defined as “the unique combination of expectations, written and unwritten rules, and social norms that dictates the everyday actions and behaviours of people.” (Cepni, 2015) In an ideal democracy holistic governance requires the co-production of values between policy-makers and citizens to make visible political and expert guidance and people’s interests and concerns. Transparency of communications between citizens and policy-makers is far more important than making information available: it is building up effective organisational systems.

In other words, attempts to optimize classic hierarchical systems in the traditional top-down way will be less and less effective, and cannot be done in real time (Fiorini, 2016a). In fact, current human-made applications and systems can be quite fragile to unexpected perturbation because Statistics themselves can fool you, unfortunately (Taleb & Douady, 2015). From this point of view, the current most advanced “intelligent system” is a “deficient system”, a fragile system, because its algorithms are still based on statistical intelligence or statistical knowledge only, and they are lacking a fundamental systems component. We need resilient and antifragile applications to be ready for next generation systems. What Nassim Taleb has identified and calls “antifragility” is that category of things that not only gain from chaos but need it in order to survive and flourish. He proposes that things be built in an antifragile manner. An antifragile system is beyond the resilient one. In turn, the resilient is beyond the robust. The robust fails when perturbations are out of its preprogrammed range. The resilient system resists shocks and stays the same; antifragile system gets better and better.

The logical answer is to use distributed (self-) control, i.e. bottom-up self-regulating systems. Advanced Cybernetics (i.e. extended systems theory) and complexity theory tell us that it is actually feasible to create resilient social and economic order by means of self-organization, self-regulation, and self-governance. Complexity science offers a way of going beyond the limits of reductionism, because it understands that much of the world is not machine-like and comprehensible through a cataloguing of its parts; but consists instead mostly organic and holistic systems that are difficult to comprehend by traditional scientific analysis (Lewin, 1993). “Governing the Commons” is a major theoretical contribution to the study of collective action and institutional design. It describes in clear language the problems arising from Common Pool Resource (CPR) management and presents an uncompromising critique of existing approaches (Ostrom, 1990). Nevertheless, to achieve self-organization, self-regulation in a competitive arbitrary-scalable system reference framework, we need application resilience and antifragility at system level first (Fiorini, 2014a).

In fact, decision theory, based on a “fixed universe” or a model of possible outcomes, ignores and minimizes the effect of events that are “outside the model”. Deep epistemic



limitations reside in some parts of the areas covered in classical decision-making. Unfortunately, the “probabilistic veil” can be quite opaque, and misplaced precision leads to incompleteness, ambiguity and confusion. In fact, as the experiences in the last fifty years have shown, unpredictable changes can be very disorienting at the enterprise level. These major changes, usually discontinuities referred to as fractures in the environment rather than trends, will largely determine the long-term future of organization. They need to be handled as opportunities, and as positively as possible (Taleb, 2015). In a continuously changing operational environment, even if operational parameters cannot be closely pre-defined at the system planning and design level, we need to be able to plan and to design antifragile self-organizing, self-regulating and self-adapting systems quite easily anyway.

“Every good regulator of a system must be a model of that system.” (Conant and Ashby, 1971) Therefore, we need a system that is able to manage multiscale ontological uncertainty effectively. We need Anticipatory Learning System (ALS) as a fundamental system component (Fiorini & Santacroce, 2013b). In fact, to behave realistically, system must guarantee both Logical Aperture (to survive and grow) and Logical Closure (to learn and prosper), both fed by environmental “noise” (better compared to what human beings call “noise”) (Fiorini, 2014b). For instance, current scientific computational and simulation classic systemic tools and the most sophisticated instrumentation system (developed under the positivist, reductionist paradigm and the “continuum hypothesis”, CH for short) are still totally unable to capture and to discriminate the so called “Random Noise” (RN) from any combinatorically optimized encoded message, called “Deterministic Noise” (DN) by Computational Information Conservation Theory (CICT) (Fiorini, 2014a). This is the Information Double-Bind (IDB) dilemma in current science, and nobody likes to talk about it (Fiorini, 2016a).

Ambiguity emphasizes this major IDB problem in current, most advanced research laboratory and instrumentation system, just at the inner core of human knowledge extraction by experimentation in current science (Fiorini, 2016a). How is it that scientists 1.0 (statisticians) are still in business without having worked out a definitive solution to the problem of the logical relationship between experience and knowledge extraction? It is a problem to solve clearly and reliably, before taking any quantum leaps to more competitive and convenient, at first sight, post-human cybernetic approach in science and technology. We need to extend our systemic tools to solve this IDB dilemma first and then achieve real machine intelligence to open a new era of effective, real cognitive machine intelligence (Wang et al., 2016).

To get a stronger solution, even for advanced multiscale biophysical scientific modelling problems like social, quantum cognitive, neuroscience understanding, living organism modelling, etc., we have to look for convenient arbitrary multi-scaling, bottom-up modelling (from discrete to continuum, under the “discreteness hypothesis” (DH for short) approach to start from first, and NOT the other way around (top-down, from continuum to discrete, CH), as conventionally done! The present paper offers an innovative solution to be discussed. It is a relevant contribution towards a new post-Bertalanffy Extended Theory of Systems to show how homeostatic operating equilibria can emerge out of a self-organizing landscape of self-structuring attractor points in a natural way.

## **2. Social Communication Complexity and Purposive Actors' Propositional Fallacies**

Our understanding of society and the theories formulated to explain it are limited by the fracturing of disciplines, the cultural and historical biases of space and time, and the social constructions of the values and beliefs implicit to our world view. In addition, they are circumscribed by the types of thinking we employ to understand social reality. Systems thinking developed during the 20<sup>th</sup> century to counter the fragmented piecemeal perspectives of discipline-specific, sectoral viewpoints.

Past and current efforts to combine and integrate perspectives from different disciplines were and still are hindered by the absence of a unifying conceptual framework. For instance, the actual division of social science disciplines and sub-disciplines into separate specialized fields reflects a view of social reality as a composite of many independent pieces that can be assembled like the parts of a machine rather than the highly integrated organic reality, which it actually is. The subsequent development of each discipline and sub-discipline silos in its own direction further aggravates this initial division leading to untoward consequences. Silos are good for grain, but not for brain! Forging linkages between phenomena and disciplines through multi-disciplinary and inter-disciplinary approaches is necessary but not sufficient to address the complex integrality of social reality.

Social reality is an integrated indivisible whole, not a mechanical assembly. It cannot be fully comprehended or managed by combining any number of discrete perspectives and policy measures. The whole is greater than the sum of its parts. They all involve the generation and release of human energies, the focusing of those energies into force for specific purposes, the conversion of that force into power and the expression of that power to achieve results. All social progress harnesses the power of resources to convert social potential into accomplishment.

Modern economies are conscious living systems increasingly fueled by human and social resources that are not subject to inherent material limits. Material resources are consumed in the process of utilization. Non-material resources such as information, knowledge, technology, skill and organization multiply in the very process of being utilized. Human capital and social capital grow in quality, utility and value through usage and experience. The argument that subjective factors are too difficult to measure is increasingly challenged by the development of alternative measures and justifies much more serious efforts by mainstream economists to evolve new methods, rather than ignore this essential dimension of reality.

Society is an integrated living organism, not merely an assembly of machinery. More holistic, synthetic, and intuitive forms of understanding are also needed to comprehend underlying causes and remedies to current problems. More integrated conceptual systems and theoretical frameworks are needed that view social phenomena inclusively, comprehensively and integrally. Literature and the other humanities offer important perspectives for overcoming the reductionist tendency of specialized analytic disciplines.

Society is, without any doubt, a complex system and the idea of applying the knowledge from the analysis of physical complex systems in the analysis of societal problems is tempting. Indeed, the notions of nonlinearity, interactions, self-organization, stability and

chaos, unpredictability, sensitivity to initial conditions, bifurcation, etc., are phenomena which also characterize social systems.

However, not everything is easy because physical and computational measures of complexity exist in abundance. These can provide a starting point for creating social complexity metrics, but they need to be refined and continuously updated for the simple reason that society is an aggregation of purposive actors. To harness complexity, we must take a generative perspective and see social outcomes as produced by purposive actors responding to personal anticipation, incentives, information, cultural norms, psychological predispositions, etc. In other words, as Robert Rosen said, in his book *Life Itself*, “The Machine Metaphor of Descartes is not just a little bit wrong, it is entirely wrong and must be discarded.” (Rosen, 1991) As a matter of fact, purposive actors are centered on their wellbeing dynamic equilibrium or balance that can be affected by life events or challenges continuously. The state of personal wellbeing is stable when subjects have the resources needed to match and manage their life’s challenges (Fiorini, De Giacomo & L’Abate, 2016).

One of the fundamental preconditions is to speak in the common language. It is not the problem of cultures only (Leung et al., 2007); it is also a problem of scientific communities (Kagan, 2009; Snow, 1969) and new societal education (UNE, 1997; Jacobs, 2014; Mulder, 2015). For instance, educational curricula in human-computer interaction (HCI) need to be broad and nimble. To address the first requirement, HCI focuses on people and technology to drive human-centered technology innovation. At the same time, students need to develop methods and skills to understand current users, to investigate non-use, and to imagine future users quickly (Churchill, Bowser, & Preece, 2016).

We need an evolving education that is able to let a common language emerge and to explore the socially-construed conception of resources, social potential to discern their source, nature, boundaries, limits and the means to more consciously and effectively harness them to promote human welfare and wellbeing (Fiorini, De Giacomo & L’Abate, 2016). The untapped creative potential of material, social and human resources is a constituent of the creative sink we call Society. Society is the source of all human accomplishment, individual and collective, all the knowledge, values, skills, technological, social, organizational, institutional, psychological and cultural instruments devised by human beings to further their development.

At a wider level, we, the children of the Anthropocene Era, are just moving beyond the “Information Age” (Visser, 1993) to the “Conscious-Technology Age” (Glenn, 2015). The term “Anthropocene Era” was widely popularized in 2000 by atmospheric chemist Paul J. Crutzen who regards the influence of human behavior on Earth’s atmosphere in recent centuries as so significant as to constitute a new geological epoch (Dawson, 2016). In fact, Anthropogenic activity is now recognised as having profoundly and permanently altered the Earth system, suggesting we have entered a human-dominated geological epoch, the “Anthropocene” effectively (Turney et al., 2018).

In 1995, American futurist Hazel Henderson, in her book “Paradigms in Progress,” states her position unequivocally: “The Information Age is no longer an adequate image for the present, let alone a guide to the future. It still focuses on hardware technologies, mass production and economic models of efficiency and competition, and is more an

extension of industrial ideas and methods than a new stage in human development.” With her usual combination of hard data and clear-cut reasoning, Henderson showed that war hurts people, damages ecosystem services, and impairs the normal operation of economies more than any other violent force of society or nature. Could war be waged between nations or factions without support of businesses that reap benefits from it? Could the contributions of businesspeople to the building of the ethical girder stop the production of arms and get mass media to emphasize loving and tender communications among humans, and between humans and nature, rather than violence? (Henderson, 1995). Later, in 2007, she announced the mature presence of the green economy. Mainstream media and big business interests have sidelined its emergence and evolution to preserve the status quo (Henderson, 2007).

The Conscious-Technology Age will force us to confront fundamental questions about life as a new kind of civilization emerges from the convergence of two mega-trends. First, humans will be part of symbiotic systems, as our individuality and biology become integrated with technology in a symbiotic relationship. Second, our built environment will incorporate more artificial intelligence and intelligent systems. We are entering the 4th Industrial Revolution (Fourth Industrial Revolution, FIR) and the impact is going to be pervasive and of greater magnitude compared to the previous industrial revolutions. Industry 4.0 is not a prescriptive standard that any manufacturer or component supplier has to follow to the letter, yet. However, it is undoubtedly a trend and range of practices embracing automation, smart systems, IoT, cloud computing, AI and deep learning. Governance could be vastly improved by collective intelligence systems; it could become easier to prevent and detect crime; needs and resources could be matched more efficiently; opportunities for self-actualization could abound; and so on. It would be wise to think through the possibilities today and shape our evolution to create the future civilization we desire.

The incoming changes, approaching at an accelerating speed, will be affecting everything and everybody and blurring the lines between the physical, digital, and biological spheres; they will affect the bio-psycho-social dimensions, our narratives and even what it means to be human. If we are not farsighted and do not plan effectively, the results could be very problematic for all life forms on Earth. If we manage the 4<sup>th</sup> Industrial Revolution with the same blindness and forms of denial with which we managed the previous industrial revolutions, the negative effects will be exponential (Zucconi, 2016). At the social level, inequality and unemployment destroy opportunity freedom. Radical inequality significantly undermines opportunity freedoms and capacity freedoms and consequently radically undermines human capital as a foundation of community prosperity (Nagan, 2016).

Even in mere terminology, avoiding or minimizing representation of uncertainty and ambiguities is mandatory to achieve and maintain high quality result and service. The proper use of multidimensional conceptual clarity is fundamental to create and boost outstanding performance. As an example, for high quality clinical and telepractice results in healthcare informatics research and technology, understanding the difference between “well-being” and “wellbeing” is mandatory (Fiorini, De Giacomo & L’Abate, 2016). In order to move up in the value chain (or Lancasterian evolution tree, or wellbeing of society), it is also important to build up the knowledge corpus domestically and with domestic resources first (Kitt, 2016).

When uncertainty and ambiguities cannot be avoided, then reliable uncertainty management systems are needed. There are surprising similarities in many fields of human

activities and much can be learned from these. For instance, Puu discussed bifurcations that are likely to govern the evolution of culture and technology. More specifically, by defining culture as art plus science, he discusses the evolution of social and material products (Puu, 2015).

Another fundamental problem is causality because the observations always reveal superficial reasons only; they cannot reveal deep, concealed reasons (Fiorini, 2016b; Wang et al., 2016). Forcing societies to fit in a box without understanding the reasons in depth may lead to serious consequences like we witness in many world affairs. Interdisciplinarity and transdisciplinarity are modes through which the society together with scientists and scholars must navigate (De Giacomo & Fiorini, 2018; Nicolescu, 2008).

As a matter of fact, traditional ordinary linguistic entities and structures are not real objects, as they are only subjective symbolic representations. Therefore, they need an appropriate, reliable structural conditioning first to become formal shareable descriptions and to obtain their semantic formalization and endorsement at the social communication level. Restrictions are pervasive in human cognition. In one form or another, restrictions underlie much of the exchange of information which takes place in daily conversations between humans. Restrictions underlie the remarkable human ability to reason and to make rational decisions in an environment of imprecision, uncertainty and incompleteness of information. Such environments are the norm in the real world. There are many applications in which the semantics of information play an important role. A few such applications are: social communication, machine translation, summarization, search and decision-making under uncertainty. Much of what is called “world knowledge” (WK) consists of restrictions. WK is the knowledge about the world which humans live in (Zadeh, 2004). In fact, we can formalize semantics as a relationship between shareable well-defined structures to arrive at the fundamental difference in the ontological status of structured symbols and the real object represented by these symbols.

In every discourse, whether of the mind conversing with its own thoughts, or of the individual in his intercourse with others, there is an assumed or expressed limit within which the subjects of its operation are confined. The most unfettered discourse is that in which the words we use are understood in the widest possible implication, and for them the limits of discourse are co-extensive with those of the universe itself. But more usually we confine ourselves to a less spacious field. Sometimes, by ‘discoursing’ of human beings we imply (without expressing the limitation) that it is only of human beings under certain circumstances and conditions that we speak, as of civilized men, or of human beings in the vigor of life, or of human beings under some other condition or relation. Now, whatever may be the extent of the field within which all the objects of our discourse are found, that field may properly be termed the “universe of discourse” (Boole, 1854/2003). This concept, probably created by the Irish mathematician, educator, philosopher and logician George Boole (b.1815–d.1864) in 1847, played a crucial role in his philosophy of logic, especially in his stunning principle of “wholistic reference” (Corcoran, 1995; 2004).

The term “universe of discourse” generally refers to the collection of symbolic objects being managed and discussed in a specific discourse. In current model-theoretical semantics, a universe of discourse is the set of symbolic entities that a model is based on. Furthermore,

this universe of discourse is in the strictest sense the ultimate subject of the discourse and human ability to use logic, to integrate the evidence of our senses in a non-contradictory way, is part of our rational faculty, the very faculty that makes us human. Obviously, we also have the capacity to be illogical, but that is because our rational faculty also entails volition, the power to choose to think or not to think.

According to Swiss clinical psychologist Jean Piaget (b.1896–d.1980), human adults normally know how to use properly classical propositional logic. Piaget also held that the integration of algebraic composition and relational ordering in formal logic is realized via the mathematical Klein group structure (Inhelder & Piaget, 1955.) In the last fifty years, many experiments conducted by psychologists on reasoning have often shown most adults commit logical fallacies in propositional inferences. These experimental psychologists have so concluded, relying on many empirical evidences, that Piaget’s claim about adults’ competence in propositional logic was wrong and much too rationalist. But, doing so, they forgot Piaget’s rigorous and important analysis of the Klein group structure at work in logical competence. In other words, according to experimental psychologists, Piaget was overestimating the logical capacities of average human adults in the use of classical propositional logical connectives. As a matter of fact, people tend to treat conditionals as equivalences and inclusive disjunctions as being exclusive (Robert & Brisson, 2016).

*Figure 1. Piaget-Klein Group Cayley Table. The four fundamental transformations of predicative competence: identical transformation (I), inverse transformation (N), reciprocal transformation (R), and finally, the dual transformation (D) (see text)*

<b>x</b>	<b>I</b>	<b>N</b>	<b>R</b>	<b>D</b>
<b>I</b>	I	N	R	D
<b>N</b>	N	I	D	R
<b>R</b>	R	D	I	N
<b>D</b>	D	R	N	I



Nevertheless, the Klein group structure Piaget used can be reused to help us understand better what happens in spontaneous human reasoning and in the production of fallacies. In fact, in mathematics, the Klein four-group or “*Vierergruppe*”, named by German mathematician Felix Klein (b.1849– d.1925) in 1884, is a group of four transformations with four elements. The Klein four-group is the smallest non-cyclic group, and every non-cyclic group of order 4 is isomorphic to the Klein four-group. The cyclic group of order 4 and the Klein four-group are therefore, up to isomorphism, the only groups of order 4. Both are abelian groups in mathematics. Piaget applied the Klein four-group to binary connectives, so that a given connective is associated first with itself (in an identical (I) transformation) and then with its algebraic complement (its inverse (N) transformation), also with its order opposite (its reciprocal (R) transformation) and finally, with the combination of its N and R transformations (that Piaget calls its “correlative” or C transformation) (Inhelder & Piaget, Ch.17). This correlative corresponds to what logicians usually call the “dual” (D) transformation (see Figure 1) (Robert & Brisson, 2016).

The Klein group structure generates squares of opposition (SOO), and an important component of human rationality resides in the diagram of the SOO, as formal articulations of logical dependence between connectives (Fiorini, 2018). The origin of the SOO can be traced back to Aristotle, who made the distinction between two oppositions: contradiction and contrariety. But Aristotle did not draw any diagram. This was done several centuries later by Apuleius and Boethius in the second and sixth centuries. SOO are considered as important basic components of logical competence and human predicative rationality (Beziau & Payette, 2012). Treating conveniently neutral elements (I), algebraic complements (N) and order reciprocals (R) in an integrated structure, with a valid treatment of duals (D), would guarantee people to make logically valid classical inferences on propositions to achieve conceptual clarity (Fiorini, 2018b).

But the formal rationality provided by the SOO is not spontaneous and therefore, should not be easy to learn for adults. This is the main reason why we need reliable and effective training tools to achieve full propositional logic proficiency in decision making, like the elementary pragmatic model (EPM) (De Giacomo & Fiorini, 2018). In fact, from an abstract point of view, EPM can be even seen as the logical description of the fundamental interactions between two Klein groups. In other words, EPM can model all the elementary interactions between two rational, interacting subjects. Currently, the notion of reasoning or conscious reason may be interpreted in terms of the reasoning process itself being explicitly modeled by the reasoning agent (Gaines, 2010). In this way, we arrive at the core understanding of “the difference that makes the difference.” (Bateson, 1972, pp.457-9)

Metaphors encompass often our everyday communication and can also be used in explaining the behavior of complex social systems. Such an approach, developed initially by English anthropologist and social scientist Gregory Bateson is advocated by De Giacomo & Fiorini (2018), and Wheatley (2008) for management and leadership. They do not enter into the technical details of chaos theory and complexity in terms of physical systems but recommend using these ideas convincingly in the management of social systems and also for educational purposes.

As a further, more interesting example, the Piaget-Klein group structure can be even interpreted as the transformation mapping of human perception and representation of our



outer and inner universe representation, where the encoding process is carried out by human affectors (our biological sensors) and the decoding process is done by human effectors (our biological actuators). In this way, the single observer encoding and decoding relationships of the classic Rosen mapping can be computationally formalized at the operative level (De Giacomo & Fiorini, 2018; Fiorini, 2018b).

### **3. Communication and the Reflective Elementary Dichotomy Structuring Process**

Mankind's best conceivable worldview is at most a representation, a partial picture of the real world, an interpretation centered on man. We inevitably see the universe from a human point of view and communicate in terms shaped by the exigencies of human life in a natural uncertain environment. What is difficult is processing the highly conditioned sensory information that comes in through the lens of an eye, through the eardrum, or through the full skin. In fact, at each instant, a human being receives an enormous volume of data, and we have a finite number of brain cells to manage all the data we receive quickly enough.

According to traditional theories, brain researchers estimate that the human mind takes in 11 million pieces (tokens) of information per second through our five senses but is able to be consciously aware of only 40 of them (Koch et al, 2006; Wilson, 2004; Zimmermann, 1986). So, our neurointerfaces and brain have to filter to the extreme. To better clarify the computational paradigm, we can refer the following principle: "Animals and humans use their finite brains to comprehend and adapt to an infinitely complex environment." (Freeman & Kozma, 2009) We are constantly reconstructing the world's essential and superficial characteristics. This is the outcome of the ongoing evolution of our relationships in a world full of surprises and challenges (Espejo, 2011) related to deeper characteristics (Fiorini, 2018a).

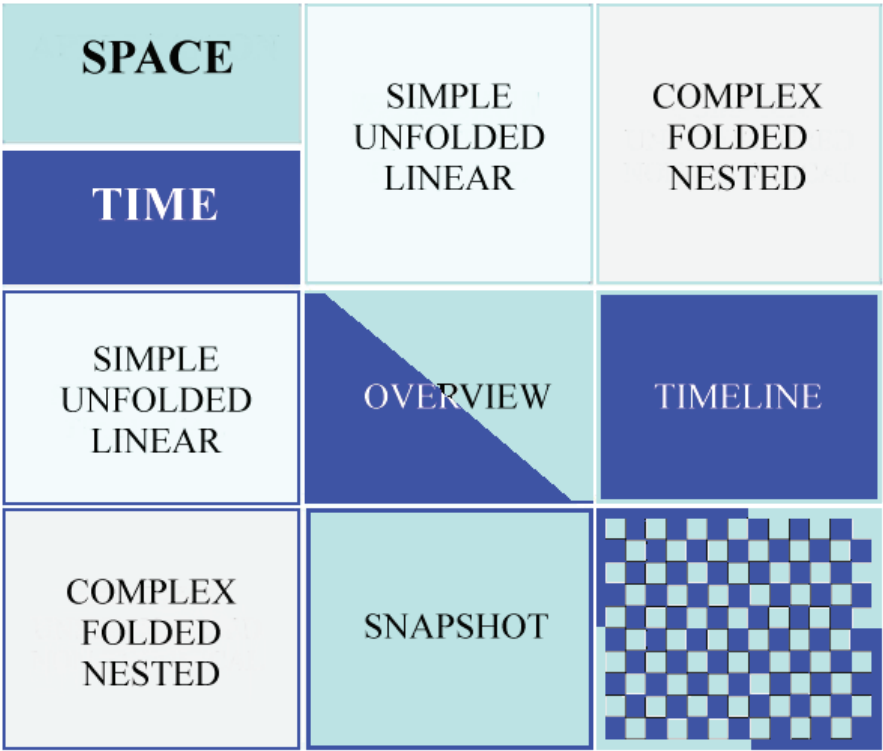
Spacetime (ST) invariant physical quantities can be related to the variables employed by a specific interacting observer to get an interpretation of the world within which a human being is immersed. In fact, original "spacetime" (a transdisciplinary concept of classical operative interpretations) is split into two separate additive subcomponents, namely "space" and "time." In that forced passage original information is lost or dissipated to an unaware interactor (Fiorini, 2015a).

This forced operational splitting may represent an advantage by a formal (rational) representation point of view (i.e., ease of representation and understanding), but its major drawback is an original information precision loss, if the observer is unaware of or unable to compensate for it partially, not taking into consideration the folding and unfolding properties offered by CICT "OpeRational" representation (Fiorini & Laguteta, 2013a). For instance, according to CICT, the full information content of any symbolic representation emerges out of the capturing of two fundamental coupled components: the linear component (unfolded) and the nonlinear one (folded). Referring to the transdisciplinary concept (Nicolescu, 1996), we see that for full information conservation, any transdisciplinary concept emerges out of two pair of fundamental coupled parts.

From a common language perspective, taking into consideration the folding and unfolding properties of CICT "OpeRational" representations for the Space-Time Split (STS) (Fiorini, 2015a), one can conceive a better operative understanding of the usual terms, with the added

possibility of information conservation as shown in “The Four Quadrants of The Space-Time Split” (Figure 2) through a narrative point of view. Here, the term “Timeline” (first quadrant, top right) is considered to be the combination of a major linear time representation framed by folded minor space representation. The term “Overview” (second quadrant, top left) is interpreted as the combined representation of major linear space and major linear time representations, with minor complementary folded time and space components. The term “Snapshot” (third quadrant, bottom left) can be assumed as the combination of a major linear space representation framed by the minor folded time representation. The fourth quadrant (bottom right) represents the combination of major folded space and time components, framed by the combination of minor linear space and time components. It can be interpreted as a simple (bidimensional) but realistic representation of the usual information experienced by a living organism.

Figure 2. The Four Quadrants of The Space-Time Split (STS)



In other words, for CICT to capture the full information content of any elementary symbolic representation, it is necessary to conceive of a “quadratic support space” at least. Of course, we can apply our dichotomizing process in a recursive way to achieve any precision we like. As an operative example, we can use previous understanding for the representation of human experience by a narrative point of view, to be used effectively in human knowledge structuring and computer science modeling and simulation. We can start to divide human

experience into two interacting concepts or parts, “Application” and “Domain,” in the sense that experience is always gained when an Application is developed to act within a Domain, and a Domain is always investigated by a developed Application. In terms of ultimate truth a dichotomy of this sort has little meaning but it is quite legitimate when one is operating within the classic mode used to discover or to create a world of “immediate appearance” by narration. In turn, both Domain and Application can be thought of being in “simple mode” (SM, linearly structured, technical, unfolded, etc.) or in “complex mode” (CM, non-linearly structured or unstructured, non-technical, folded, etc.) description, as defined by Fiorini (1994).

The SM Application or Domain represents the world primarily in terms of “immediate appearance” (superficial reasons), whereas a CM Application or Domain sees it primarily as an “underlying process” in itself (deep, concealed reasons). CM is primarily inspirational, imaginative, creative, intuitive: feeling rather than facts predominate initially. “Art” when it is opposed to “Science 1.0” is “feeling transmission” rather than “data transmission”. It does not proceed by data, reason or by laws. It proceeds by feeling, intuition and aesthetic resonance. The SM, by contrast, proceeds by data, logic, reason and by laws, which are themselves underlying forms of rational thought and behavior. Therefore, we can assume, for now, to talk about human experience by referring to SM and CM, Application and Domain, according to the Four-Quadrant Scheme (FQS) of Figure 3.

Figure 3. Four-Quadrant Scheme (FQS) for Application and Domain

APPLICATION	DOMAIN	
	SIMPLE STRUCTURED TECHNICAL	COMPLEX UNSTRUCTURED NON-TECHNICAL
SIMPLE STRUCTURED TECHNICAL	(known knowns)	(known unknowns)
COMPLEX UNSTRUCTURED NON-TECHNICAL	(unknown knowns)	(unknown unknowns)

SM is straightforward, unadorned, unemotional, analytic, economical and carefully proportioned. Its purpose is not to inspire emotionally, but to bring order out of chaos and make the “unknowns known.” It is not aesthetically free and natural style. It is “aesthetically restrained.” Everything is under control. Its value is measured in terms of the skill with which this control is maintained. From the CM point of view the SM often appears predictable, dull, awkward, limited and ugly. Everything is in terms of pieces and parts and components and relationships. Nothing is figured out until it is run through the computer a dozen times. Everything has got to be measured and proved. Within SM, however, CM has some appearances of its own; irrational, erratic, unpredictable, untrustworthy, sometime frivolous, etc. By now these battle lines should sound a little familiar. This is the source of the current trouble between these two cultures.

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*“One of the most highly developed skills in contemporary Western civilization is dissection: the split-up of problems into their smallest possible components. “We are good at it. So good that we often forget to put the pieces back together again”.”*

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Human beings and researchers tend to think and feel exclusively in one mode or the other and in so doing tend to misunderstand and underestimate what the other mode is all about. But no one is willing to give up the truth as he/she sees it, and as far as we know, quite a few individuals now living have been attempting a real reconciliation of these truths or modes, which is mandatory for the new “Science 2.0” worldview. There is no social, formal shared point at which these visions of reality are unified at present. But if you can keep hold of the most obvious observation about SM Application or Domain, some other things can be noticed that do not at first appear and which can help to understand a convenient unification point.

The first is that in traditional Science 1.0 approach, apart from recent disciplines’ risk analysis and computer security areas, any interacting observer is missing. Any classical SM Application or Domain description does not take into consideration the observer. Even an operator is a kind of personalityless robot whose performance of a function on a device is completely mechanical. There are no real subjects in this description. The only objects that exist are independent of any observer.

The second is that to standard Science 1.0, dichotomy is a simple cut-and-split process. As a matter of fact, there is an arbitrary knife moving here: an intellectual scalpel so swift and so sharp you sometimes do not even see it moving. You get the illusion that everything is there and that anything is being named as it exists. But they can be named and organized quite differently depending on how the knife moves. It is important to see this knife for what it is and not to be fooled into thinking that anything is the way it is just because the knife happened to cut it up that way. It is important to concentrate on the knife. As a matter of fact, one of the most highly developed skills in contemporary Western civilization is dissection: the split-up of problems into their smallest possible components. “We are good at it. So good that we often forget to put the pieces back together again” (Toffler, 1984).

The third is that the words good and bad and all their synonyms are completely absent. No value judgments have been expressed anywhere, only facts.

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*“Traditional mechanistic, reductionist, materialistic, compartmentalized social theory is inadequate to deal with the multi-dimensional complexity of social events and outcomes.”*

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The fourth is that anything under CM is almost impossible to understand directly without experiencing it, unless you already know how it works. The immediate surface impressions that are essential for primary understanding are gone. Nevertheless, the masterful ability to use this knife effectively can result in coming up with creative solutions for the SM and CM split (De Giacomo & Fiorini, 2017). For now, we have to be aware that even the special use of the terms SM and CM is an example of this knife-manship.

#### **4. Ontological Uncertainty Management (OUM) Model**

According to the neurophysiological findings by Joseph LeDoux (1998; 2002; 2015), we focus on ontological uncertainty (Lane & Maxfield, 2005) as an emergent phenomenon out of a complex system. Then, our dynamic ontological perspective can be thought of as an emergent, natural operating point out of, at least, a dichotomy of two fundamental coupled irreducible and complementary ideal asymptotic concepts:

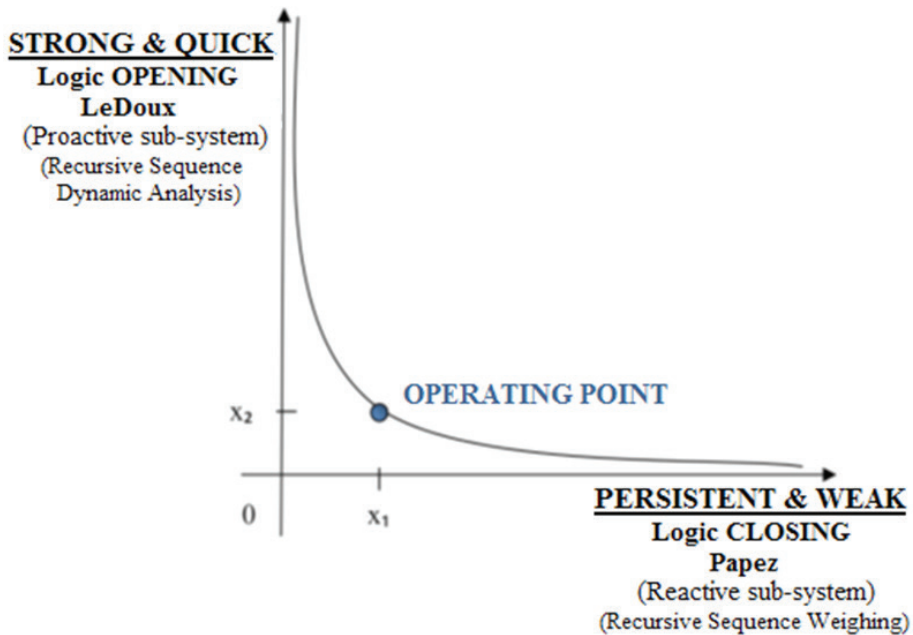
- a. reliable predictability, and
- b. reliable unpredictability.

From the Top-Down (TD) management perspective, the reliable predictability concept can be referred to as traditional system reactive approach (operative level, lag subsystem, closed logic, to learn and prosper) and operative management techniques. The reliable unpredictability concept can be associated to system proactive approach (strategic level, lead subsystem, open logic, to survive and grow) and strategic management techniques.

As discussed previously, to achieve our final goal, the overall system must be provided with a smart sensing interface, which allows reliable real-time interaction with its environment. To behave realistically, the system must guarantee both Logical Aperture (to survive and grow) and Logical Closure (to learn and prosper), both fed by environmental “noise” (better compared to what human beings call “noise”) (Fiorini, 2014b).

So, according to previous considerations, at the brain level, it is possible to refer to the LeDoux circuit (“low road”, Logical Aperture) for emotional behavior (i.e. fear, emotional intelligence, etc.) and to the Papez circuit (“high road”, Logical Closure) for structured behavior (i.e. rational thinking, knowledge extraction, etc., as per Figure 4. Emotional Intelligence (EI) and Emotional Creativity (EC) (Goleman, 1995) coexist with Rational Thinking in human mind, sharing the same input environment information (Gunderson & Holling, 2002). Then, an operating point can emerge as a transdisciplinary reality level from the interaction of two complementary irreducible, asymptotic ideally coupled subsystems with their common environment.

Figure 4. Operating Point can emerge as a new Transdisciplinary Reality Level (TRL), based on Two Complementary Irreducible Management Subsystems interacting with their common environment (Gunderson and Holling, 2002).



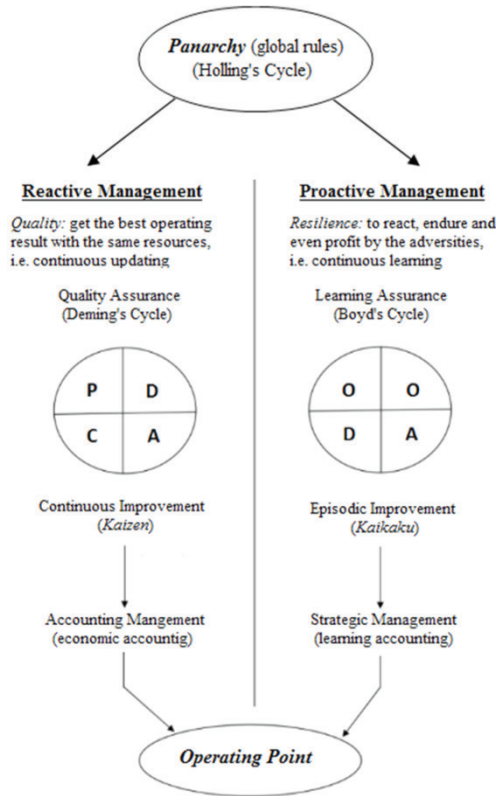
The major added value of present work is provided by the author's fresh approach to Ontological Uncertainty Management (OUM) modelling and by the new idea of system articulated interaction, defined by inner and outer system information resonance and aggregation. It can allow both quick and raw system response (to survive and grow) and slow and accurate information unfolding for future response strategic organization (to learn and prosper) by coherently formatted operating points (Fiorini, 2015b). Thus, new advanced systemic information application can successfully and reliably manage a higher system complexity than at present, with a minimum of design constraints specification and less system final operative environment knowledge at the design level.

In fact, a natural living organism does perturb its environment, but ordinarily only up to the level it is perturbed in turn by its own environment both to survive and grow, and no more (Gunderson & Holling, 2002.) Due to its intrinsic self-scaling relativity properties, this systems approach can be applied at any system scale: from single quantum system application development to full system governance strategic assessment policies and beyond. It is possible to use the same nonlinear logic approach to guess a convenient basic architecture for Anticipatory Learning System (ALS) (Fiorini & Santacroce, 2013b) to get a realistic modeling of natural behavior to be used in High Reliable Organization (HRO) application development.

As an example, the author has shown that traditional data processing and pattern recognition in a cognitive task application (spoken sentence comprehension), using traditional electroencephalography (EEG) data and ERP preprocessing, can offer a shallow interpretation of experimental data. A deeper interpretation can be reached by the CICT approach and VEDA analysis tool. In this case brainstem function can be much better exploited for system modelling. In fact, the overall response result emerges out of the coherent composition of five different subsystem outputs, which start to coherently cooperate with one another immediately upon input stimuli onset (Fiorini, 2015b). CICT coherent representation precision then leads to more experimental information clarity and conservation.

As a matter of fact, the basic operational concepts discussed in previous sections can be conveniently and successfully extended to many other advanced business and HRO application areas, with no performance or economic penalty, to develop a more competitive application.

Figure 5. Final Architecture for Effective Systemic Global Governance Framework



For instance, at a higher level of abstraction, environmental noise input information to be aggregated into system internal status information can provide a structured homeostatic



synthetic operating point as a reference for further inquiry. Then, System Interaction by internal and external information aggregation can allow both quick and raw response (Open Logic response, to survive and grow) and slow and accurate information for future response strategic organization (Closed Logic response, to learn to adapt and prosper) by coherently formatted operating point information (Fiorini, 2016a).

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*“Consciousness  
and choice  
are primary  
determinants  
of future  
outcomes.”*

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To arrive at a general framework, for closed logic Reactive Management system, it is possible to choose from different documented operational alternatives offered by literature, like Deming’s PDCA Cycle (Ohno, 2012), Discovery-Driven Planning (McGrath, and MacMillan, 1995; 2009), etc., while for open logic Proactive Management system, from Boyd OODA Cycle (1987) (Osinga, 2006), Theory-Focused Planning (Govindarajan and Trimble, 2004), and many others. As a simple example, PDCA’s cycle (Reactive Management) and OODA’s cycle (Proactive Management) can be selected to represent two corresponding complementary irreducible sub-systems for advanced integrated operative-strategic management. Then, our final, general operative reference architecture, for Effective Systemic Global Governance, is given in Figure 5.

## 5. Summary

Traditional mechanistic, reductionist, materialistic, compartmentalized social theory is inadequate to deal with the multi-dimensional complexity of social events and outcomes (Fiorini, 2017). Social science needs to unpack the significant characteristics that differentiate physical, biological and social systems. An effective science of society would necessarily have to transcend disciplinary boundaries to identify principles and processes fundamental to all fields and forms of social activity, change, development and evolution. Consciousness and choice are primary determinants of future outcomes (Baumeister, Maranges & Sjøstad, 2018). Among them, perception of the present and anticipation of the future are powerful drivers (Jacobs, 2015).

In order to provide reliable anticipatory knowledge, a system must produce predictions ahead of the predicted phenomena, to be verified by a reality level comparison, to be validated and accepted, to be remembered as learned reliable predictions. This validation cycle (emulation) allows system tuning and adaptation to its environment automatically and continuously. Therefore, current traditional formal systems are unable to capture enough information to model natural systems realistically and to describe their emergent properties effectively.

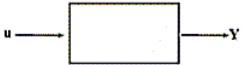
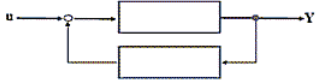
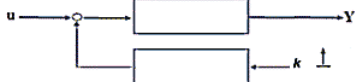
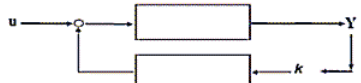
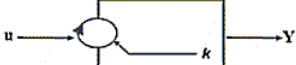
The following proposal of Five Order Cybernetics Framework (Figure 6) acknowledges just the complex system’s emergent properties. Emergence entails a greater complexity that reduces traditional knowability and predictability. It also implies that a system will “immerge” into its environment, of which it is a part. Immergence means “submergence” or “disappearance in, or as- if- in, a liquid”. If the system is determined by its contact with its context, then the reverse also applies.

The proposed “fourth order cybernetics” (Figure 6) deals with the system and its context simultaneously (multiscale interactivity), where relational complexity and system anticipatory

ability are singular hallmarks of life (Rosen, 1985). The basic principles involved are already intuitively implied in First, Second and Third Order Cybernetics, but now they are shown as unfolded and more explicitly. So, in this way, it is possible to achieve an ideal cybernetic concept of evolutionary categorization by the proposed five orders (1 + 4) framework, to offer a new reliable conceptualization for Social, Biomedical and general complex multiscale system applications:

1. Zero Order Cybernetics (Clausius): ideal, closed system, totally isolated open-loop system.
2. First Order Cybernetics (Wiener): “Self-steering” is assumed to be isolated from the act of observation and negative feedback functions as part of a mechanical process to maintain homeostasis.
3. Second Order Cybernetics (von Foerster): the process of “self-steering” is now understood to be affected by observer/s, but the related mathematical modeling is insufficiently complex to encourage new values to emerge. Nevertheless, it is understood that Positive and Negative Feedback can lead to morphogenesis intuitively.
4. Third Order Cybernetics (Bateson, Beer, Ashby): the process is understood as an interaction that can affect/be affected by many observers, but it does not address what this means for the “social response-ability” of the single participant observer. Articulated values emerge.
5. Fourth Order Cybernetics (Rosen): multiple realities emerge by the freedom of choice of the creative observer that determines the outcome for both the system and the observer. This puts demands on the self-awareness of the observer, and response-ability for/in action.

*Figure 6. Five Order Cybernetics Framework: Main Graphical Components*

<b>BIOMEDICAL CYBERNETIC ORDER</b>	<b>INTERACTION STYLE</b>	<b>GRAPHIC SYMBOL</b>
<b>Zero</b>	<b>Pure Spectator</b>	
<b>First</b>	<b>Ergodic Observer</b>	
<b>Second</b>	<b>Pulsed Egocentric Interactor</b>	
<b>Third</b>	<b>Iterated Egocentric Interactor</b>	
<b>Fourth</b>	<b>Recursive Interactor</b>	

The major added value of this approach is provided by our new idea of system interaction, defined as inner and outer system information aggregation. It can allow both quick and raw system response (Reactive Management, to grow and survive) and slow and accurate information unfolding for future response strategic organization (Proactive Management, to adapt and prosper) by coherently formatted operating point (Fiorini & Santacroce, 2013b). Now, according to previous discussion, it is possible, at systemic level, to envisage a post-Bertalanffy Systemics Framework able to deal with problems of different complexity in a generalized way when interdisciplinarity consists, for instance, of a disciplinary reformulation of problems, like from biological to chemical, from clinical research to healthcare, etc., and transdisciplinarity is related to the study of such reformulations and their properties. For the first time, Social and Biomedical Engineering's ideal system categorization levels can be matched exactly to practical system modeling interaction styles, with no paradigmatic operational ambiguity and information loss, as shown in Figure 6 (specifically, our innovative system interaction modality, called "Recursive Interactor", corresponds to the fourth order biomedical cybernetics). Now, even new social and health information application can successfully and reliably manage a higher system complexity than contemporary ones, with a minimum of design constraints specification and less system final operative environment knowledge at design level. From an operational perspective, the previous complex multiscale Cybernetics framework with five levels can be mapped to the following five graphic modeling practical interaction styles respectively, with no operational ambiguity as depicted in Figure 6.

Specifically, advanced wellbeing applications (AWA), high reliability organization (HRO), mission critical project (MCP) system, very low technological risk (VLTR) and crisis management (CM) system can benefit highly from the newer CICT OUM approach and related techniques. The present paper is a relevant contribution towards a new Post-Bertalanffy General Theory of Systems, showing how homeostatic operating equilibria can emerge out of a self-organizing landscape of self-structuring attractor points.

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## Bibliography

1. Ansoff, H. I. (1975), "Managing Strategic Surprise by Response to Weak Signals", *California Management Review*, Vol. XVIII, No. 2, pp. 21–33.
2. Bateson, G. (1972), *Steps to an Ecology of Mind: Collected Essays in Anthropology, Psychiatry, Evolution and Epistemology*. Chicago, IL, USA: University of Chicago Press.
3. Baumeister, R. F., Maranges, H. M. and Sjästad, H. (2018), "Consciousness of the Future as a Matrix of Maybe: Pragmatic Prospection and the Simulation of Alternative Possibilities", *Psychology of Consciousness: Theory, Research, and Practice*, Vol. 5, No. 3, pp. 223–238.
4. Beer, S. (1972) *Brain of the Firm*. London: Penguin press.
5. Beziau, J.-Y., and Payette, G. (Eds.) (2012) *The square of opposition - A general framework for cognition*. Bern, CH: Peter Lang.
6. Boole, G. (1854/2003) *The Laws of Thought*, Facsimile of 1854 edition, with an introduction by J. Corcoran. Buffalo, USA: Prometheus Books. Reviewed by James van Evra (2004). In *Philosophy in Review*, Vol. 24, pp.167–169.
7. Cepni, Elif, (2015), "Using Foresight In Economic Thought Schools", The First International Conference on ANTICIPATION, 5-7 November 2015, Trento, Italy.
8. Churchill, E., Bowser, A. and Preece, J. (2016), "The Future of HCI Education: A Flexible, Global, Living Curriculum", *Interactions*, Vol. 23, No.2, pp. 70-73. Available from <http://interactions.acm.org/archive/view/march-april-2016/the-future-of-hci-education-a-flexible-global-living-curriculum> [Accessed 6 January 2017].

9. Conant, R. C. and Ashby, W. R. (1970), "Every Good Regulator of a System Must be a Model of that System", *International Journal of Systems Science*, Vol 1., No. 2, pp. 89-97.
10. Corcoran, J. (1995), "Universe of discourse", In *Cambridge Dictionary of Philosophy*, (p.941). Cambridge, UK: Cambridge University Press.
11. Corcoran, J. (2004), "Principle of Wholistic Reference", *Manuscripta*, Vol. 27, pp. 155–166.
12. Dawson, A. (2016) *Extinction: A Radical History*. OR Books, New York, NY, USA, p.19.
13. De Giacomo, P., and Fiorini, R.A. (2018) *Creativity Mind*. Amazon, E-book.
14. Dubois, D., (1998), "Introduction to computing Anticipatory Systems", *International Journal of Computing Anticipatory Systems*, Vol. 2, pp.3-14.
15. Espejo R. (2014), "The Cybernetics of Governance: The Project Cybersyn 1971-1973", In: Metcalf, G. S. (Ed.) *Social Systems and Design*. Springer, Tokyo, Heidelberg, pp.71-90.
16. EYCH, European Year of Cultural Heritage (2018). Available from [https://europa.eu/cultural-heritage/about\\_en](https://europa.eu/cultural-heritage/about_en) [Accessed 30 November 2018].
17. Espejo, R. and Harnden, R. (1989) *The Viable Systems Model - Interpretations and Applications of Stafford Beer's VSM*. Chichester: Wiley.
18. Espejo R. and Reyes A. (2011) *Organizational Systems: Managing Complexity with the Viable System Model*. Springer.
19. Fiorini, R. A. (1994) *Strumentazione Biomedica: Sistemi di Supporto Attivo*. Milano, IT: CUSL, Collana Scientifica. (In Italian).
20. Fiorini, R. A. (2014a), "Computational Information Conservation Theory: An Introduction", In: Mastorakis, N. E., Demiralp, M., Mukhopadhyay, N., Mainardi, F. (Eds.) *Proceedings of the 8<sup>th</sup> International Conference on Applied Mathematics, Simulation, Modelling (ASM '14)*. Mathematics and Computers in Science and Engineering Series, No.34, NAUN Conferences. Florence, IT: WSEAS Press, pp. 385-394.
21. Fiorini, R. A. (2014b), "How random is your tomographic noise? A number theoretic transform (NTT) approach", *Fundamenta Informaticae*, Vol. 135, No. 1-2, pp. 135-170.
22. Fiorini, R. A. (2015a), "GA and CICT for Stronger Arbitrary Multi-Scale Biomedical and Bioengineering Solutions", In Xambó Descamps, S., Parra Serra, J. M. and González Calvet, R. (Eds.) *Early Proceedings of the AGACSE 2015 Conference* July 29-31, 2015. Barcelona, SP: Universitat Politècnica de Catalunya, pp.153-162.
23. Fiorini, R. A. (2015b), "More effective biomedical experimentation data by CICT advanced ontological uncertainty management techniques", *Internat. Journal of Biology and Biomedical Engineering*, Vol. 9, pp. 29-41.
24. Fiorini, R.A. (2016a), "From Systemic Complexity to Systemic Simplicity: A New Networking Node Approach", In : Minati, G.F., Abram, .M. and Pessa, E. (Eds.) *Towards a Post-Bertalanffy Systemics*. Switzerland, Springer, Chap. 9, pp. 97-108.
25. Fiorini, R. A. (2016b), "New CICT Framework for Deep Learning and Deep Thinking Application", *International Journal of Software Science and Computational Intelligence*, Vol. 8, No. 2, pp. 1-21.
26. Fiorini, R. A. (2017), "Transdisciplinary Education for Deep Learning, Creativity and Innovation", in Proc. 2<sup>nd</sup> International Conference on Future Education, pp. 94-107. Roma Tre University, Rome, Italy: WAAS, WUC.
27. Fiorini, R. A. (2018a), "The Roots of Cognition", 17<sup>th</sup> IEEE International Conference on Cognitive Informatics and Cognitive Computing (ICCI\*CC), University of Berkeley, Berkeley, CA, USA.
28. Fiorini, R. A. (2018b), "A Journey from the Square of Opposition to the Cognitive Log-Sigmoid", 6<sup>th</sup> World Congress on the Square of Opposition, Orthodox Academy of Crete, Crete.
29. Fiorini, R. A., and Laguteta, G. (2013a), "Discrete tomography data footprint reduction by information conservation", *Fundamenta Informaticae*, Vol. 125, No. 3-4, pp. 261–272.
30. Fiorini, R. A. and Santacroce, G. F. (2013b), "Economic Competitivity in Healthcare Safety Management by Biomedical Cybernetics ALS", In: 2013 Proc. International Symposium, *The Economic Crisis: Time For A Paradigm Shift -Towards a Systems Approach*, Jan. 24-25, 2013. Valencia, SP: Universitat de València.
31. Fiorini, R.A., De Giacomo, P. and L'Abate, L. (2016) "Wellbeing Understanding in High Quality Healthcare Informatics and Telepractice", In Mantas, J., Hasman, A., Gallos, P., Kolokathi, A., Househ, M. S. (Eds.) *Studies in Health Technology and Informatics*, 226. IOS Press, pp.153-156.
32. Freeman, W.J., Kozma, R. (2009), "Scale-Free Cortical Planar Networks", In Bolyai Society of Mathematical Studies *Handbook of Large-Scale Random Networks*, Vol.18. Springer, Berlin, Heidelberg, chap.7, pp.277-324.
33. Gaines, B. R. (2010), "Human rationality challenges universal logic", *Logica Universalis*, Vol. 4, pp. 163-205.
34. Glenn, J. (2015), "What is the age of conscious-technology?", WEF. Available from <https://www.weforum.org/agenda/2015/01/what-is-the-age-of-conscious-technology/> [Accessed 30 November 2018].
35. Goleman, D. J. (1995) *Emotional Intelligence: Why It Can Matter More Than IQ*. New York, NY, USA: Bantam Books.
36. Govindarajan, V., Trimble, C. (2004), "Strategic Innovation and the science of learning", *MIT SLOAN Management Review*, Vol. 45, No. 2, pp.67-75.

37. Gunderson, L. H., and Holling, C. S. (Eds.) (2002) *Panarchy: understanding transformations in human and natural systems*. Washington DC, USA: Island Press.
38. Henderson, H. (1995) *Paradigms in Progress*. Oakland, CA, USA: Berrett-Koehler Publishers.
39. Henderson, H. and Sethi, S. (2007) *Ethical Markets: Growing the Green Economy*. Vermont, NE, USA: Chelsea Green Publishing
40. Inhelder, B., and Piaget, J. (1955) *De la logique de l'enfant à la logique de l'adolescent*. Paris, FR: Presses universitaires de France.
41. Jacobs, G. (2014), "New Paradigm: The Necessity and the Opportunity", *Cadmus*, Vol. 2, No.2, pp. 09-23.
42. Jacobs, G. (2015), "Anticipation as a Deep Driver in the Social Sciences", The First International Conference on ANTICIPATION, 5-7 November 2015, Trento, Italy.
43. Kagan, J. (2009) *The Three Cultures*. Cambridge University Press, Cambridge.
44. Kitt, R. (2016), "Complex Endogenous Growth Model and Its Applications", *Research in Economics and Business*, Vol. 8, No. 1, pp. 52-66.
45. Koch, K., McLean, J., Segev, R., Freed, M.A., Berry, M. J. II, Balasubramanian, V., and Sterling, P. (2006), "How Much the Eye Tells the Brain", *Current Biology*, Vol. 16, No.14, pp. 1428-1434.
46. Koselleck R. (2009). *Il vocabolario della modernità*. Bologna, IT: Il Mulino.
47. Lane, D. A. and Maxfield R. R. (2005), "Ontological Uncertainty and Innovation", *Journal of Evolutionary Economics*, Vol. 15, pp. 3-50.
48. LeDoux, J. (1998) *The Emotional Brain, The Mysterious Underpinnings of Emotional Life*. London, UK: Weidenfeld & Nicolson.
49. LeDoux, J. (2002) *Synaptic Self, How Our Brains Become Who We Are*. New York, NY, USA: Viking Penguin.
50. LeDoux, J. (2015) *Anxious*. New York, NY, USA: Penguin Random House.
51. Leung, K., Au, A., Huang, X., Kurman, J., Niit, T. and Niit, K. K. (2007), "Social axioms and values: a cross-cultural examination", *European Journal of Personality*, Vol. 21, pp.91-111.
52. Lewin, R. (1993) *Complexity - Life at the Edge of Chaos*. J.M.Dent Ltd, London, 1993.
53. McGrath, R. G., and MacMillan, I. C. (1995), "Discovery Driven Planning: Turning Conventional Planning on its Head", *Harvard Business Review*, Vol. 73, No. 4, pp. 44-54.
54. McGrath, R. G., and MacMillan, I. C. (2009) *Discovery Driven Growth: A Breakthrough Process to Reduce Risk and Seize Opportunity*. Boston, MA, USA: Harvard Business Publishing.
55. Miller, R., Poli, R., and Rossel, P. (2013). "The discipline of anticipation: Exploring key issues". Working Paper 1. Paris, FR: UNESCO and Rockefeller Foundation.
56. Mulder, I. (2015), "A pedagogical framework and a trans disciplinary design approach to innovate HCI education", *Interaction Design and Architecture(s) Journal - IxD&A*, Vol. 27, pp. 115-128.
57. Nagan, W. P. (2015), "Anticipation, Prediction, Future of the Public Order of the World Community and International Law", The First International Conference on ANTICIPATION, 5-7 November 2015, Trento, Italy.
58. Nagan, W. P. (2016), "The Concept, Basis and Implications of Human-Centered Development", *Cadmus*, Vol. 3, No. 1, pp. 27-35.
59. Nicolescu, B. (Ed.). (2008) *Transdisciplinarity – Theory and Practice*. Cresskill, New Jersey: Hampton Press.
60. Ohno, T. (2012) *Workplace Management*. New York, NY, USA: McGraw-Hill Professional, Special 100th Birthday Edition, 1st edition.
61. Osinga, F. P. B. (2006) *Science, Strategy and War: The Strategic Theory of John Boyd*. New York, NY, USA: Routledge.
62. Ostrom, E. (1990) *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge, Cambridge University Press.
63. Poli, R. (2010), "An introduction to the ontology of anticipation", *Futures*, Vol. 42, No. 7, pp. 653-776.
64. Poli, R. (2013), "Les signaux faibles, une propension social spontanée". *Cahiers de la sécurité*, Vol. 1, pp. 28-32.
65. Puu, T. (2015) *Arts, Sciences, and Economics*. Heidelberg, D: Springer.
66. Robert, S., and Brisson, J. (2016), "The Klein Group, Squares of Opposition and the Explanation of Fallacies in Reasoning", *Logica Universalis*, Vol. 10, pp. 377-392.
67. Rosen, R. (1985) *Anticipatory systems*. Oxford, UK: Pergamon Press.
68. Rosen, R. (1991) *Life Itself: A Comprehensive Inquiry Into the Nature, Origin, and Fabrication of Life*. Columbia University Press.
69. Snow, C. P. (1969) *The Two Cultures and a Second Look*. Cambridge University Press, Cambridge.
70. Taleb, N.N. (2015) *Silent Risk. Lectures on Probability*, Vol. 1. Des Cartes.

71. Taleb, N. N. and, Douady, R. (2015) *A Mathematical Formulation of Fragility*. Peer-Reviewed Monographs, Des Cartes.
72. Tassarolo, M. (2007), "Lo spazio sociale", In Verdi L. and Tassarolo M. , *Questioni di spazio*. Padova, IT: Cleup.
73. Toffler, A. (1984), "Foreword", In Prigogine I. and Stengers, I. *Order out of Chaos*. London: Heinemann, pp. xi-xxvi.
74. Turney, C. S. M., Palmer, J., Maslin, M. A., Hogg, A., Fogwill, C. J., Southon, J., Fenwick, P., Helle, G., Wilmshurst, J. M., McGlone, M., Ramsey, C. B., Thomas, Z., Lipson, M., Beaven, B., Jones, R. T., Andrews, O. and Hua, Q. (2018), "Global Peak in Atmospheric Radiocarbon Provides a Potential Definition for the Onset of the Anthropocene Epoch in 1965". *Scientific Reports*, Vol. 8, p. 3293. Available from: <https://www.nature.com/articles/s41598-018-20970-5> [Accessed 30 November 2018].
75. Tynianov, J.V. (1968). *Avanguardie e tradizione*. Bari, IT: Dedalo.
76. United Nations Educational, UNE (1997) *Scientific and Cultural Organization, Educating for a Sustainable Future, A Transdisciplinary Vision for Concerted Action*. EPD-97/CONF.401/CLD.1. Available from [http://www.unesco.org/education/tlsf/mods/theme\\_a/popups/mod01t05s01.html](http://www.unesco.org/education/tlsf/mods/theme_a/popups/mod01t05s01.html) [Accessed 6 January 2017].
77. Visser, W. (1993), "Beyond the Information Age: In Search of New Images of the Future", *New Paradigms*, No. 4, pp.9-12.
78. Wang, Y., Widrow, B., Zadeh, L. A., Howard, N., Wood, S., Bhavsar, V. C., Budin, G., Chan, C., Fiorini, R. A., Gavrilova, M. L., Shell, D. F. (2016), "Cognitive Intelligence: Deep Learning, Thinking, and Reasoning by Brain-Inspired Systems", *International Journal of Cognitive Informatics and Natural Intelligence*, Vol. 10, No. 4, pp. 1-21.
79. Weich, K.E. (1979). *La psicologia sociale dei processi organizzativi*. Torino, IT: ISEDI.
80. Wheatley, M. (2006) *Leadership and the New Science: Discovering Order in a Chaotic World*. Berret-Koehler Publ. Inc, San Francisco.
81. Wilson, T. D. (2004) *Strangers to Ourselves: Discovering the Adaptive Unconscious*. Cambridge, UK: Belknap Press, New Edition.
82. Zadeh, L. A. (2004), "A note on web intelligence, world knowledge and fuzzy logic", *Journal of Data & Knowledge Engineering - Special jubilee issue: DKE 50*, Vol. 50, No. 3, pp. 291 – 304.
83. Zimmermann, M. (1986), "Neurophysiology of Sensory Systems", In Schmidt, R. F. (Ed.) *Fundamentals of Sensory Physiology*. New York, NY, USA: Springer, pp. 68-116.
84. Zucconi, A. (2016), "The Need for Person-Centered Education", *Cadmus*, Vol. 3, No. 1, pp.1-26.

## Planning as the Art of Collective Anticipation\*

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### Abstract

*The definition of planning changed several times over the course of the 20<sup>th</sup> century. Anticipation, on the other hand, is a new science, though the problems that it confronts are as old as humankind. As a science it must confront the fuzzy reality that defies the usual mechanistic search for linear causal relationships that would allow an anticipated future to be manipulated and controlled. Anticipation as art could, on the other hand, incorporate those dimensions of social reality that have been so difficult to comprehend, both in the scientific framework defined by Aristotle and developed by Newton and his followers, as well as in the religious framework that preceded it. As individual anticipation evolves into collective anticipation, art can offer many insights into the social processes within which this occurs. Art is at home with ambiguity and uncertainty; in fact, it thrives on them. It can bring to light the emotional and moral context of the communication processes within which inter-subjectivity and collective anticipation develop. Furthermore, it should help to anticipate and give rebirth to a new philosophical framework within which all human problems could be confronted. This framework will have to be closer to the Epicurean framework than the Aristotelian-Newtonian framework that has governed our thoughts for the past 400 years or more, thus helping us to live more comfortably within the uncertainty of the quantum world. The whole idea is that planning could benefit greatly by incorporating itself within this more humanistic framework.*

*It is quite possible—overwhelmingly probable, one might guess—that we will always learn more about human life and human personality from novels than from scientific psychology. The science-forming capacity is only one facet of our mental endowment. We use it where we can but are not restricted to it, fortunately. Chomsky (1988), *Language and the Problem of Knowledge*, p. 159 (Quoted in John Horgan (1996), *The End of Science; Facing the Limits of Knowledge in the Twilight of the Scientific Age*, p. 154)*

**– Noam Chomsky on Art**

*Everywhere I go I find that a poet has been there before me.*

**– Sigmund Freud on Poetry**

*What you are about to see is not an idle tale of people who never existed and things that could never have happened. It is a PARABLE... some of the people in it are real people whom I have met and talked to. One of the others may be YOU. There will*

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*be a bit of you in all of them. We are all members one of another. Introduction to the film, Major Barbara (1941)*

– George Bernard Shaw on Entanglement

## 1. Introduction

In the early 20<sup>th</sup> century, city planning was associated with architectural design, a tradition very much alive in a large part of the world today. Then, following the Great Depression and World War II, it was seen as a problem in social engineering. Its perspective was broadened to include social, economic and political dimensions along with the traditional physical problems associated with engineering. In addition, there was a search for scientific generalizations that could be applied in all circumstances involving planning from cities and regions to businesses and the military, etc. Then in the 1960s it was swept up in the Cultural Revolution that is still evolving throughout the developed world today ([www.culturalcreatives.org](http://www.culturalcreatives.org)). This movement was and is critical of the authoritarian attitude of the engineering approach to social problems and seeks a more democratic participatory approach to planning as a social process. Here it intersects with the new science of anticipation, and the insights that it has to offer. None of these approaches is absent in planning efforts today; each has something to offer in a more collaborative effort in which we may confront the problems associated with life in an increasingly complex society. This will involve a de-compartmentalized perspective that is not usual in the still male-dominated world of science and engineering in today's society, as we shall see below (Gutenschwager, 2017).

Traditionally, scientists have been expected to present their work in the passive voice. It was believed that the scientist was a mere observer (and analyzer) of phenomena that (traditionally) he would faithfully and objectively report on. The back-story, the narrative of how and why the scientist arrived at the moment of presentation is, according to tradition, left out (Mair, et al., 2015). This includes especially the effects of the 'academic marketplace' (Caplow & McGee, 2001 [1958]), the decisions about funding, as well as the special interests of the funders, possible hidden intentions about the use of the research, to say nothing of the petty and not so petty squabbles among the scientists themselves, etc. In fact, anyone who has spent time in an academic setting will probably admit that it often feels like something between a Shakespearean comedy and a Greek tragedy.

The rather alienating tradition of the passive voice combined with academic aloofness came under severe criticism during the 1960s, not only because of the continuing insistence by many, if not most scientists, to remain detached from the social struggles that were taking place on a world-wide scale, not just irrespective of the political-economic system in which they were found, but also because of the number of books about science and about the ivory tower academic world that were being published at that time. The idea of science as a linear, cumulative process was undermined by Kuhn's (1970 [1962]) book on scientific revolutions. The idea of science as an objective endeavor was criticized in Roszak's (1969) book on the countercultural movement, especially his chapter on the 'myth of objectivity' and later by Wallerstein (2001). The political-philosophical role of science was addressed in Easlea's (1973) book on the liberating potential of science. And so forth.

In addition, positivism in the social sciences was losing its hold, as the influence of phenomenology and hermeneutics was being felt. Examples of books include Berger and

Luckmann's (1966) *The Social Construction of Reality*, Natanson's (1963) *Philosophy of the Social Sciences*, Bernstein's (1978) *The Restructuring of Social and Political Theory*, the writings of Alfred Schutz (1962, 1964, 1966, 1970), as well as the (re)discovery of the many books by Kenneth Burke (1961 [1937], 1965 [1935] 1968 [1931], 1969a [1949], 1969b [1950]), and Hugh Duncan (1962, 1968, 1969), that outlined a sociodramatic rather than a mechanistic view of social reality.

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*“Individual and collective anticipation are linked in a dialectical relationship, in the same way as the cognitive, moral and emotional aspects of anticipation are part of a holistic process that should not be reduced and compartmentalized for the sake of (mathematical) convenience.”*

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The current movement for a Science of Anticipation is a direct descendant of these earlier writings and research, though there is a danger that it might be a movement still more under the influence of the traditional mechanistic rather than the humanistic or artistic side of this concept. The word ‘anticipation’ carries a strong emotional and moral connotation, something not well suited to the mathematical and deterministic tendencies of science. Human orientation to the future, as seen in the planning of behavior, includes a sense of seeking something better, carrying with it all of the emotional and moral implications of this term. Without these connotations we are simply talking about forecasting or predicting, not about anticipating. This would seem to imply that we should be talking as much about art as about science.

## 2. Collective Anticipation

In any case, anticipation appears to focus upon the individual process of decision making and acting, with orientation to the future as well as the past. Not very well explored is the question of how individual anticipation leads to collective anticipation and action. This is not a separate issue, of course, because individual and collective anticipation are linked in a dialectical relationship, in the same way as the cognitive, moral and emotional aspects of anticipation are part of a holistic process that should not be reduced and compartmentalized for the sake of (mathematical) convenience. What human anticipation confronts is a fuzzy world (Kosko, 1994) composed of what Epicurus referred to as the necessary structures of nature, the social structures created to survive in that physical world, ‘*l'enfer des autres*’ Hell is other people, as Jean Paul Sartre had described it and, finally, pure chance. This is a quantum world with multiple causes and many random, even contradictory, outcomes (Stamatiadou, 2013). It is a world of inter-subjectivity, as defined by phenomenology or entanglement, as defined by the quantum world view.

We each enter this world with our own anticipations along with ‘others’ and their anticipations, and somehow a structured, though constantly changing social world emerges. This is not a mechanistic world; there are few linear causal relations. There are mutual,

reciprocal causations over time; the individual is ‘causing’ social causations and the social ‘causes’ individual causations in this world. The natural structures are ‘causing’ the social structures and vice versa. It is very difficult for the individual to anticipate the future under such circumstances, which is why both religion and science, to say nothing about politicians, market researchers and even some parents, share a common interest in certainty: a desire to believe that the future can somehow be controlled.

This is also why the literature on the ‘art of anticipation’ is so concerned with the question of ‘leadership’, or how to control others for one’s own purpose, often for economic gain (de Jong, 2015; Hines, 2007; Maher, 2014). In any case, in examining the relationship between individual and collective anticipation, we must emphasize the importance of communication: how the process of communication organizes individual behavior into collective behavior and vice versa. Communication depends upon the specific capability of humans to use symbols, especially language, to organize themselves collectively. It is here that we must seek to understand how the art of individual anticipation leads to collective anticipation. Other species also use communication to organize their social behavior, but human communication is much more evolved than the forms of communication used by other species, which involve primarily the transfer of instinctive information.

Every act of human communication is also an act of persuasion: we seek to persuade others that our understanding of reality is appropriate. Persuasion is, however, not just a cognitive process; it also involves emotion and morality. We seek to persuade others of our view by appealing to their emotions as much, if not more than to their cognition. All politicians, teachers, advertisers, artists, religious leaders, etc. know this very well. And since each of us believes that our own view of reality is the appropriate one, for whatever rational or non-rational (not to be confused with irrational) reason, we are also persuading morally: ours is a good reality, or for those who do not agree with us for whatever reason, a better view of reality than theirs. Thus, we must seek to understand the dialectical transition from individual to collective anticipation and back again as a process of communication, and more specially, persuasion, including all the means of persuasion available, from reasoning to courtship to the use of force.

### 3. Anticipation as a Dialectic Process

I designed the original diagram on the ‘Dialectic of Change’ in the late 1960s as a result of exposure to the many new ideas about social science and social reality that were presented in the books listed above. The diagram was attached to an article (Gutenschwager, 1970), on social change, but was not reproduced, apparently for technical reasons, in the journal at that time. Thus, it had to await the subsequent publication of my book on *Planning and Social Science* (Gutenschwager, 2004), before it could see the light of day. As I attempt to demonstrate in the diagram and as the science of anticipation also seems to imply, the social construction of reality is a dialectic, not a deterministic or even a probabilistic process. This idea has also been present in the writings of scholars from the past, ranging as far back as Heraclitus, for whom everything moved and changed (*Τὰ πάντα ρει*), up to Hegel, Marx, Husserl, and their descendants in the 20<sup>th</sup> century. Also, I am not talking here about the use of the term “dialectic” as rhetorical battles, as used by Plato, but rather something more mechanistic, that is, “interaction”, perhaps ironically one might say, as used by positivist scientists.

Positivist social science attends primarily to the objective reality, or the environmental aspect presented in the diagram. It seeks correlations among documented variables in order to infer causation at this level only. Neither humans nor their anticipations are necessary for their explanations. These efforts have, of course, resulted in many insights, especially with regard to the unanticipated and often unintended consequences of human action, and they have been useful both for understanding social processes at the larger scale, as well as for policy makers who must make decisions about programs and plans at this scale.

However, the tendency for determinism present in positive science often limits understanding of any given social situation because the existing social structure is simply taken for granted, much as the structure of nature is taken for granted in the natural sciences. That is, the thoughts and intentions of the human actors who have, throughout the past, created the present structure are no more considered, at least at the formal level, than the thoughts and actions of those same actors taken into account in the policy and planning recommendations of the scientist-engineers who propose solutions to current problems. The complex socio-psychological theater in which the social world is created simply cannot be captured in a mechanistic framework, a fact that often frustrates the implementation of otherwise valuable social science findings in the real world.

This somewhat rigid, reductionist and mechanistic framework of science is now being modified by movements such as that of the science of anticipation, and, indeed, by a more general search for new paradigms to better understand social processes. Alexander Wendt (2015), for example, seeks to introduce the framework of quantum physics into the social sciences, using the idea of particles and waves as exemplifying the differences between the positivist and the interpretive schools: positivists deal with objective reality, or particles, while the 'interpretivists' or hermeneutics deal with consciousness and meanings or wave actions.

Without a conscious awareness of the quantum framework at the time, I tried to express these ideas in the diagram as a dialectic process that is a continuous and never-ending flow. The contents of the sectors of the diagram represent cuts or snap shots of this wave process, interrupting it by creating the particles that result from attempts to observe it. Cultural, scientific, religious and other forms of consciousness and meanings are 'entangled' with each other in the subjective and intentional or anticipatory portions of the diagram, just as structures are 'entangled' in the objective reality. Attempts to understand this never-ending process always involve a disturbance of the dialectic between particles and waves, leading to the well-known problem of 'uncertainty' that characterizes the eternal search for knowledge. If we add to this the spiritual or invisible realm of the quantum universe and the problem of the collective subconscious with the entanglement of meanings at this level, we can begin to appreciate the full complexities involved in an understanding of the difficult problem of anticipation.

At the same time this can also be seen in other sciences, such as biology (Lewontin & Levins, 1985, 2007; Lipton, 2008; Lovelock & Sahouris, 2000), or in physics (Capra, 1982; McTaggart, 2008 [2001]; Sheldrake, 2011 [1988]), and many, many others.

The factual difficulty of formulating evolution as a process of adapting to preexistent problems is that the organism and the environment are not actually separately determined.

The environment is not a structure imposed on living beings from the outside but is in fact a creation of those beings. The environment is not an autonomous process but a reflection of the biology of the species. Just as there is no organism without an environment, there is no environment without an organism. The construction of environments by species has a number of well-known aspects that need to be incorporated into evolutionary theory. (Lewontin & Levins, 1985, p. 99)

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*“There is a critical need for a new holistic social science embedded in philosophy, a social science that would include simultaneously all aspects of human existence in a non-fragmented way.”*

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Thus, it would appear that we are witnessing a real turning point in the philosophy of science. Consciousness is the new starting point for all of these new approaches. Consciousness and intention (or anticipation) are the keys to this new form of knowledge. Here we are talking about subjective (and intersubjective) reality, or the ‘meaningful aspect’, as well as the ‘intentional aspect’ in the diagram. The accumulated wisdom of psychology and anthropology would seem to be invaluable to understanding reality at this level. Yet, it is more than that. The current study of psychology without economics should be unthinkable, and in addition, economics without psychology and anthropology should be even more unthinkable. There is a critical need for a new holistic social science embedded in philosophy, a social science that would include simultaneously all aspects of human existence in a non-fragmented way, which, unfortunately, has not been the case until now.

Mark Gungor (YouTube) addresses this issue in a very humorous way when comparing the male and the female minds. The male mind, he claims, is divided into separate boxes, one for each subject: one for the car, one for the house, one for work, etc. These boxes may be opened one at a time but never simultaneously. If a different subject is introduced, the original box is carefully returned to its place without touching any of the other boxes. Then the new box is opened to discuss the new subject, and then returned when another subject is raised, and so forth. In some ways this reminds one of the male dominated university system, where the separate disciplines, while housed on the same campus, rarely know about or communicate with each other, or the male dominated medical profession with a high degree of specialization on the various organs and systems in the body!

The female mind, according to Gungor, is totally different. It is a mass of lines, all communicating with each other all the time. It is emotionally charged and with a very good memory for all the things stored there. It is well adapted to multitasking, usually without confusing the various tasks with one another. It reminds somehow of what the quantum universe is described to be. What we are looking for here is a combination of both minds, a ‘golden mean’, as it were. In a world filled with machines, keeping the boxes in some kind of order is absolutely necessary, but, then, seeing the connections among the boxes is also quite necessary.

Riane Eisler (1995) addresses this issue in a more academic way in her book, *The Chalice & the Blade*. As more female archeologists become involved in interpreting the prehistoric past,

the understanding of that past is changing quite dramatically. Where earlier male archeologists found mainly symbols of warriors seeking to dominate everything in their paths, i.e., the blade, female archeologists (as well as some male archeologists) are now finding symbols of cooperation, i.e., the chalice, at least in those cultures before the invasions of herders from the Steppes and from the arid deserts in North Africa made their way into the Middle East and Crete. New archeological discoveries with more balanced interpretations tend to

*“... reveal a long period of peace and prosperity when our social, technological, and cultural evolution moved upward: many thousands of years when all the basic technologies on which civilization is built were developed in societies that were not male dominant, violent, and hierarchic”* (Eisler 1995, p. xvi).

A recent article in the periodical, *Economic Thought* (2014), when speaking about the problem of popularization of economic science declares, “There is, however, a danger. The danger is a descent into oversimplification and caricature”. What could be a better description of economics, itself, a ‘boxed in’ science that reduces complex social and psychological processes, including especially human consciousness and intention, to mechanistic terms, describing this reality with a complex mathematical system and believing that this caricature is somehow an adequate, if not the best possible representation of social reality.

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*“To understand collective consciousness and beliefs requires an understanding of how they are created, socially, psychologically and anthropologically.”*

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Indeed, but when this formulation is imposed upon society through various laws and programs (Polanyi, 2002), to say nothing of the many years of propaganda about its ‘naturalness’ (Sahlins, 2008), we can begin to see how our beliefs about reality actually participate in causing reality to be what it is. This is to be seen not in any mechanistic sense, but in the Heisenbergian sense that we cause reality to be what it is by observing and acting on it within an often reified and mystifying framework that we, ourselves, have created (Gutenschwager, 2015). This is not at all unlike the placebo effect, where people are cured by a sugar pill that they believe to be a new ‘miracle’ drug, an experimental fact that is confirmed for something like a third of the participants in drug trials. When the 10% of nocebo effects, people receiving the actual drug but with no therapeutic effects, is added, one must begin to take seriously the importance of mind-body connections, in medicine as well as in society, that is, in social anticipation.

#### **4. The Art of Collective Anticipation**

In collective anticipation we are talking as much about art as about science. When we are convinced that something is true and then act as if it were true, it tends to become true, hence the emphasis on ‘leadership’, or propaganda, or marketing and advertising. But this is not a deterministic process. Thus, our beliefs do not always ‘cause’ reality to be what we think it is, especially when we do not (yet?) have the means to alter something, say like a rainy day, or when other individuals and groups believe reality to be something different. In other



words, collective or intersubjective beliefs and their reality are not necessarily the same thing as individual beliefs and their reality. Thus, moving from an understanding of individual consciousness and anticipation to collective understanding and anticipation with all of its entanglements is not a simple additive process. To understand collective consciousness and beliefs requires an understanding of how they are created, socially, psychologically and anthropologically. We must engage with processes of socialization and of education or persuasion in the broadest sense, both in children and adults.

For example, the current economic system in the West is now dominated by financial capitalism, that is, of making money by gambling with money and less out of the production and exchange of goods and services. This is the product of over 200 years of socialization and education designed to make it appear natural and good. We anticipate, based on the subjective (moral) belief, reinforced by the idea of the ‘unseen hand’, that all profit-making is essentially good and will lead to the best social circumstances possible. We have been educated to believe that this is true. Of course, this is especially true of economists, who have received the most intensive socialization to believe this. Their status and rewards in society also reinforce this belief system, while the entire structure of data collection and processing appears to further reinforce this on the social scale. The actual definitions of ‘goodness’, i.e., the indices of growth and development, further reinforce this belief. All of these definitions are reified human constructs that have been invented since the end of the 18<sup>th</sup> century to legitimize the rise of the new ruling class of merchants and industrialists, and more recently, bankers and financiers. They have been designed to reinforce the definition of reality created by Adam Smith and his followers. The economic indices are in many respects the placebos of the current social theater.

This is not a claim that there is some evil plot at work here, or that the indices are not measures of the reality that has been created. These are natural human and social processes deriving from the fact that humans are conscious beings, existing also, at least as some claim, in a conscious universe. As conscious beings, we are now slowly becoming aware that the social reality we inhabit is not a mechanistic or deterministic system, though there may well be deterministic phases that result from our inability or unwillingness to be aware of or to reflect upon the implications of our beliefs and actions, and/or to accept the responsibilities that accompany them. Art, especially narrative art and theater, has always been able to put aside the common beliefs of an epoch and to confront them, either by exaggerating them and showing their contradictions and often unintended consequences, or by proposing an alternative reality that would appear (for a time, at least) to overcome these unintended and often unwanted consequences.

## **5. Creating Collective Anticipation**

There are many levels in the process whereby collective (and, hence individual) consciousness and anticipation are created. The first stage is, of course, early socialization. Berger and Luckmann (1966) have described in some detail the processes of socialization and typification that explain how humans create and pass on their socially constructed reality to subsequent generations. These realities are structured to the extent that they create typifications that allow people to anticipate the thoughts and behaviors of those who share the same cultural reality, and thus to interact with them with a large degree of certainty. Each of



us has passed through this stage, though the realities into which we are indoctrinated are not all the same. Indeed, there are multiple collective realities, which are more or less strongly adhered to by people around the globe.

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*“Science, for the most part, uses mathematical symbols based largely on the binary logic of Aristotle: things are or are not, without any grey area in between.”*

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For well over a hundred years anthropologists have been describing and explaining these alternative (cultural) realities that are a product of early socialization processes. They, more than anyone else, have helped us to understand the relativity of cultural reality and the dangers of assuming that everyone is like us (at least for those who are willing to listen to them). Meanwhile, most cultures today continue this socialization process within more or less elaborated educational institutions. Here scientific, historical and philosophical knowledge may expand the understandings that have accumulated over the ages. This helps both to reinforce understanding of one's own culture and often to expand understanding of other cultures as well. In this sense education can be very instrumental in developing a broader sense of reality that would allow anticipation to operate at an even larger scale.

Social science at higher levels of education contributes to this process by examining universal generalizations about human nature and human behavior that are not, theoretically at least, bound by local cultural presuppositions. In some respects, these generalizations are part of a trans-cultural culture, governed by certain ontological and epistemological presuppositions that structure the quest for knowledge. In this sense, science is also socially constructed and is subject to its own paradigmatic revolutions from time to time, as Kuhn has so tellingly described. It is also within this context that the science of anticipation is operating, influenced by the history of science up to this point in time.

## 6. Symbolic Anticipation

Meanwhile, Kenneth Burke and others, including, especially, Hugh Duncan, have proposed a different paradigm, more within the realm of art, for understanding and anticipating human consciousness and behavior. This paradigm incorporates a set of ontological and epistemological presuppositions quite different from conventional social science. Burke defines humans as symbol-using beings, language being the most important of these symbol systems. Thus, humans live in a symbolic universe, always in danger of being alienated from the actual reality which the symbols, themselves, represent. Thus, Burke studied the manner in which symbols are used, both to describe and create different realities. The symbols and their use then give clues as to how best to anticipate the future in any given community of humans. This is particularly true for those in leadership roles, including especially scientists who, today, command the most authoritative symbols in most realms of society.

The ability of symbols to truly represent the reality to which they refer is, of course, of critical importance here. Science, for the most part, uses mathematical symbols based largely

on the binary logic of Aristotle: things are or are not, without any grey area in between. Quantum physics and fuzzy logic are questioning this logic as they seek to incorporate the grey areas between 0 and 1 (Kosko, 1993; Cicourel, 1964). These symbols, especially in the case of economic science as Keynes has observed, may sometimes have only a slight relationship with the reality they seek to describe, in which case they may be used in a more sociodramatic than a scientific sense as a form of mystification, as we shall see below.

Burke proposes key sociodramatic processes that are used in 'adult' education. He emphasizes two ritualistic processes in particular. These are 'mystification' and 'victimage'. Mystification is a ritual that reinforces separation (into hierarchical classes or levels of a society). In mystification rituals incomprehensible language is often used, along with special behaviors, vestments and accoutrements, to separate the experts, now especially scientists, but also teachers, leaders or rulers, from those below them in the social hierarchy. Rites of passage are used to mark the passage from a lower to a higher ranking in the social hierarchy. Victimage, on the other hand, is a ritual of incorporation, accomplished via the actual or metaphorical crucifixion of the symbol of evil, either a person or an idea. The crucifixion serves as a catharsis for the people in the audience, whose potential fear and guilt for similar 'evil' thoughts are cleansed with the sacrifice of someone or something else, thus reincorporating them into the social body.

Another example would be the evolution of painting and architecture over the past several hundred years, as they have sought to communicate something about the prevailing social order. In contrast to those who believe in '*Ars gratia artis*', that the arts and their history refer only to themselves and have little or no relation to the social reality in which they are found, I would suggest that relationships can be found, and that art does indeed communicate something about social reality. This is not to say that art simply reflects social reality; rather it is in a dialectic relationship with that reality: sometimes it supports it, sometimes it opposes it, and sometimes it is merely ambivalent. Painting and architecture in the West during and before the Renaissance, for example, were almost exclusively related to religion. Then they turned to an architecture for, and portraits of, the newly rising bourgeoisie. This cannot be unrelated to the rise of industrial capitalism and the wealth that was accumulated in this rising class of merchants and industrialists. Subsequently, Impressionism withdrew, both stylistically and in the choice of subject matter, from contact with the unpleasant reality that this new social order presented to the world. Many scenes were either painful reminders of the grey living conditions suffered by the new urban dwellers or were bucolic park and pastoral scenes from a recently lost past.

It was not until the art of Social Realism cast a critical eye on modern economic reality, especially during the depression years of the 1930s, that measures were taken to restrict its exposure (Shapiro and Shapiro, 1977). Support was directed to abstract impressionism, whose critical social messages, if any, could not be discerned in the blur of abstract colors that were portrayed on the canvas. The alternative was, of course, the nonsensical portrayal of mundane objects in pop art *à la* Andy Warhol. Art was to be exiled from the real world and artists who took this non-critical stance were richly rewarded for their 'troubles'.

The history of architecture has had a similar though different relationship with social reality. From its close relationship to religion it entered a brief neoclassical period, as it sought to bring a rebirth to the ancient Greek and Roman style. From there it evolved into the

modernist style, which sought to reinforce the values of the new industrial world, devoid of any embellishment or ornamentation. The need for this stylistic change has been explained by Jacques Ellul (1964) in his book *The technological society*. Modern architecture is austere; its form follows its mechanistic function. The engineering apparatus is exposed; its concrete is bare. It follows the demands of industrial production, something which can only be profitable when it is stripped of all embellishment and ornamentation, when it is devoid of all art, except for symmetry, of course, necessary even for engineering, until postmodernism began to question even that.

Postmodern and deconstructionist architecture have sought to ridicule this modern iconography, the first in a comic and the second in a tragic style (Gutenschwager, 1996). They are part of a more general expression of discontent and disenchantment with modernism, insofar as it has been related to an obsession with unlimited economic growth, along with the mechanistic mentality that characterized the 20<sup>th</sup> and early 21<sup>st</sup> centuries. They seek to help us anticipate a new paradigm and a new social world free from the contradictions with which we have been living over the past 200 years or more.

## 7. Victimage as Symbolic Communication

Victimage, as mentioned above, was Burke's other key sociodramatic ritual, one that communicates a different purpose. It is to unify a social group by allowing it to participate in a cathartic experience where a victim or victims are publicly sacrificed so that others in the group can be both intimidated as well as cleansed of any rebellious thoughts that they might have had, thus hopefully re-solidifying the group. There is also the fortunate and purposeful effect that every individual is then relieved of the guilt that they might have had as a result of their own possible anticipated thoughts and actions in opposition to the structure, especially the hierarchical structure of the group. There are obvious and celebrated examples of victimage, though it need not take such extreme forms, of course, since any form of public rebuff or defamation, from the wearing of a dunce cap, to a damning word from a parent, a teacher, a priest or mentor, etc., may all serve the same purpose.

The list of tragic public victims is long and somewhat depressing. They have all been sacrificed for their unconventional ideas, many of which became standard understanding sooner or later after they were victimized. We might begin with Prometheus, who stole fire from the gods, followed by Socrates with his 'demonic' ideas corrupting the youth; Jesus Christ with his belief in love, something inspiring to many, though unfortunately not all Christians over the years; Julius Caesar in a power struggle with his senate; Hypatia, who believed that philosophy should inspire our lives; the poor souls caught in the Spanish Inquisition; or Hester Prynne, forced to wear a scarlet letter around her neck to broadcast her shame, and even Adam and Eve who dared to taste the forbidden fruit, which is perhaps emblematic of all victims who dared to taste the fruit of unacceptable knowledge. The list continues on up to more modern times and includes several American presidents, including Abraham Lincoln, James Garfield and John F. Kennedy, movement leaders such as Martin Luther King and even entertainers such as John Lennon.

Victimage usually results in a tragedy, often resulting from a tragic act or criticism against the current social reality. However, because of the high cost of victimage, to say nothing of its ultimate ineffectiveness in avoiding the long-term changes supported by the victims,

Burke does not support tragedy as a form of symbolic criticism. It places too much emphasis on sin and eternal damnation. He rather supports the idea of the 'comic corrective' in the belief that, rather than sins, what is involved are mistakes, something we are all prone to. Perhaps this is what Christ meant on the cross when he said, "Forgive them, Father, for they know not what they do". Maybe this also might suggest a slogan for the current world of uncertainty, something we should all profess prior to any thoughts or actions: "Forgive us, Father, for we may not know what we do".

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*"Planning could also be a science, with a symbolic status equal to that of classical economics."*

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## 8. Planning as Collective Anticipation

Planners in the public sector are in a most difficult position in today's social systems. The "free" market is supposed to regulate everything and produce the best social outcome. Planners, who attempt to create collective solutions and protect society against the often unintended and usually ignored consequences of this predatory system, are often castigated (symbolically victimized) by proponents of that system. Meanwhile, the free market system is given great symbolic importance by the science of economics, often through the use of mystifying (to many) mathematical models. Thus, planners must often enter a symbolic conflict with that science in their professional efforts.

Several economists and others, who were veterans of the Great Depression and its applications of Keynesian economics, attempted to create a new science of planning in the post WWII era at the University of Chicago. Their effort was to counter the accusations by free market scientists that planning was mere art, usually in the form of architectural design before that time. Their claim was that planning could also be a science, with a symbolic status equal to that of classical economics. That interdisciplinary program lasted only a decade at Chicago, without ever being supported by the economics department at that university. Nevertheless, it spawned a national, indeed, international movement to redefine planning as an interdisciplinary science.

However, in part because that movement has never really understood itself as an important sociodramatic moment in the history of human thought, it has not been able to achieve the status of the economic science of the free market system. This can be seen clearly on the political stage of the western countries at the present time. These countries are struggling to overcome a chronic contradiction in the free market system, which ignores the importance of a necessary equitable distribution of income, in order to maintain some sort of equilibrium between production and consumption. This is not to mention other contradictions pertaining to the entanglement of social, political, psychological and moral issues that are largely ignored by classical economic theory. Nevertheless, planning is rarely mentioned as a solution to these problems.

What a profession of planning must confront is the importance of seeing itself as a part of this sociodramatic struggle. Planners must realize that when they are appointed to a position they must first carry out, for themselves at least, a socio-anthropological study to discover what is the theater they enter. Who are the heroes and villains, both as to ideas and as to protagonists, in that ongoing theatrical production? What are the intentions and purposes

of the important players? What is the symbolic language they themselves must use in order to be accepted as members of the cast? Their success is likely to be as much a product of their sociodramatic acumen as their scientific and professional qualifications. If they are seen as opponents of the existing free market paradigm, for example, they might have great difficulty in accomplishing their efforts to protect society from the contradictions of that system, though this may be changing on today's crisis-ridden scene. In any case, awareness of this artistic dimension of human reality should be a helpful addition to the purely technical and scientific portfolio for the professional planner (Urhammer, 2015).

Essentially, planners working for the public good must see themselves as "Guerillas in the Bureaucracy" (Needham & Needham, 1974), with all the uncertainties that accompany such a role. The chief protagonists in the "Free Market" theater do not tolerate interference with the idealized mechanisms of their imposed reality. But there is an important ally in this struggle: the people who would benefit from the planning. Here planners must insist on developing good relations with these lesser 'protagonists'. They must learn to talk with (not at) and listen (carefully) to the people and help them to participate in the planning effort. That is, they must abandon the role of social engineer, without abandoning their special knowledge and skills, of course, and instead become partners in a fully "participatory planning" effort.

## **9. Conclusion**

Endless other examples from history could be offered to illustrate the manner in which art has played an important role in symbolizing support for or criticism of the existing social order. Working within the entangled or intersubjective consciousness, art has often had the freedom to cast light on the moral implications of that order, and to offer an alternative order if that seemed appropriate. As a result, ruling classes have always sought to control art to the degree possible so as to insure their own position in the social hierarchy. This could also extend to allowing an escape valve for the uncertain or critical members of the society, something which the court jester symbolized in the days of kings and queens, and something which is carried on today with comedians in the mass media. Dissatisfied citizens can, thus, be given a sense of anticipation that something is or would likely be changing.

As with all anticipations, however, they might at any time turn into a consciousness of reality that could no longer be laughed off. These are the moments when widespread movements for change arise and when there is likely to be an increasing use of force to control behavior, as well as consciousness. Not that theatrical performances are missing during these times, usually appealing on a predominantly emotional level to issues of race, culture, nationality, etc. The efforts of religion to dogmatize morality and of science to 'sweep it under the rug', have both proven inadequate to confront the philosophical problems facing every society at every point in history. It is time that we opened our hearts and our minds to the sort of inquiry that philosophy alone can encompass.

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## Bibliography

1. Berger, Peter and Thomas Luckmann (1966), *The Social Construction of Reality*. Garden City, N.Y.: Doubleday & Co
2. Berger, Peter and Pullberg, S. (1966), "Reification and the Sociological Critique of Consciousness," in *New Left Review*, No 35, pp. 56-77
3. Bernstein, Richard J. (1978), *The Restructuring of Social and Political Theory*. Philadelphia, PA: The University of Pennsylvania Press
4. Burke, Kenneth (1961 [1937]), *Attitudes Toward History*. Boston: Beacon Press
5. \_\_\_\_\_ (1968 [1931]), *Counterstatement*. Berkeley and Los Angeles: University of California Press
6. \_\_\_\_\_ (1969a [1945]), *A Grammar of Motives*. Berkeley and Los Angeles: University of California Press
7. \_\_\_\_\_ (1969b [1950]), *A Rhetoric of Motives*. Berkeley and Los Angeles: University of California Press
8. Caplow, Theodore and Reece J. McGee (2001 [1958]), *The Academic Marketplace*. Piscataway, NJ: Transaction Publishers
9. Capra, Fritjof (1982), *The Turning Point; Science, Society, and the Rising Culture*. New York: Simon and Schuster
10. Chomsky, Noam (1988), *Language and the Problem of Knowledge*. Boston, MA: MIT Press
11. Cicourel, Aaron V. (1964), *Method and Measurement in Sociology*. New York: The Free Press
12. de Jong, Rob-Jan (2015), *Anticipate: The Art of Leading by Looking Ahead*. New York: AMACOM Publications
13. Duncan, Hugh D. (1965), *Culture and Democracy: the Struggle for Form in Society and Architecture in the Middle West During the Life and Times of Louis H. Sullivan*. Totowa, N.J.: Bedminster Press
14. \_\_\_\_\_ (1969), *Symbols and Social Theory*. New York: Oxford Univ. Press
15. Easlea, Brian (1973), *Liberation and the Aims of Science: An Essay on Obstacles to the Building of a Beautiful World*. London: Chatto & Windus, Ltd. (Sussex University Press)
16. Eisler, Riane (1995[1987]), *The Chalice and the Blade; Our History, Our Future*. San Francisco: Harper.
17. Ellul, Jacques (1964), *The Technological Society*. New York: Vintage Books
18. Ewen, Stuart (1976), *Captains of Consciousness; Advertising and the Social Roots of the Consumer Culture*. New York: McGraw-Hill
19. Gutenschwager, Gerald (1970), "Social Reality and Social Change", *Social Research*, Vol. 37, No.1 (Spring), pp. 48-70.
20. \_\_\_\_\_ (1996), "Architecture in a Changing World; The New Rhetoric of Form", in *The Journal of Architectural Education*, May, pp. 246-258 (Reprinted in *Ekistics; The Problems and Science of Human Settlements*, Triple Issue, Vol. 65, Nos. 391/392/393, July/Aug.-Sept./Oct.- Nov/Dec. 1998, pp. 262-271)
21. \_\_\_\_\_ (2004), *Planning and Social Science; A Humanistic Approach*. Lanham, MD: University Press of America
22. \_\_\_\_\_ (2013), "From Epicurus to Maslow; Happiness Then and Now and the Place of the Human Being in Social Theory", in *Cadmus*, Vol.1, Issue 6, Part 2, (May), pp. 66-90
23. \_\_\_\_\_ (2015), "Determinism and Reification: The Twin Pillars of the Amoral Society", *Eruditio*, Vol. 2 Issue 1, Part 2 (Nov.), pp. 1-12
24. \_\_\_\_\_ (2017), "Predation, Gender and our Anthropological Oxymoron". Forthcoming
25. Himmelfarb, Gertrude (1995), *The Demoralization of Society; from Victorian Virtues to Modern Values*. New York: Alfred A. Knopf
26. Hines, Andy (2007), *Thinking About the Future: Guidelines for Strategic Foresight. Social Technologies*. London: Flamingo. An Imprint of HarperCollins, Publishers
27. Horgan, John (1996), *The End of Science; Facing the Limits of Knowledge in the Twilight of the Scientific Age*, Reading, MA: Addison-Wesley Publ. Co., Inc.
28. Kuhn, Thomas (1970), *The Structure of Scientific Revolutions*, 2<sup>nd</sup> Edition. Chicago: University of Chicago Press
29. Lane, Robert E. (2000), *The Loss of Happiness in Market Democracies*. New Haven: Yale University Press
30. Lentricchia, Frank (1983), *Criticism and Social Change*. Chicago: University of Chicago Press
31. Lebowitz, Michael A. *The Contradictions of Real Socialism: The Conductor and the Conducted*. New York: Monthly Review Press
32. Lewontin, Richard and Richard Levins (1985), *The Dialectical Biologist*. Boston and London: Harvard University Press
33. \_\_\_\_\_ (2007), *Biology under the Influence; Dialectical Essays on Ecology, Agriculture, and Health*. New York: Monthly Review Press
34. Lipton, Bruce (2008), *The Biology of Belief; Unleashing the Power of Consciousness, Matter & Miracles*. N.Y.: Hay House, Inc.



35. Maher, Michael (2014), 7L: *The Seven Levels of Communication: Go from Relationships to Referrals*. Dallas, TX: Ben Bella Books
36. Mair, Michael, Christian Greiffenhagen and W.W. Sharrock (2015), "Statistical Practice: Putting Society on Display" in *Theory, Culture & Society*, Jan. DOI: 1177/0263276414559058. Sage Publications
37. McTaggart, Lynne (2001), *The Field; The Quest for the Secret Force of the Universe*. London: HarperCollins
38. \_\_\_\_\_ (2007), *The Intention Experiment: Use Your Thoughts to Change the World*. London: HarperCollins
39. Natanson, Maurice, Ed. (1963), *Philosophy of the Social Sciences; A Reader*. New York: Random House
40. Needleman, Martin L. and Carolyn Emerson Needleman (1974), *Guerrillas in the Bureaucracy: the Community Planning Experiment in the United States*. New York, London, Sidney and Toronto: John Wiley & Sons
41. Norgaard, Richard B. (1994), *Development Betrayed; the End of Progress and a Coevolutionary Revisioning of the Future*. London and New York: Routledge
42. Polanyi, Karl (2002[1944]), *The Great Transformation*. Boston: Beacon Press
43. Perkins, John (2004), *Confessions of an Economic Hit Man*. San Francisco, CA.: Berrett-Koehler Publishers, Inc.
44. Quiggin, John (2010), *Zombie Economics: How Dead Ideas Still Walk among Us*. Princeton and Oxford; Princeton University Press
45. Roszak, Theodor (1968), *The Making of a Counterculture: Reflections on the Technocratic Society and Its Youthful Opposition*. Garden City, NY: Doubleday & Co.
46. Sahlins, Marshall (2008), *The Western Illusion of Human Nature: With Reflections on the Long History of Hierarchy, Equality, and the Sublimation of Anarchy in the West, and Comparative Notes on Other Conceptions of the Human Condition*. Chicago: Prickly Paradigm Press
47. Schutz, Alfred (1962), *Collected Papers, Vol. I: The Problem of Social Reality*. Maurice Natanson, Ed. The Hague: Martinus Nijhoff
48. \_\_\_\_\_ (1964), *Collected Papers II: Studies in Social Theory*. Edited and Introduced by Arvid Brodersen. The Hague: Nijhoff
49. \_\_\_\_\_ (1966), *Collected Papers III: Studies in Phenomenology and Philosophy*. Edited by Ilse Schutz, with an introduction by Aaron Gurwitsch. The Hague: Nijhoff
50. Shapiro, David and Cecile (1977), "Abstract Expressionism: The Politics of Apolitical Painting", in Jack Saltzman, ed., *Prospects: An Annual Review of American Cultural Studies*, Vol. 3, pp. 174-214. New York: Burt Franklin
51. Sheldrake, Rupert (2009[1981]), *Morphic Resonance: The Nature of Formative Causation*. Rochester, VT: Park Street Press
52. \_\_\_\_\_ (2011[1988]), *The Presence of the Past; Morphic Resonance and the Habits of Nature*. London: Icon Books, Ltd.
53. Stamatiadou, Maria N. (2013), *Epicurean Logic and Quantum Theory*. Athens: Angelakis Digital (in Greek)
54. Urhammer, Emil (2015), "Divine Belief in Economics at the Beginning of the 21<sup>st</sup> Century", *Real World Economics Review*, Issue No. 73 (11 December), pp. 16-26
55. Wallerstein, Immanuel (2001 [1991]), *Unthinking Social Science: The Limits of Nineteenth-Century Paradigms*. Philadelphia, PA: Temple University Press
56. Wendt, Alexander (2015), *Quantum Mind and Social Science: Unifying Physical and Social Science*. Cambridge University Press



## **Social Power and Stabilization Strategies: A Case Study of Brazilian Troops Deployment in Haiti**

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### **Abstract**

*The actions of gangs in the urban area of Port-au-Prince, capital of Haiti, contributed to political instability and polarization of Haitian society. Both criminalization and the politicization of the gangs were emblematic of the complexity of the scenario where socioeconomic inequalities combined with the absence of government had denied, to large portions of the population, the minimum conditions of life to ensure, among other factors, protection, food, education and health. This crisis has been mediated by actions of the international community. However, there has not been enough consensus on the approach to be adopted, particularly as regards the problem of the gangs. The present study proposes an analytical clipping for description and analysis of the strategies of the Brazilian Army to counter the gangs within the framework of the United Nations Mission for Stabilization in Haiti (MINUSTAH). Such an approach presents actions directed primarily to the area of security. However, as a secondary effect, such initiatives have the impact of promoting civil organizations, civic social actions and other projects of improvement in the living conditions of the Haitian population. As a consequence, the stabilization method adopted by the Brazilian Army has the potential to promote social empowerment.*

### **1. Introduction**

The United Nations commands the second largest contingent of troops in activity in the world, behind only the United States. The United Nations Security Council (UNSC) has on peace missions its principal instrument of direct action in international crises and conflicts. Along with Japan, Brazil is the country that more often has exercised an elective mandate in UNSC<sup>†</sup>. In part, the history of the United Nations is intertwined with the conceptual and operational paradox involving peacekeeping operations (PKO).

However, the dilemma of budget support, the limitations of decision-making process, controlled by the permanent members of the Security Council, and the difficulties inherent in the use of troops and personnel from different countries are varied. Consequently, there is

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† The Security Council consists of 15 members. Five of them are permanent members with veto power (the United States, France, Britain, Russia and the People's Republic of China). The other 10 members are elected by the General Assembly for two-year mandates. Brazil participated as a non-permanent member of the UNSC for the biennia: 1946-1947, 1951-1952, 1954-1955, 1963-1964, 1967-1968, 1988-1989, 1993-1994, 1998-1999, 2004-2005, 2010-2011. <http://www.un.org/en/sc/members/elected.asp>

a great diversity regarding the preparation of troops and technical field personnel. The dissent and consensus built around the PKOs are often discussed and even used in media campaigns that take turns to support or criticize the interventions carried out by the United Nations.

Since the '90s, because of some circumstances and also depending on the interests of countries that control the decision-making process, the UN has tried to expand the scope and the modalities of its intervention. The growing involvement of the UN in internal dilemmas of its member countries has stimulated the construction of a peculiar legal lexicon that justifies and reinforces broad interventions in terms of domestic policy of Member States. These operations have a wide spectrum and, from the experiences of stabilization in Haiti, have integrated the so-called human terrain intervention strategies, using the population as a collaborator of this process which promotes social and political stability through social empowerment.

This process, as identified by Friis (2010), is similar to the doctrine of United Nations peacekeeping to counter insurgency doctrines adopted by NATO members. Although the counter insurgency doctrines identify the need for integrated solutions in terms of security and development nexus, these doctrines tend to be built on the basis of possible risks and threats to internal and international security that countries in crisis can offer. In this sense, such initiatives are essential for security, but make use of development as a vector in security solutions. This is the case revealed by the doctrine of hearts and minds.

The strategies arising from this type of guidance focus on the so-called "stabilization". If, at a given moment in history prior to the terrorist attack on the twin towers in New York, it was possible to discern a global development agenda independent of the issues associated with the maintenance of security in countries and regions ravaged by conflict (related, among other factors, to inequality and poverty), the stabilization actions came to compromise on the notions of development for the domain of security factors.

However, there is no consensual position that delimits the focus and scope of the stabilisation operations. After the terrorist shock of the early 21<sup>st</sup> century, new experiences began, this time within the collective security system of the UN, namely the "*Mission des Nations Unies pour la stabilisation en Haiti*" (MINUSTAH), one of the most notorious and well-known examples.

According to Barakat, Deely and Zyck (2010), stabilization is a process that combines the combat (including counterinsurgency and irregular warfare), the humanitarian aid for reconstruction and/or local development during or as a result of a violent conflict in order to prevent the continuation or recurrence of conflicts or destabilizing levels of non-conflictive violence. These authors put the stabilization agenda from a historical process where there is the assumption that the "assistance for stabilization" oriented by humanitarian or developmental assumptions can mitigate the insecurity, making local populations more likely to support external agents and local authorities with little confidence on the part of these populations.

In other words, stabilisation operations employ strategies that have the objective of winning people's hearts and minds at both local and international levels. The Brazilian participation in MINUSTAH and the performance of Brazil's mission in Haiti are in a wider

strategic and operational context where the old peacekeeping operations gave way to the stabilization operations (STABO).

This is a change in the pattern of use of force in crises along the impoverished populations that has not been well debated according to our strategic qualities. Until then, the Brazilian participation in peacekeeping operations of the United Nations was limited to the transfer of troops, commanding officers, observers and police experts. The experience in Haiti allowed the Brazilian MINUSTAH troops to carry on actions with a view to win people's hearts and minds. It was the first time that doctrines of counter insurgency have been adopted within the framework of peacekeeping operations of the United Nations.

The participation in MINUSTAH was the largest Brazilian military operation abroad since World War II. The potential results of such operations are to broaden the cooperation programmes, the development of political, economic and social sustainability, in addition to access to investment in social services. However, such stabilisation operations are not always well successful in their political and strategic goals, something that often denigrates the image of the actors involved and results in human and material losses to the local people.

With this context in mind, the article aims to analyze the Brazilian engagement in UN peacekeeping missions, notably the coping strategies of urban gangs and paramilitary groups. We ask whether the *modus operandi* of the Brazilian troops in Haiti was decisive for stabilization. We adopt the hypothesis that military action with humanitarian goals is a potential source of social empowerment and the use of military troops to achieve this goal can be effective for local pacification and strengthening of the process of socio-political stability.

According to the Swedish International Development Cooperation Agency (in PETTIT 2013, p.9), "power analysis is a learning process that supports staff, partners and other actors to understand the forms of power that reinforce poverty and marginalization, and identify the positive kinds of power that can be mobilized to fight poverty and inequality. Learning about power can develop our sensitivities and competencies to respond in ways that will shift these relations and empower people to realize their human rights. Lack of power—lack of opportunities, resources and security—is one of the multiple dimensions of poverty. Unequal power relations may also foster social conflict, acute political violence and insecurity. Power is dynamic, so individuals and groups may experience it differently from one moment or place to another. In order to identify opportunities, obstacles and risks for effective poverty reduction, human rights, conflict prevention, peace building and sustainable development it is important to understand how power works, who it benefits and how it can be changed."

In this sense, as an expression of social power, stabilization strategies may have positive consequences for combating poverty and inequality. For this purpose, coordination between the various governments and international organisations engaged in assistance under the UN Security Council attributions is necessary.

The Brazilian troops in Haiti were pioneers in adopting civic social actions with needy populations as an instrument of social empowerment under the United Nations peace missions.

The imposition of peace, even if authorized by the Security Council, is a controversial and an objectionable issue, since peace is an attribute and a conquest of society itself. Thus,

military interventions that incorporate social actions with the scope of local development, although promoted as part of strategic military objectives, are concrete expressions of the effective use of the instruments of social power to promote the stabilisation of a society.

Section 1 of this article contains the methodological description of the empirical approach through the use of official documents of the Brazilian Army, known as final reports of deployment. In section 2 is described briefly the social critical scenario experienced by Haiti where there is evidence of dysfunctional links between the Haitian citizens and institutions and how it favored the emergence of gangs and delinquent behavior. Section 3 deals with the theoretical approach. It is based on the concept of anomie as a macrosociologic explanation of this problem. Section 4 contains the main findings and, lastly, the final considerations are addressed and the main analytical topics are discussed.

## 2. Methodological Aspects

As a main element of empirical approach, particularly with regard to the gang problem, we analyzed official reports of the Brazilian Army. The reports are called “Final Reports of Deployment of the Infantry Battalion of Peacekeeping Force” (FDRIBPKO). These reports describe the performance and results of the actions of the Brazilian military contingents that served in Haiti. It was examined during a 10-year period, between 1 June, 2004 and 4 December, 2014, for a total of 20 military contingents\*.

Through FDRIBPKO reports, all operations of the Brazilian Army in Haiti were registered. It is important to note that the final reports of the 1<sup>st</sup>, 3<sup>rd</sup> and 13<sup>th</sup> to 16<sup>th</sup> contingents have not been made available by the Ministry of Defense. That is, a total of 10 reports cannot be analyzed, which did not bring greater losses for the analysis since the other sixteen reports were obtained and analyzed fully. It should be remembered that after the January 2010 earthquake in Haiti, MINUSTAH had two infantry battalions for peacekeeping force under the Brazilian command, each with their respective final deployment report (FDRIBPKO)†.

In this sense, the reports from 1<sup>st</sup> to 6<sup>th</sup> contingents recorded heavy fighting and crashes, mostly in Haitian regions of *Bel Air*, *Cité Militaire* and *Cité Soleil*. The sense of maintenance and stabilization after the conquest of the land taken by the first military contingents is described by the report of the 7<sup>th</sup> contingent, which reinforces the idea as successful. However, after the January 2010 earthquake, new conditions entered the scenario, but the gang problem persisted. This led to the third operational phase, where the stabilization by means of a military force gave way to actions with preponderance of local forces.

Although an extensive description of all the FDRIBPKO reports is far from our purpose, this explanation reveals the most comprehensive description of the facts and the circumstances the Brazilian troops faced in Haiti. See table 1 for a short list describing the Brazilian UN military contingents.

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\* These reports are confidential and have restricted circulation. Their access was guaranteed by deference of the high command of the Brazilian Army after a year and half of negotiations with military organisations: Ministry of Defense, the Army High Command and Command of Grounded Operations.

† See table 1 for a list of analysed FDRIBPKO reports.

*Table 1 – List of Brazilian UN Military Contingents*

<b>CONTINGENT</b>	<b>PERIOD</b>	<b>FORCE COMMANDERS</b>
2°	2004 December - June 2005	General João Carlos Vilela Morgero
4°	2005 December – June 2006	Colonel Luiz Augusto de Oliveira Santiago
5°	2006 June - December 2006	Colonel Paulo Humberto Cesar de Oliveira
6°	2006 December - June 2007	Not Available
7°	2007 June – 2007 December	Colonel Julio Cesar de Sales
8°	2007 December – June 2008	Colonel Luiz Guilherme Paul Cruz
9°	2008 June - December 2008	Colonel Pedro Antônio Fioravante Silvestre Neto
10°	December 2008 – June 2009	Colonel Fernando Sampaio Costa
11°	July 2009 – January 2010	Colonel João Batista Carvalho Bernardes
12° - BRABATT 1	January 2010 - July 2010	Colonel Otavio Santana do Rêgo Barros
12° – BRABATT 2	January 2010 – July 2010	Colonel Luciano Puchalski
14° – BRABATT 2	February 2011 – September 2011	Colonel Henrique Martins Nolasco Sobrinho
17° – BRABATT 2	December 2012 - April 2013	Colonel Sinval dos Reis Leite
18°	June 2013 - November 2013	Colonel Zenedir da Mota Fontoura
19°	December 2013 – June 2014	Colonel Anísio David de Oliveira Junior
20°	June 2014 - December 2014	Colonel Vinicius Ferreira Martinelli

Source: Our own elaboration from Brazilian Army reports.

Obs: BRABATT 1: Brazilian Infantry Battalion 1.

BRABATT 2: Brazilian Infantry Battalion 2.

According to Bardin (2011), these kind of reports constitute the analytical body, that is, they perform the focal set that should be analyzed. They are based on the rules of completeness (they include all field reports available), the homogeneity (they refer to the object of the present study) and relevance (the documents are suitable as a source of information).

Reading the reports showed that in all the documents there are subdivisions. They are related to staff sections (G-1), intelligence (G-2), operations (G-3), logistics (G-4), command and control (G-6), civil affairs (G-9) and social media (G-10). In general, the main analysis and the reporting of operations have been presented in the sections of intelligence, civil affairs and operations of the reports, but this did not exclude the examination of the report as a whole.

Therefore, taking as reference the coping strategies of the Brazilian troops against Haitian gangs, it was possible to delineate a frequency table with regard to how many times the reports mentioned the adverse forces (for example, gangs and ex-military).

The objective of the military forces in MINUSTAH involved the confrontation of adverse forces, but additionally we linked the many other terms that have appeared. So, the frequency of the terms related to adverse forces was compared with the frequency of appearances of the terms related to humanitarian support. The aim of this comparison was to measure the several actions executed by the Brazilian troops in Haiti. The humanitarian actions were labeled in the FDRIBPKO reports with general names like “civic-social actions”, “civil-military coordination”, “quick impact projects”, “humanitarian aid”, “humanitarian action”, among others.

Strictly, the following terms have been used as indicators of frequency: “adverse force”, “gang”, “ex-military”, “civil affairs”, “humanitarian”, “civic-social actions”, “cooperation/coordination civil-military”, “quick impact project”. In this context, the frequency with which the words “gang” and “ex-military” relativized to the terms that imply humanitarian support appeared in the FDRIBPKO reports and worked as an indicator of the *modus operandi* of the Brazilian troops and the security situation.

The more references related to adverse forces, the more reckless will be the security situation. The greater the emphasis on humanitarian actions, the greater the detachment of the original military function. However, on the other hand, the better the security situation and social empowerment, the better the positive results of military actions against adverse forces carried out by the Brazilian troops of MINUSTAH.

In short, the analysis of the final reports of military contingents helped us identify the Brazilian troops’ *modus operandi* that combined coping actions against gangs and humanitarian actions. Additionally, it was possible to verify the strategic positions of the Brazilian Army about the Haitian scenario and the operational tactics experienced by the troops of MINUSTAH in this context.

The Final Deployment Reports were obtained in digital image format. In order to facilitate textual search, the images were digitally converted into text that can be recognized by the textual search tool from Adobe Acrobat (PDF file). This procedure allowed the textual research of the previously selected frequency indicators in each of the reports. The Adobe Acrobat tool automatically generated the document containing the search results for each of the textual indicators. On these documents there is information on the terms, date and time of the search, and in addition to the indication of the frequency the term appears throughout the document. For example, the term ACISO, Portuguese acronym for civic social action, is quoted 12 times in the report of the 2<sup>nd</sup> Brazilian Contingent. The Adobe Acrobat file indicates pages and sentences in which each term appears throughout the document. The survey was conducted for each of the previously selected frequency indicators.

The PDF documents were used in the creation of two worksheets in MS Office Word containing the composite image of the frequency indicators for each of the employment reports. The first worksheet contains the indicator “mention of adverse forces”. The second worksheet contains the indicator “mention of humanitarian work support”. Each worksheet has four columns. The first and second columns contain the number that shows the sequence

in which each of the indicators was searched in the deployment report. For example, in all the sheets indicators were searched in the following order: The First Worksheet – (1) Opposing Force; (2) Adverse Forces; (3) Gangs; (4) Chimeres; (5) Ex-military; and Second Worksheet – (6) Civil Affairs; (7) the CIV AF; (8) humanitarian; (9) humanitarians; (10) Social Civic Actions; (11) ACISO; (12) Civil-Military Cooperation/Coordination; (13) CIMIC; (14) Quick Impact projects; (15) QIP. The third column refers to the frequency, that is, the number of times the corresponding indicator was repeated. For example, the term “Opposing Force” was repeated six times in the deployment report of the 2<sup>nd</sup> Contingent.

Finally, the fourth column refers to the so-called contextual indicator, which is, “mention of adverse forces” or “mention of humanitarian work support”. This column contains the page and sentence or period in which each indicator appears in the text of the report. For example, the fourth column of the deployment report of the 2<sup>nd</sup> Contingent, in the row corresponding to the term (1) Adverse Force, reveals that on page 12 of the deployment report, the adverse force indicator was quoted in the following context: “coordinated operations involving large numbers and including House-to-House search are those that produce the largest number of prisoners. However, each new operation of this nature the number of detainees decreases by progressive knowledge of our employment form by the opposing force”. The content analysis of the reports allowed the relativization of the indicators related to the use of force, directly associated with “mention to adverse forces”, with the indicators associated with more subtle forms of the use of force, i.e. “mention of humanitarian work support”. Thus, for example, the indicator (1) Adverse Force could be compared and qualified with the indicator (6) Civil Affairs; and so on for each of the indicators.

### 3. Haitian Gangs, Anomie and Deviant Social Behavior

After the description of the methodological and analytical context of the study, we will discuss the problem of Haitian gangs from the concept of anomie. It is important to clarify that the concept of anomie was first employed by the sociologist Emile Durkheim in works published in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries, some of which are “the Division of Social work” and “Suicide”. The sociologist Robert K. Merton in his book *Social Structure and Anomie* worked with the concept of anomie in other social and historical context.

Durkheim’s analysis is useful for understanding the structural and normative roots of the Haitian crisis. On the other hand, the studies of Merton help to understand the dysfunctional links between Haitian citizens and the country’s institutions, and how this social pathology favors the appearance of delinquent behaviour and gangs. Additionally, this discussion helps to identify the so called operating theater and justify the actions of the Brazilian troops. According to our hypothesis, it also highlights social empowerment as a consequence of Brazilian military stabilisation practices with humanitarian objectives. The studies of Athena Kolbe (2013), David Becker (2011), Robert Muggah (2010), Dziedzic and Perito (2008), help us to better understand the Haitian scenario of socio-economic problems as well as the environment of structural crisis.

The history of Haiti, as well as the origins of the structural crisis the country has been experiencing since the unsuccessful democratic transition, are described in two important references: *The Prophet and Power* by Alex Dupuy (2007) and *Haiti: The Aftershocks of*



History by Laurent Dubois (2012). The socio-political experience, the dilemma of the economy and the cooperation and intervention of the international community are elements that are usually attributed to the historical process which, in general, resulted in the Haitian crisis. There are, however, few published references that have built databases about Haitian gangs.

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*“The quest for social stability is best undertaken by initiatives that encourage the society to support actions that aim at socio-political and economic development as a whole.”*

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The economic, political and social problems lead to an insufficient cultural integration and according to Merton (1938), this lack of cultural integration is connected with social upheavals and crime. The mere prospect of individual progress that drives life in societies virtually does not exist in Haitian society due to the lack of opportunities. As a result, there is social instability and pathological behavior on the part of many individuals and their representative bodies.

According to Merton (1938, p. 680-681), there is a correlation between crime and poverty. A consequence of poverty is the limitation of opportunities. Although it is not so simple to explain the causal link between poverty, social exclusion and armed violence in major urban centres in Haiti, as well as in Brazil, an association of these three factors (poverty, social exclusion and violence) is a vicious circle of hard solution. While every form of violence has local repercussions, there are also national factors of Haitian society that enable the use of the concept of anomie as a macrosociological explanation for the problem of the gangs.

Anomie is a social dysfunction that needs to be addressed through encouraging the establishment of social relations well ordered in the sense that, over time, could serve as a basis or help to build institutions that can rise and generally, for social progress. Therefore, the quest for social stability is best undertaken by initiatives that encourage the society to support actions that aim at socio-political and economic development as a whole.

The Haitian democratic transition process initiated in the late 1980s did not consolidate the State structures supporting the wishes and needs of the people. On the contrary, they used to ensure the rules of coexistence in society. Since the fall of the Duvalier dictatorship, various factions of the local elites have been competing for primacy in the management of the State without, however, ensuring that this structure provides legal support and social protection to the citizens.

At the time of the UN intervention in 2004, risk analysis institutes such as the *International Crisis Group* indicated that Haitian society was deeply polarized. The collapse of state authority and state institutions throughout the previous decade gave way to the emergence of violent groups based on social conflicts and political infighting. It also gave rise to gangs, drug dealers and kidnappers. Jointly, violence and the lack of commitment by political elites in organizing a honest structure to oppose chronic poverty, deprivation and social exclusion put the Haitian population at risk.

After a decade since the intervention of the MINUSTAH, despite an improvement in the security situation, the Haitian society challenges still remain: there is a need for social and economic revitalization, solution for the environmental problem, creation of jobs, social services and reliable electoral process. Haiti asks for institutions that provide equal opportunities for social rise and a simple guarantee of rights.

Durkheim (1999, 2000) argues that the absence of “normal” interactions between the institutions of the Haitian State and population over time does not allow the building up of coexistence rules, resulting in deregulation and the consequent state of anomie. Breaking this dysfunctional paradigm is a complex task that depends on the cooperation between the Government and Haitian institutions and the international community.

In this context, the anomie of the security area is a factor of prolonged consequence in the function of the collapse of political order. Without a leadership approved by the population, reform of the Haitian institutions continues to be postponed. According to Dziedzic and Perito (2008, p. 2), even before the January 2010 earthquake, the Haitian judicial system was ruined and with antiquated criminal structures. That is, it was unable to withstand the pressure of the gangs. In addition, the security force in the country, the Haitian National Police (HNP), presented a lack of people and equipment. It was the main focus of the population’s mistrust as a consequence of its legacy of corruption and involvement with the gang problem.

According to Dziedzic and Perito (2008, p. 2), despite their criminal character, the gangs are an inherently political phenomenon. Powerful elites have explored the gangs as instruments of political warfare, providing weapons, funding and protection against the detention. Ideologically linked to social demands of poor Haitians, the government of President Jean-Bertrand Aristide and many of his supporters saw in the gangs the possibility of achieving an armed opposition to the pressure exerted by the ex-military (Haitian armed forces were demobilised throughout the 1990s) and by private security services funded by the economic elites.

According to Muggah (2010, p.-s446 s447), although there are some episodic bouts of violence and a little bit of controversial incidents assigned to MINUSTAH, the security situation shows sensitive improvement, particularly since 2007. Until 2007 there was considerable criticism to the so-called “occupation” of Haiti by MINUSTAH and western governments. This concern has increased after a series of actions carried out in the favelas of the capital searching for fugitives and drug dealers. However, the main emphasis of the peacekeeping operations carried out from 2004 has been the reduction of armed violence in the country. This objective has been pursued by conventional means such as investment in formal law enforcement mechanisms, including judicial, police and penal reform (Muggah, 2010, p.-s446 s447).

In addition to the initiatives to reform the security sector and provision of training and equipment to the Haitian police, the containment of violence has been carried out proactively at the level of communities and neighborhoods through local stabilization activities. These initiatives at the local level have become increasingly prominent in the wake of the so-called “pacification operations” carried out by MINUSTAH peacekeeping forces between 2004 and 2007 in large urban favelas, specifically in *Bel Air*, *Cité Soleil* and *Martissant*.

After a short period of time, it seems that interpersonal violence began to decline substantially, showing security dividends at the local level in terms of the decrease in the number of deaths, robbery and perception of insecurity, as reported by Muggah (2010, p. s447). The perception of improvement in the security situation persisted even after the January 2010 earthquake, as shown by research on the Haitian families in March 2010.

#### 4. Main Results

Since the second deposition of former President Aristide in 2004, Haitian gangs have become poles for political disputes by applying strong pressure on the population based on unlawful means such as kidnapping, rape, arson, robbery and drug trafficking, among other crimes. The instability caused by gangs appears to be an eminently structural problem of Haitian society and as such with implications that do not refer exclusively to the security context, and also to the development of Haitian society.

On the one hand, the social practices of Haitian citizens were unable to erect regulatory standards that ensure peace and social justice because of the state of anomie which contributes to systemic instability of the Haitian Government. On the other, this absence of standards culminates with the establishment of dysfunctional institutions that do not provide instruments for social rise among Haitian citizens, thus contributing to the emergence of behavioral pathologies that challenge existing norms even if it is through delinquency. This perspective shows how the problem of gangs in Haitian society is preeminently structural in an anomalous form. In the absence of governmental bodies, these criminal groups raise public support by promoting means of social rise among their members and social services to underprivileged citizens.

Deployment reports of the Brazilian contingents show how the Brazilian troops sought to break the ties that bound the gangs to the dysfunctional society through actions that combined coercive, forceful means with activities of social and humanitarian impact. While coercive actions fought the terror exercised by the gangs, activities with a social impact promoted means for emergency and humanitarian assistance by MINUSTAH and the Haitian State.

The UN operational doctrine separates clearly the military actions from those being carried out by civilian components, which include humanitarian actions. However, Brazilian counter-strategies added humanitarian and welfare functions to the military actions carried out by the troops. The relevance of the action of the Brazilian troops to the positive results of peacemaking in Haiti can be observed from the analysis of the deployment reports.

The first Brazilian contingent had been prepared to act on the basis of Chapter VI of the UN Charter. However, the worsened security situation, as reported by the UN Secretary General\*, demanded the review of the *modus operandi* of the Brazilian Contingent which started operating based on the Chapter VII doctrine†.

There is no way to determine with accuracy if the operational posture of the troops of MINUSTAH, including Brazilian contingents, relates to the escalation of the situation on the

\* In the report of 18 November 2004 (S/2004/908), Kofi Annan stated that the security situation deteriorated particularly in Port-au-Prince (p. 2). The main threat came from armed groups that challenged and confronted the Transitional Government. The violence was present at the action of ex-military who tried to assume positions of the Haitian National Police (HNP) and the demonstrations in support of former President Aristide, with the construction of barricades and shootings in Port-au-Prince, mostly in the favelas of Bel Air and Cité Soleil, considered strongholds of the supporters of the former President.

† The Chapter VII of the UN Charter is about the adoption of coercive measures for peace enforcement subject to the approval of the Security Council

ground, but it is important to note that the mission task force only reached the desired level and stipulated force after one year of mobilization. From the beginning the Brazilian troops needed to adapt their *modus operandi* to fit the area of responsibility.

According to the General Augusto Heleno, first Commander of the MINUSTAH, the most important contribution from the Brazilian military command to the United Nations peacekeeping doctrine, especially regarding the Chapter VII deployment, was the humanitarian action carried out by the military. These actions have contributed to raising the confidence and solidarity actions by the local population. In other words, they resulted in social empowerment. Despite the fact that these assignments are not traditional tasks of the military, such instruments, considering the absence or impossibility of other instruments operating in crisis situations, are an efficient way to achieve a balance between the peace mission and the local population\*.

The FDRIBPKO showed that this posture on the part of Brazilian troops followed the operational guidance of the Commander of the military force (*force commander*) and humanitarian actions carried out by the Brazilian contingent were performed even with the lack of support of MINUSTAH's civilian command. The employment of troops took place simultaneously in coping with humanitarian work.

According to the Commander of the Brazilian Battalion, the Brazilian experience in humanitarian aid activities working together with military operations was a differentiating factor of the Brazilian contingents. This fact enabled the Brazilians to be better welcomed by the Haitian population (Ministry of Defense, Final Report of Deployment, 4<sup>th</sup> Contingent, 2006, p. 28).

The Brazilian approach to the Haitian case may involve the “Brazilian way” of using the Civil-Military Coordination (CIMIC). The Brazilian way presents a convergence of functions typically performed by civilians exerted by the military, in addition to the strategic design of the mission that includes the protection of civilians and the military objective to raise public support to military operations. As a result, there is a trend in the improvement of the level of protection of the mission, both the civilian and military components and the population itself.

The practice of civic-social action and other humanitarian support work by the Brazilian troops, in the context of UN-CIMIC, moves from the individual application with its own resources to join the broad spectrum of mission. This process does face resistance from military actors, conditioned to perform tasks exclusively military, as well as from the civilian components that act on peace missions which tend to safeguard their roles that in principle would not be associated with strategic objectives. Soon, the initiatives of the Brazilian Battalion in coordinating and seeking support for their actions with the civilian MINUSTAH offices are revealing of the Brazilian practice.

As a result of the safety level reached, the Brazilian troops intensified the CIMIC actions to meet the strategy to “win hearts and minds” of the population in order to obtain the trust and support of the local leaders who were committed to the socioeconomic development of the Haitians (Ministry of Defense, Final Deployment Report, 6<sup>th</sup> Contingent, 2007, p. 24).

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\* General Augusto Heleno Ribeiro Pereira in a lecture entitled “Peace operation in Haiti”, Secretariat of Strategic Affairs (SAE), the Cabinet Institutional Security (GSI) of the Presidency of the Republic (PR), held on 14 October 2005, at the Presidential Palace, Brazil.

The operational success of the Brazilian troops in Haiti can also be attributed to the work of the section of psychological operations whose activities covered both the internal public as well as the Haitian population in the area of operations.

The Brazilian strategies, besides ensuring the improvement of security, assisted in the construction of an international image of the country as “*peacekeeper*”. According to Colonel José Ricardo Vendramin Nunes (2015, p. 6), former Commander of the Center of Joint Peacekeeping Operations of Brazil (CCOPAB), Brazil engaged decisively in Haiti. From the beginning, the country did not just make the biggest military contribution and assume the responsibilities of leadership of the military component. Brazil proposed development projects, led political efforts, emphasized the humanitarian appeal for donations, made diplomatic initiatives by the UN and acted firmly in the non-permanent membership of the UNSC. The reputation of Brazilian solidarity and commitment to international peace was reinforced with justice for more than ten years of MINUSTAH.

It is possible to deduce from the content analysis of the final reports that the forces of MINUSTAH, including Brazilian military contingents, have been successful in ensuring stability in Haiti, despite the critical periods of early mobilization, especially between 2004 and 2007. Thus, analysis of such reports revealed two dynamic achievements in terms of deployment of the Brazilian troops in Haiti. On the one hand, the doctrines of pacification and of law and order guarantee of the Brazilian Army adopted by the Brazilian Contingents have proved to be effective for deployment in UN peace missions, if there were symmetry between the operating environment and the reality to which the troops were prepared. In the absence of a doctrine for action under Chapter VII of the UN Charter, the recourse to domestic doctrine (law and order guarantee), even in the face of the similarities and differences of the Haitian scenario compared to the Brazilian reality, proved to be a wise decision.

On the other hand, the participation in MINUSTAH allowed Brazilian law and order techniques to be improved through the work of the Center of Joint Peacekeeping Operations of Brazil (CCOPAB). This evolution is felt in the way each Final Deployment Report describes the various operational situations, mainly regarding the approach to civil affairs and CIMIC activities. The focus on the analysis of the Brazilian Final Deployment Reports is relevant because the United Nations Secretary General’s Reports on Haiti do not state how decisive the Brazilian practices were for the success of the mission or the relevance of humanitarian actions conducted by military personnel.

One can see, in this context, even for the strategic design and doctrine of the UN troops in Haiti to prevail, in practice, the Brazilian troops have developed operations on the basis of a self *modus operandi* with positive results to the conjunction of the mission. This is not to say that the Brazilian contingent of MINUSTAH does not respond to chains of command. It only shows that operations within the framework of the UN peace missions are sensitive to cultural and doctrinal trends of troop-contributing countries.

In the case of Brazil, in addition to the *force commander* of MINUSTAH, a purposeful stance of Brazilian troops in operational terms is due, among other factors, the country commanded the largest mobilized military contingent in Haiti and Brazilian battalions and is responsible for the most sensitive areas of the Haitian capital.

Content analysis of the Final Reports of Deployment showed that references to counter adverse forces were decreasing over time because of the sensitive improvement of security environment on the ground. In addition, content analysis showed a sharp increase in references to support humanitarian work carried out by the Brazilian troops, even before the January 2010 earthquake, which confirmed the improvement of the security situation.

Theoretically, the actions concerning humanitarian support may represent a deviation from the original military function of the troops. However, in the case of the Brazilian troops, military objectives to be achieved with humanitarian practices show that there is no deviation from the original military function, but rather the systematic deployment of troops with a view to achieving positive results in terms of the so-called “human terrain” (winning of hearts and minds) and the search for social re-empowerment. The use of psychological operations, in this context, is a strong indicator that the use of force by the Brazilian troops under MINUSTAH incorporates subtle elements from the motivational field with a view to promoting a change of attitude in the population regarding gangs and for UN forces to be accepted by the Haitian society.

When the Final Reports of Deployment mention winning hearts and minds as a strategy to drum up support for the Haitian population at activities of Brazilian troops, it can be observed how the contingents have worked for changes in attitudes between conflicting parts. The development of psychological operations was a natural consequence of analysis of the Haitian scene made by Brazilian commanders and an effective strategy to break the power exercised by the gangs and to the promotion of MINUSTAH and the Haitian State institutions.

In the absence of a specific doctrine for action under Chapter VII of the UN, in missions that involve stabilization, the Brazilian troops proposed and made sure that humanitarian actions were performed by the military, backed by the Brazilian doctrine’s operational stance of ensuring law and order and peace.

Based on the doctrine of ensuring law and order, the strategy of the “focal strengths points” was applied, which was key to resuming control from regions within the Haitian slums. In addition, the doctrine of pacification, which serves as the basis for winning hearts and minds, is crucial to the success of the operations, among other things, to guarantee a secure environment, the development of essential services and infrastructure, right attitude and good communication between the members of the military component and the locals where actions are triggered.

This is the first Brazilian experience of use of force at the tactical level in a UN stabilization mission governed mostly by Chapter VII of the UN Charter. The Brazilian operation was not restricted to the transfer of troops and the *force commander*, but it comprised of a broad cooperation in various economic and social sectors, such as agriculture, education and health.

Thus, the approach adopted by the Brazilian troops about the chronic instability scenario in Haiti introduced features that make Brazil a provider of security and development solutions to crises in fragile States with similar characteristics as in Haiti. It is appropriate to point out that the Brazilian practices to counter gangs in Haiti were successful in their operational objectives and contributed to the fact that for the first time in the United Nations’ history one single country has led the military component of a peacekeeping mission for more than 10 years.



## 5. Concluding Remarks

This article has analyzed the counter strategies of Haitian gangs by the Brazilian contingents of MINUSTAH. With this in mind, we analysed the problem of gangs in Haitian society based on the concept of anomie and the operational experience of the Brazilian troops of MINUSTAH. It was possible to deduce from the analysis of the military reports (FDRIBPKO report) that the forces of MINUSTAH, including Brazilian military contingents, have been successful in ensuring stability in Haiti. In this context, the analysis of the FDRIBPKO report of the 20 contingent reveals that most of the activities carried out by the Brazilian troops in Haiti had a humanitarian focus, although in their original conception the humanitarian troops were governed by strategic military objectives.

The analysis of the Final Reports of Deployment (FDRIBPKO) revealed the consolidation of two dynamics of actions in terms of the Brazilian troops in Haiti. On the one hand, the doctrines of pacification and guarantee of law and order adopted by the first Brazilian contingents, have proved to be effective for UN peace missions, if they observe the conformity between the operating environment and reality to which the troops were prepared.

In the absence of a doctrine for actions under Chapter VII of the UN Charter, the expedient to domestic military doctrine (that is, the use of foundation and protocols for self-expertise), even in the face of the similarities and differences of the Haitian scenario compared to the Brazilian reality, proved to be a wise decision. On the other hand, there was an improvement of the Brazilian military techniques. These techniques, operated by the Brazilian Joint Center of Peacekeeping Operations, came to suit the doctrinal reality of United Nations in terms of its peace mission. This evolution is shown in the way each final report of deployment described the various operational situations, mainly regarding the approach to civil affairs and civil-military coordination activities.

Finally, it is important to add that general improvement in the security perception can be reflected in a renewed acceptance of the security forces of the State by the Haitian people. However, should anomie persist, the trend is that Haitian society creates dysfunctional links with its international partners becoming dependent on the actions of MINUSTAH in promoting social order at each electoral period. The instability of the electoral process demands continued attention. However, Brazilian army officers who worked on MINUSTAH until 2014 declared “in informal conversations” that now is the time for withdrawal of UN peacekeeping forces from Haiti.

Such a point of view finds resonance in the policy of the United Nations for Haiti. Since October 2012 the UN has promoted the reduction of the military contingent of MINUSTAH. Between October 2012 and October 2013 the military personnel was reduced from 6,270 to 5,021 men and women agents. On 18<sup>th</sup> March, 2015, the UNSC authorized further reduction of military personnel to 2,370 agents from June 2015.

In general, the process of reduction of the United Nations' military personnel in Haiti shows that the mission as a whole has been successful in ensuring a secure and stable environment and in promoting the strengthening of the institutions in the Haitian State. The activities of the Brazilian troops under MINUSTAH encouraged changes of attitudes in the population with respect to gangs and gave support to the strengthening of the Haitian institutions.



In summary, the strategies developed by the Brazilian military in Haiti contributed to the success of the MINUSTAH. The actions of the Brazilian troops in Haiti were crucial for social stabilization. The Brazilian way of applying military action with humanitarian goals proved to be a way of seeking international help with country specific characteristics. As a secondary effect, this effort has enabled social empowerment through civil-military actions.

Therefore, the content analysis of the Final Deployment Reports of MINUSTAH's Brazilian Contingents was instrumental in analyzing the actions undertaken by the troops. The analytical structure created for review of these reports, using the comparison between thematic indices in conjunction with their respective indicators, proved to be an effective tool. It allowed the extraction of information from the documents appropriated to the elucidation of the problem in the Haitian society.

Future studies could examine the implications of the use of psychological operations in the context of United Nations's peace mission to win the support of local populations. This topic is little explored by the Academy. Certainly, the so-called civil-military coordination (CIMIC) based on Brazilian method applied in Haiti should be better discussed. Perhaps, in the context of the MINUSTAH, an alternative *modus operandi* has been proposed. This process of adaptation between the Brazilian doctrine and the doctrine of the United Nations is a topic that deserves to be discussed.

The Brazilian military involvement with MINUSTAH marks an evolution in Brazilian approach in relation to peacekeeping missions. However, the faith in the traditional moderate use of force, based on the doctrines of domestic work, by the Brazilian troops demonstrated a high degree of impartiality and reluctance to resort to violence in Haiti. Something that analysts like Robert Muggah (2015, p. 14) call the "Brazilian way of peacekeeping".

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#### Bibliography

1. David C Becker. Gangs, "Netwar, and 'Community Counterinsurgency' in Haiti", *Prism* 2 no. 3 (2011): 137-154.
2. BRASIL. Ministry of Defense. Combined Command. Peace Force Brigade in Haiti. Final Deployment Reports 2º to 20º Brazilian Contingents in Haiti, Confidential, Porto Príncipe, Haiti, 2005-2014.
3. Laurent Dubois, *Haiti: the aftershocks of history* (New York: Picador, 2012).
4. Alex Dupuy, *The prophet and power: Jean-Bertrand Aristide, the international community, and Haiti* (Maryland: Rowman & Littlefield Publishers, 2007).
5. Émile Durkheim, *Da divisão do trabalho social* (São Paulo: Martins Fontes, 1999).
6. Émile Durkheim, *O suicídio: estudo de sociologia* (São Paulo: Martins Fontes, 2000).
7. Michael Dziedzic; Robert M Perito, "Haiti: confronting the gangs of Port-au-Prince", *United States Institute of Peace, Special Report* 208 (2008): 1-16.
8. Paulo Roberto Campos Tarrisse Fontoura, *O Brasil e as Operações de Manutenção da Paz das Nações Unidas* (Brasília: Fundação Alexandre Gusmão (FUNAG), 2005).
9. Eduarda Passarelli Hamann, *Brasil e Haiti: reflexões sobre os 10 anos da missão de paz e o futuro da cooperação após 2016* (Rio de Janeiro: Instituto Igarapé, 2015).
10. Athena R Kolbe, "Revisiting Haiti's Gangs and Organized Violence, Humanitarian Action in Situations Other Than War (HASOW)", *Discussion Paper Igarapé* 4 (2013): 1-36.
11. Stephen R Marks, "Durkheim's Theory of Anomie", *American Journal of Sociology* 80, no. 2 (1974): 329-363.
12. Robert K Merton. "Social Structure and Anomie" *American Sociological Review* 3, no. 5 (1938): 672-682.

13. André Luis Novaes Miranda, "O Batalhão Haiti (3º Contingente) na imposição de paz" *PADECEME*, no. 12 (2006): 37-48.
14. Robert Muggah; Keith Krause, "A True Measure of Success? The discourse and Practice of Human Security in Haiti", *The Whitehead Journal of Diplomacy and International Relations* 57, no. 2 (2006): 153-181.
15. Robert Muggah, "The effects of stabilization on humanitarian action in Haiti", *Disasters* 34(S3) (2010): s444-s463.
16. Robert Muggah, "Reflexões sobre a contribuição da MINUSTAH à segurança e estabilidade (2004-2014)", in: Eduarda Passarelli Hamann, *Brasil e Haiti: reflexões sobre os 10 anos da missão de paz e o futuro da cooperação após 2016* (Rio de Janeiro: Instituto Igarapé, 2015), 8-14.
17. Niko Passas; Robert Agnew, *The future of anomie theory* (Boston: Northeastern University Press, 1997).
18. Jetro Pettit, *Social Power: A Practical Guide* (Swedish International Development Cooperation Agency (SIDA), 2013).
19. Alvaro De Souza Pinheiro, "A segurança pública, o Exército Brasileiro e as Operações de Garantia da Lei e da Ordem", Instituto Nacional de Altos Estudos, *Estudos e Pesquisas* no. 322 (2009): 1-7.
20. Arturo C Sotomayor, *The Peace Soldier from the South: From Praetorianism to Peacekeeping*, PhD Dissertation – Columbia University, Graduate School of Arts and Sciences, New York (New York: 2004).
21. Stuart H. Traub; Craig B Little, *Theories of Deviance*, (Illinois: Peacock Publishers, 1999).
22. José Ricardo Vendramin, *Treinamento para o Batalhão Brasileiro desdobrado na MINUSTAH: a consolidação de um modelo* (Centro Conjunto de Operações de Paz do Brasil (CCOPAB): Rio de Janeiro, 2014).
23. José Ricardo Vendramin, "Treinamento para o Batalhão Brasileiro desdobrado na MINUSTAH: a consolidação de um modelo", in: Eduarda Passarelli Hamann, *Brasil e Haiti: reflexões sobre os 10 anos da missão de paz e o futuro da cooperação após 2016* (Rio de Janeiro: Instituto Igarapé, 2015), 16-25.

## **Self-determination versus Techno-economic Determinism: Managing the Cultural Challenge of Techno-economic Determinism**

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### **Abstract**

*A culture organizes social relations in a way that maintains the group's ability to effectively respond to conditions imposed by reality. However, cultural researchers stress that there are macro-level conditions imposed on societies that are beyond their means of effective response in that current macro level techno-economic forces pose a new threat to cultures. Also, the knowledge needed for responding to the challenge could necessarily involve cooperation with the forces that are most responsible for creating the challenging conditions. This article analyzes the impact that the forces of techno-economic determinism impose on cultures and offers a theoretical model for a progressive and sustainable response (i.e. one that supports self-determination and Human Rights). This article contributes to social science research on multi-level social action by pointing out the extent to which environmentalism, sustainability, and climate change have been under-researched as factors effecting future security, conflict, peace-building, and global stability.*

### **1. Introduction**

A culture's worldview has provided the basis for its successfully managing the environmental challenges the society is confronted with (Parsons 2007, p. 421). In fact human existence can be described as an endeavor to organize social relations in a way that maintains cultural integrity in spite of imposed external challenges. However, current macro level techno-economic forces pose a new (man-made) threat to local cultures. Also, the knowledge needed for responding to the challenge necessarily involves deciding whether or not to adapt to the new technological paradigm by cooperating with the forces that are most responsible for creating the conditions or resist (Parsons, 2007, p. 423).

This article analyzes the impact of macro level technological determinism on cultures and offers a theoretical model for a progressive and sustainable response (i.e. one that supports self-determination and Human Rights). This article contributes to social science research on multi-level social action by pointing out the extent to which sustainability has been under-researched as a factor effecting future security, conflict, peace-building, and global stability. It proceeds with section two providing a detailed overview of the challenge imposed on cultures by techno-economic determinism. Section three explains the concept of culture and argues—on the basis of a critical approach to peace research—that tribal-village cultures, in particular, have continuously portrayed the capacity to respond to natural challenges in ways

that maintain a complementary connection between the culture and the forces of existence (i.e. the significance of indigenous knowledge and the value of what is increasingly referred to as ecosophy). Section four introduces the concept of technological determinism and analyzes the challenge it imposes on cultures.

The final section proposes a theoretical model for a progressive response to the dichotomy between self-determination and techno-economic determinism that allows a culture to rise above what seems to be techno-economic determinism. A Critical Theory perspective of the Human Rights concept is used as the basis for proposing a theoretical strategy for establishing a complementary connection between the necessity for the concerted and cooperative collaboration of all global stakeholders in response to environmental challenges and a culture's right to self-determination. In addition the concluding section offers a Constructivist-based contribution to the global society's effort to effectively respond to the micro-level challenges faced by particular cultures. That is to say that the article concludes by proposing a model for a cultural adjustment to the challenges imposed by technology while, at the same time, maintaining the culture's integrity.

## **2. The Challenge Imposed on Indigenous Culture by Techno-Economic Determinism**

Experts on cultural studies have continuously stressed that cultures are challenged by the impact that conditions imposed by the forces of techno-economic determinism have on their right to autonomy and self-determination (e.g. market penetration, increased penetration of information communication technologies, plus environmental and climate change conditions). This has resulted in a discrepancy between autonomy and the *glocalization* that increasingly interconnects the global society by means of an interdependent techno-economic network. In addition, there is the possibility that an appropriate response to the challenges will demand the concerted cooperation of all global stakeholders (e.g. which could necessarily involve dialogue and cooperation with the very forces that are most responsible for creating the technological challenge) (Kavalski, 2007, p. 444; also see Comfort, 2000, pp. 280-286). This article emphasizes the normative value choices that both cultures and the global society have to make in the endeavor to reconcile the tension between technological determinism and self-determination—during a time when forces of the technological age will challenge the culture's right to autonomy and self-determination due to the extent that globalization creates interdependence and the necessity to adopt techno-economic strategies for development.

The title of the article, *Managing the Cultural Challenge of Techno-economic Determinism*, is used to depict the conditions imposed on cultures due to powerful macro-level social, economic, and technological forces. That is to say that given the current techno-economic challenges, societies exist in the midst of an approaching threat of devastation imposed upon their identity and their culture. However, cultures have always existed with the integrity and normative prescriptions that provide the ability to function in a way that enables it to experience a complementary connection between itself and the reality imposed by the surrounding forces (Geertz, 1973, p. 90). The argument is that culture has always been a manifestation of a social group's endeavor to organize social relations in such a way as to maximize the satisfaction the members of the group experience in their social relations and in a way that promotes the flourishing of culture (Durkheim, 1995, p. 17).

The current challenges are different in that they are not imposed by natural forces but are made by human activity. This creates a unique challenge for cultures in that they have to discern not only how to appropriately respond to the forces of nature—in a way that reinforces the complementary connection between the culture and the natural forces that surround the culture—but also to effectively respond to the powerful industrial and technological forces which seem to be most responsible for the challenges thus are most responsible for creating the current reality imposed on cultures.

The Critical Theorist perspective on peace research and Human Rights is used as the framework for analyzing the problem because it provides insight into the connection between globalization and self-determination (e.g. natural rights). That is to say that a Critical Theorist perspective on peace research proclaims that “To achieve ‘peace with nature’ [both locally and globally] human behavior has to be brought back in line with the wholeness of nature, plus increasing hazards and disasters are an expression of the disharmony and lack of peace of humankind with nature” (Spring et al., p. 2014). The Critical Theorist perspective represents a viable framework from which to analyze the dichotomy between the right to self-determination and techno-economic determinism because it represents an interdisciplinary intersection between disciplines that address issues related to conflict reduction and peace-building: e.g. an intersection between international relations, peace research, the social sciences, and international legal philosophy. This article contributes to macro social science research on eco-justice in that it points out the extent to which environmentalism, sustainability, and climate change have been under-researched by international relations scholars (i.e. as a factor effecting future security, conflict, peace-building, and global stability) (see Patomäki, 2001, pp. 723-724; also see Jutila & Väyrynen, 2008, pp. 630-633).

The primary hypothesis is that there are two factors involved in the capability of a culture to adjust to the current macro level techno-economic challenges (i.e. thus a culture’s ability to exercise its right to autonomy and self-determination). The first is the fact that the phenomena that the culture is adapting to represent an integration of internal and external processes that result from cultures necessarily having to adjust to the conditions imposed by the progression of civilization (Firestone et al., 2006, p. 2; Sauer, 1952, pp. 6-14, & Barker 2006, pp. 3-5). In particular is the impact of ever expanding socio-political units, adjusting to the impact of Modernity, and adjusting to the impact of the industrial revolution and its techno-economic forces. The second factor is the proposition that the knowledge needed for successfully responding to the challenge requires dialogue and cooperation with other segments of the larger society and the global community—which could necessarily impel the culture to consider whether or not to make use of technological means for a successful social-economic adjustment (Onuf, 2007, p. xiii).

### **3. A Culture’s Complementary Connection with the Forces of Existence**

The late Talcott Parsons—regarded as one of the most influential thinkers of the 20<sup>th</sup> century (especially in regard to both economics and sociology)—defined culture as an organized and systematic strategy for structuring social relations so as to effectively manage the complicated processes involved in the interchange between its members and the enviroing system(s). That is to say that a culture exists in a state of interpenetration and interchange with processes internal and external to its system (e.g. the culture is embedded in some other

more extensive system(s)). As a result, according to Parsons, a culture is subject to being influenced by phenomena that it did not constitute but phenomena that are able to influence its system—thus the culture can be challenged by the need to establish an effective response to forces that could otherwise threaten the flourishing of the culture. To withstand the forces that could diminish the vitality of the culture a social group institutionalizes normative and structural systems that serve as functional strategies for maintaining *equilibrium* (i.e. the endeavor to maintain a complementary integration between the culture and its environment) (Parsons, 2007, p. 423).

“Equilibrium is a fundamental reference point for analyzing the processes by which a system either comes to terms with the exigencies imposed by a changing environment, without essential change in its own structure, or fails to come to terms and undergoes other processes, such as structural change [and/or] dissolution as a boundary-maintaining system” (Parsons, 2007, p. 426). Parsons explains that given the variability of a system’s relation to its environment the integrity of the culture can only be maintained by means of the culture engaging in goal-orientated (i.e. goal-attainment) behavior. The goal or intended outcome is to reduce the discrepancy between the constraints imposed by the environmental forces and the normative principles of the culture (i.e. the cultural worldview and its principles that determine how to fulfill its material need and realize its intrinsic values). In other words, an effective adaptation to the variability of external environmental constraints demands maintenance of the culture’s social processes, its material and aesthetic artifacts (i.e. material and aesthetic systems), and its boundaries but in a way that is in line with the culture’s endeavor to perpetuate its intrinsic and higher order values.

Emile Durkheim—considered to be the father of the science of sociology—claimed that cultures construct an identity based on their understanding of what constitutes an appropriate relationship with the natural order. Durkheim stressed that there is a complementary affinity displayed between nature and tribal-village cultures that they have maintained. At the elementary stage of cultural development social identity was a reflection of the interconnection that individuals felt they had with each other, the earth/nature, and with existence. In this respect Durkheim was not only proposing a theory regarding what constitutes a culture but “Simultaneously (and in his view necessarily) a theory of how human mentality constitutes itself” (Durkheim, 1995, p. 17). Thus, cultures constitute what they believe to be the fundamental principles that perpetuate a harmonious and beneficial interchange between its members and the environment (i.e. which is the basis of a cultural worldview or the formation of a culture’s collective consciousness). The material productions and normative principles of the culture are constructed means for systematically reenacting the culture’s nature-culture complementarity (Durkheim, 1995, pp. 17-23).

It is in this sense that a culture’s worldview serves as a normative basis for a society’s conception of the principles necessary for promoting its preservation, perpetuating its vitality, and serves as the basis for its flourishing. A culture’s worldview is a conceptualized and constituted means for maintaining cultural processes, for maximizing the culture’s ability to enjoy its social experience (in terms of its social relations, social activities, and its relationship with the natural order). Thus, according to Clifford Geertz, a cultural worldview establishes the tone, quality, and character of a culture’s life, its ethos, and its understanding of the aesthetic qualities necessary for maximizing its enjoyment of life. In short, a cultural

worldview, its normative principles, and its institutionalized systems represent a structured means by which a social group organizes its internal and external processes so as to maintain its vitality, its cultural integrity, regulate its boundaries (i.e. to protect its boundaries), and the means by which the culture is able to perpetuate its existence (Geertz, 1973, p. 90).

Culture in this sense acts as an undergirding force that mediates between the environmental reality and the understanding that people have of how to maintain a proper relationship or connection with their ancestral lands, with each other, and with the cosmic order. In fact, traditional cultures, in particular, and the environment are interwoven in such a way that individual identity, social identity, the understanding of how to respond effectively to the encroaching social, economic, and technological demands of Modernity are all tied to the cultural understanding of the connection between the human world and the natural world. For traditional cultures their sense of identity is closely connected with their environment: a particular geographic space defines the culture's identity and cosmology, its sense of cultural origins, and the notion of well-being is closely connected with the well-being of the natural world. In other words there is believed to be a reciprocal interplay between what decimates the environment and what decimates the harmony of the culture. The people of traditional cultures continue to believe that their future flourishing is based on the effectiveness of their culture's particular normative principles and the adequacy of their cultural perspective for managing inescapable encroaching macro level power forces that are manifest on multi-levels and in multi-dimensions.

In relationship to cosmology both geography and topography are matters that have special meaning for cultures. That is to say that a culture develops in relationship to a particular place and it is the culture that gives the place substance, a unique topography, a special history, and is what gives the place a particular or special meaning. "Place incarnates the experiences and aspirations of a people" (Yi-Fu, 1979, p. 387). It is in this sense that culture also involves protecting boundaries (i.e. protecting how its place is defined and the topography that develops in a particular locale). Boundary protection is necessary because there are forces (natural, human, and factors resulting from the advancement of civilization) that intrude on a culture's space. The human forces intrude for political, economic, and/or ideological reasons but today the intrusion also involves the consequences of technology and globalization.

Equally important is the fact that culture defines how to manage the problem of the maleficent aspect of reality (e.g. things that appear to be in opposition to what is in the best interests of the overall culture and its individual members thus is a disruptive intrusion into the culture). The maleficent aspect of reality can be described as that which threatens the culture in a way that the culture has no conceptual or material resources for managing thus there is no way for the culture to avoid suffering. The maleficent aspects of reality become a threat to a culture when they are experienced as forces that have the potential to seriously disrupt, cause the culture to suffer, or threatens to decimate the culture. The damage to the culture is due to the fact that the culture has not been able to devise a workable set of ethical or normative guides to govern appropriate and effective action in response to the challenge (Geertz, 1973, p. 106). What threatens decimation are those things considered contrary to what the culture believes will maintain its established harmony with its environment thus are also things considered by the culture to upset the natural order (e.g. in some cultures they are things that can be designated as taboo).



In terms of the research of cultural anthropologists the earliest outside factors influencing a culture (i.e. the phenomenon of intrusion) are referred to as contamination (e.g. the most typical initial intrusions were new inventions and technologies like the bow and arrow, the plow, and the windmill but more recently they include trade items such as mobile phones, portable music devices, and the automobile which alter the traditional processes of a culture). However, the cultural contamination resulting from such things as radios, televisions, refrigerators, washing machines, vacuum cleaners, and computers also represent a type of intrusion that involves, on the one hand, the power of developed societies to expand their markets or open new markets by permeating the borders of a culture while, on the other hand, have an effect on a culture that gradually results in techno-economic dependence (Agnew & Duncan, 1989, p. 3).

Cultural knowledge represents a depth of insight that for millennia has been essential for providing the means for effectively integrating human, environmental, and cosmic forces into harmony (Habermas, 1987, 138). In fact, a significant feature of culture is that it represents a peculiar (micro) perspective on how to maintain harmonious and beneficial relationships with macro power dynamics. Without knowledge of how to manage the powerful forces that lie beyond the culture certainly great harm would befall the culture. That means that decimation can be avoided when cultural principles are applied to human interactions and to relationships with the natural order but applied in a particular way that is proven to enable its members to avoid the pitfalls of reality. In terms of what this means in connection with contemporary cultures—given the prospect that large portions of global society will increasingly be challenged by a common disruptive force—the depth of insight available from indigenous knowledge could be an important source for a future *ecosophy* (i.e. ecosophy is defined as the philosophy of ecological harmony or equilibrium).

Ecosophy is “A methodology suggested by the maxim ‘all things hang together’. This has application to and overlaps with the problems in philosophy, the placement of humanity in nature, and the search for new kinds of explanation of this through the use of systems and relational perspectives” (Naess, 1989, p. 36). The proponents of ecosophy propose that individuals exist within a global ecosystem thus within a globally interdependent system; that this is not a simple, but a complex, dynamic, and fluctuating system; plus, that the natural dynamics of the system create change that must be managed by constant self-organizing and Constructivist collaboration. That is to say that successfully adapting to the dynamics of the system requires a Constructivist-based process of dialogue and collaboration in order to generate mutually beneficial and satisfactory outcomes. In this sense the re-conceptualization of the ontological perspective of nature-human relations involves a macro-level shift in perspectives that will have a beneficial impact at the micro-level and, equally important a shift that is in line with micro-level normative and value commitments.

#### **4. Techno-economic Determinism versus the Right to Self-determination**

*“The driving force behind any future international order must be in a belief, however expressed, in the value of individual human beings irrespective of national affinities or allegiance and in a common and mutual obligation to protect their well-being”* (Carr, 1942, p. 44).

The history of human existence is a testimony to the fact that most cultures have created or adopted ways to manage, alter, or exploit their environment to some extent. Of course, the most obvious examples are the adjustments many cultures made from hunting and gathering to the agricultural revolution, later in history to the industrial revolution, and most recently to the technological age. In this respect most (but not all) social systems developed together (i.e. along with technology) a way that the culture believed did fit its adjustment demands, its own notion of value, its cultural worldview, plus its ideas about constructive development and socio-economic progress (this was the case right up to colonialism). If the history of human existence is looked at from the perspective of necessary technological adjustments then social, economic, and environmental conditions have continuously impelled cultures to invent or import new technologies that would provide a means for better coping with reality. In fact, ‘civilization’ became a term for distinguishing societies that had developed or adopted techniques for mastering and transforming nature (as opposed to those who had not thus were considered primitive, savage, and/or barbaric).

“The development of nature and the transformation of the environment [began to be considered] a primordial act, transforming chaos into order, imbuing the environment with human form—a divine-like act to create a new world and a new reality” (Eliade, 1965 10-11). This means that for some cultures technology became the very means by which they believed their social-political systems would flourish and would be able to influence underdeveloped and undeveloped cultures. For other cultures technology is a means of adjusting to the demands of the progression of civilization thus some cultures believe that progress requires assimilating technology into their social systems (in spite of the impact it has on their cultural integrity). However, cultures preferring to remain totally immersed in nature believe that technology threatens such serious disruption of the culture that their response can be described as resisting adapting modern technology even though it induces the risk of annihilation. In this respect technology has created a culture-modernizing dialectic that deserves careful and critical analysis because of the role it potentially plays in “Profoundly modifying [culture and creating a] radical transformation of the environment [that results in altering a culture’s] routine of life” (Mumford, 1955, p. 3).

Critics of Modernity refer to this phenomenon as representing a manner of thinking that conceives of development as an increase in the extent to which a virtual reality replaces what is natural thus the real begins to decrease and what is made as a result of human ingenuity increases. The most radical alterations result when cultures that were completely immersed in nature (i.e. completely dependent on its resources and processes) adapt to progress by becoming increasingly reliant on technological advancements for coping with their internal and external processes. When that happens, “Technique integrates everything. When technique enters into every area of life, including the human, it ceases to be external to man but becomes part of his very substance” (Ellul, 1964, p. 6).

According to Critical Theorist Jürgen Habermas, “The term culture [stands] for the stock of knowledge from which participants in communication supply themselves with interpretations as they come to an understanding about something in the world [and] the term society [is] the legitimate orders through which participants regulate their memberships in social groups and thereby secure solidarity” (Habermas, 1987, p. 138). That is to say that

for Habermas culture is a means by which a social group organizes its life-world in order to effectively maintain equilibrium. In this respect, indigenous knowledge is the basis of a culture's capacity for self-determination in that its normative principles have continuously provided the means by which the culture maintains, perpetuates, and protects its life-world and its cultural boundaries. The normative principles and worldview of a culture is the means by which it is able to withstand the powerful external forces it is confronted with.

*Habermas describes this as a society's process for anchoring a cultural system or, in other words, a strategy for institutionalizing a social group's processes for individual-life-world integration which is what keeps the life-world from falling apart.* Habermas goes on to assert that cultures can be threatened by external forces that have the power to subject the culture to what he calls the colonization of their life-world. The colonization of the life-world seems to subject a culture to the role of being a subsystem of another powerful techno-economic force. Thus, in terms of how the colonization of the life-world applies to the issue of techno-economic determinism versus self-determination, scholars have increasingly recognized and addressed the fact that there are civilizational extension systems (e.g. techno-economic forces) that can create an imperative that "burst the capacity of the life-world they instrumentalize" (Habermas, 1987, p. 155); *According to Habermas, techno-economic reproductions can be a means by which one civilization advances itself by intervening in another culture in order to realize its political and economic aims.*

The difference created between a culture's initial sense of nature-culture complementarity and a culture's understanding what is necessary for adapting to the demands of a technologically advanced means of survival is discussed in cultural literature as the dichotomy between a culture's right to self-determination and the subjection of a culture to demands for modernizing. That is to say that the issue of the cumulative impact that technology has had on cultures could be considered as affecting the freedom and capacity of some cultures to achieve sustainable growth in ways that are aligned with their cultural values, heritage, and worldview (Natarajan & Khoday, 2012, p. 37). The right to self-determination is a general principle of international law and enshrined by a number of charters, treaties, and conventions: e.g. The UN Declaration on the Rights of Indigenous Peoples; The International Convention on Civil and Political Rights; and the International Covenant on Economic, Social, and Cultural Rights. Self-determination is defined as "The legal right of people to decide their own destiny in the international order" (LII, 2015, p. 1). Widespread acknowledgement of the right to self-determination was achieved when the UN drafted the Declaration on the Rights of Indigenous Peoples. For example, Article 1, paragraph 1 of the UN's International Covenant on Economic, Social, and Cultural Rights states that "All peoples have the right of self-determination. By virtue of that right they freely determine their political status and freely pursue their economic and cultural development" (UN, 1976, p. 1).

According to the renowned expert of international relations E. H. Carr, the right to self-determination has persisted as a basic principle shaping relationships between social systems since the time that the classical principles of interstate relations were established because it mediates the tension between three forces that have consistently tended to shape the international order: the nationalistic, mercantile, imperialistic tendencies of political-economic systems; the unifying and or homogenizing trends that accompany enlarging

political-economic systems (i.e. initially the trend toward enlarging regional empires but today the trend toward globalization); and the exclusionary tendencies of traditionalists that resists outside interference as well as consider it a disruption to their cultural integrity) (Carr, 1942, pp. 36-38 & 40-51). In accordance with the conceptual basis for sovereignty self-determination means that a social body has the right to self-rule (an idea that is fundamental to the notion that the individuals of a social unit have the right to self-determination—also defined as the right to sovereignty which should not be interfered with by outside political and economic power forces). Carr described the Post World War II era (i.e. the post-colonial era) as a time when self-determination was conceptualized by frameworks for international relations and international law as an internationally constituted right to sovereignty—a principle which establishes the force undergirding the capacity of a culture to effectively insulate itself from being subjected to the influence of external power forces.

The most significant hindrance to the ability of cultures to enjoy their right to self-determination is directly related to the problem of techno-economic determinism in two respects. First, one aspect of the problem occurs due to the fact that as part of an endeavor to adapt to the strategies for economic development prescribed by the established paradigm for the progression of civilization thus for modernizing many cultures (if not most) have chosen to adopt technologically advanced means for participating in progress although the choice to adopt has meant an increase in the dichotomy between nature and the culture. The second aspect of the problem occurs due to the fact that the progression of civilization has made it increasingly necessary for cultures to integrate their systems into the global network as a result of the notion that, in accordance with the assumptions of Modernity, in order for an undeveloped or underdeveloped culture to become developed it must accept technological transfer (i.e. its infrastructure must be built to provide for technology). Thus, if a culture intends to adapt to environmental challenges and to climate change in a way that is best for maintaining the flourishing of the culture while, at the same time, promoting development, it will be compelled to decide which side of the technological divide it would like to be on—or it must discern how to resolve the dichotomy.

To resolve this dichotomy, the Critical Theorist perspective to peace research proposes a theoretical basis for establishing a global infrastructure for sustainability. The concept is a viable conceptual foundation for international cooperative initiatives in that it coincides with a concerted effort underway by a large number of governments: including signatories to documents of international agreements and treaties on how to manage the environmental and climate change crises; scholars proposing international law as a relevant basis from which to approach climate change; the UN's effort to offset an imposing global crisis by promoting sustainability and an increase in overall Holistic human well-being; plus self-determination as a basic aspect of Human Rights [See Development as Freedom (Sen, 1999)]. This has become necessary because the notion of progress has pushed humanity to the point of being compelled to discern how to resolve the dichotomy between using technology and power to exploit natural resources in order to increase material prosperity (e.g. to the point that it threatens existence) and the realization that our future existence demands a nature-human complementarity by implementing sustainable strategies for social-economic flourishing.

## 5. Resolving the Techno-economic Determinism and Self-determination Dichotomy

*“No problem can be solved from the same level of consciousness that created it.”*

(Einstein, 1946, p. 7).

Cultures are faced with a techno-economic determinism and self-determination dichotomy in two respects: on the one hand is the fact that cultures are faced with an impending challenge imposed by very powerful macro-level forces that not only represent agents that could subject undeveloped and underdeveloped cultures to the developed world's notion of modernizing. That is to say that a culture is subject to forces that can be described as accompanying the established paradigm for progress, development, and modernization that most cultures are adapting. On the other hand, the techno-economic determinism and self-determination dichotomy offers the possibility that the micro-level perspective of culture—regarding the ontological nature of existence (e.g. their notion of nature-human complementarity)—could contribute to resolving the macro-level challenges faced by the global society as a consequence of the assumptions of Modernity. That is to say that increasingly indigenous knowledge is believed to inherently possess values that promote preserving the pristine conditions of the environmental topography and offsetting the threat to the pristine conditions of nature resulting from the impact of techno-industrial alternations of natural conditions. This shift to respect for indigenous knowledge provides a potential perspective from which cultures at various levels can reflect on the normative principles prescribed for maintaining nature-culture harmony. This eco-philosophical ontological perspective would provide the foresight necessary for a practical and workable conceptual model for resolving humanity's current dichotomy between its materialistic pursuits and its higher order values.

This claim is supported by the United Nations and published in their report entitled *Weathering Uncertainty: Traditional Knowledge for Climate Change Assessment and Adaptation*. The report asserts that, “Collaborative research—bringing together indigenous peoples and natural and social scientists—has led to a growing volume of published materials in the scientific literature” (Nakashima, et al. 2012, p. 25). This perspective on knowledge generation increases the realization that indigenous knowledge contains valuable insight on how to combine local knowledge with global scientific models to ensure that adaptation measures are aligned with local needs and priorities. The collaboration between traditional cultures and the global community would be the basis of a model for implementing a global social contract that would serve as a normative basis for constituting the greening of the democratic principle. This model is in line with the democratic principle in that the integrative concept indicates how knowledge can be transformed into the potential power needed for resolving the problems agents are confronted with when the agents engage in a collaborative, Constructivist inquiry to determine how to solve their problems in a way that is found satisfying and beneficial by all participants.

Specialist in global environmental politics and International Political Science Peter Haas, describes such an approach to knowledge generation as a potential new form of power and a new form of power relations that could give birth to usable solutions to one of the world's most pressing problems. Haas refers to knowledge as a type of power that—given the present global challenge and the need for a concerted progressive response—could even have an impact at the highest level of power and such knowledge could exert a type of influence that

impacts policy decisions. In short, he proposes that the Constructivist dialogic process is a means by which knowledge engages power (e.g. the ideological forces, political economic forces, and forces that are clearly impacting the nature-human experience) to create outcomes more beneficial for all global stakeholders “Particularly with regard to the management of complex environmental issues associated with sustainable development” (Haas, 2004, p. 25). Haas believes that generating such knowledge “Requires a reorientation of collective understanding and of formal institutions to focus on the key intersecting and interacting elements of complex problems” (2004, p. 570).

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*“There is a need for a macro-level social science discourse that is inclusive of cultural knowledge as part of its theoretical and methodological scope.”*

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The notion of new forms of power and power relations (e.g. knowledge is power and the claim that knowledge is the most valuable commodity—which is also stressed by descriptions of the contemporary global political economy as the network economy) is the basis of a global social network era conceptualization of the power needed for an integrative approach for managing climate change that is referred to as The Eco-leadership Theory (ELT). The eco-leader is an agent that acts as a knowledge entrepreneur: i.e. is able to discern how to resolve the present tension that exists between the prior industrial era view that progress and development is a matter of increasing material abundance and the new knowledge age paradigm that views progress and development in terms of a Holistic perspective on how to achieve sustainability, establish knowledge networks that collaboratively co-create value outcomes found beneficial for a larger number of stakeholders, and promotes the integration of humanity’s material/economic values with humanity’s higher order values (Wielkiewicz & Stelzner, 2010, pp. 22-23). When cultural agents act as a mediator to generate and disseminate such knowledge the outcome has the power to produce a unique normative viewpoint for promoting complementarity or, in other words, beneficial outcomes in human to human and nature-human interactions. In this sense particular cultures act as knowledge entrepreneurs or act in terms of what proponents of eco-leadership call a knowledge manager to generate collaborative networks that gather, share, and test knowledge regarding the possibility of ubiquitous culture-technology interactions.

Although, on the one hand, cultures exist with conditions created by what is increasingly regarded as an outdated development paradigm, on the other hand, cultures increasingly recognize that the transition to the sustainability paradigm offers a ‘window of opportunity’ to express their model eco-leadership in a way that lends to a solution that could have macro-level impact (Mintrom, 2009, p. 652). In fact, proposing its cultural perspective and values as a solution to macro-level challenges is a necessary opportunity the culture must pursue because of its own predicament. But the predicament that cultures are in is also the factor that motivates it to develop its potential for eco-leadership. This would put each culture in the position of forming proactive responses to their own dilemma that would provide a viable vision for the global future. Proponents of eco-leadership state that there are four characters that must be evident if an agent is to be able to display the capacity to act as an eco-leader:



the agent must have a particular complementary perspective on the ontological nature of existence, have an extremely acute awareness of and sensitivity to the problem, the agent must be in a position to generate knowledge by means of Constructivist collaborative networks, and the agent must display a model for a solution that would be considered operable for other global agents (Mintrom, 2009, p. 654).

In this respect a traditional culture itself would engage other agents and institutional structures in the process of instituting a Constructivist oriented communication network that works to collaboratively transform knowledge into powerful ideational forces and processes for integrating the earth's natural resources to co-create a future where humanity experiences a complementary connection with nature (Pettenger, 2007, pp. 6-7). The literature on eco-leadership describes this type of agent as one who takes on the responsibility of facilitating the integration of micro-level cultural norms, principles, and values with macro-level (international) normative discourses; and facilitate an interactive dialogue between proponents of conceptual models of sustainability (Fogel, 2007, p. 100). By taking on this responsibility the agent also acts to contribute to the Critical Theory perspective on relations between cultures in that the process would illustrate the constraining and constitutive relationship between normativity/valuation and discourse as a factor shaping the construction of global social reality—which has been downplayed in the established global political economy paradigm. That is to say that from the Critical Theorist perspective “Regulative norms constrain actors’ behavior by altering the incentive structures they face; norms [also] affect behavior through learning processes through which the norm becomes fundamental to actors’ identities and interests” (Fogel, 2007, p. 100).

Such possible power-laden and ethical dimensions of normative convergence are often overlooked in research regarding the relations between cultures which results in an unproductive demarcation between the theory and practice of intercultural relations and strategies for addressing one of the most urgent issues confronting the global society (Lahsen, 2007, p. 184; & Never, 2010, p. 2). In spite of the fact that the field of global international relations (i.e. analyzing global social existence), since its inception, has focused on analyzing the factors and forces impacting the global arena (e.g. especially in terms of what contributes to peace, conflict, and security) the restrictions of the field's established theoretical and methodological paradigm did not allow for analyzing the impact of climate change and the role that the environmental crisis plays in shaping interstate relations and global normative relations. However, this article argues that because the environmental challenge and climate change are now central to the international political agenda as well as that of global political economy there is a need for a macro-level social science discourse that is inclusive of cultural knowledge as part of its theoretical and methodological scope.

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### **Bibliography**

1. Agnew, John. & Duncan, James. (1989). *The Power of Place*. (Agnew, John. & Duncan, James. Edits.). Boston: Unwin Hyman Inc, 3.
2. Barker, Graeme. (2006). *The Agricultural Revolution in Prehistory: Why did Foragers become Farmers?* Oxford, UK: Oxford University Press.
3. Carr, Edward. (1942). *Conditions of Peace*. London: MacMillan and Company, Ltd, 44.



4. Comfort, Louise. (2000). Disaster: Agent of diplomacy or change in international affairs? *Cambridge Review of International Affairs*. Volume 14, Issue 1, 280-286.
5. Durkheim, Emile. (1995). *The Elementary Forms of Religious Life*. (Fields, Karen. Trans.) New York: The Free Press.
6. Einstein, Albert. 1946. *The Real Problem is in the Hearts of Men*. *New York Times*, 7.
7. Eliade, Mircea. (1965). *The Myth of the Eternal Return: Cosmos and History*. New York: Pantheon Books.
8. Ellul, Jacques. (1964). *The Technological Society*. Toronto, Canada: Random House of Canada Limited, 6.
9. Fogel, Cathleen. (2007). Constructing Progressive Climate Change Norms: The US in the Early 2000's. *The Social Construction of Climate Change: Power, Knowledge, Norms*, Geertz, Clifford. (1973). *The Interpretation of Culture*. New York: Basic Books Inc, 90.
10. Habermas, Jürgen. (1987). *The Theory of Communicative Action (volume II)*. (McCarthy, Thomas. Trans.). Boston, Massachusetts: Beacon Press, 138.
11. Hass, Peter. (2004). When does power listen to truth? A constructivist approach to the policy process. *Journal of European Public Policy*. Volume 11, Issue 4, 569-592.
12. Jutila, M. Pehkonen, S. & Väyrynen, T. (2008). Resuscitating a Discipline. *Peace Research. Millennium: Journal of International Studies*. Vol. 36, No. 3, 623-640.
13. Kavalski, Emilian. (2007). The fifth debate and the emergence of complex international relations theory: notes on the application of complexity theory to the study of international life.' *Cambridge Review of International Affairs* Volume 20, Issue 3, 435-454.
14. LII (Legal Information Institute). (2015). Self-determination (International Law). Cornell, New York: *Cornell University Law School*, 1.
15. Lahsen, Myanna. (2007). Trust Through Participation? Problems of knowledge in Climate Decision Making. *The Social Construction of Climate Change*. (Pettenger, Mary. Edit.). Hampshire, England: Ashgate Publishing Limited.
16. Lyngdoh, Mary. (1991). *The Festivals in the History and Culture of the Khasi*. New Delhi: Vikas Publishing House.
17. Mawlong, Banshaikupar. (2015). *Environment-Cultural Interaction and the Tribes of North-East India*. (Mawlong, Banshaikupar. & Mitri, Marco. Edits.). Newcastle upon Tyne, UK: Cambridge Scholars Publishing.
18. Mintrom, M. & Norman, P. (2009). Policy Entrepreneurship and Policy Change. *Policy Studies Journal* 37, 649-667.
19. Mumford, Lewis. (1955). *Techniques and Civilization*. London: Routledge and Keagan Paul Ltd, 3.
20. Naess, Arne. (1989). *Ecology, Community and Lifestyle: Outline of an Ecosophy*, Cambridge, UK: Cambridge University Press.
21. Nakashima, D.J., Galloway McLean, K., Thulstrup, H.D., Ramos Castillo, A. and Rubis, J.T. (2012). *Weathering Uncertainty: Traditional Knowledge for Climate Change Assessment and Adaptation*. Paris, UNESCO, and Darwin, UNU, 25.
22. Natarajan, Usha. & Khoday, Kishan. (2012). Sustainable Development as Freedom: on the Nature of International Law and Human Development. *The Global Community Yearbook of International Law and Jurisprudence 2010*. (Capaldo, Giuliana. Edit.). New York: Oxford University Press.
23. Never, Babette. (2010). Regional Power Shifts and Climate Knowledge Systems: *GIGA Research Programme: Power, Norms and Governance in International Relations*. Hamburg, Germany: German Institute of Global and Area Studies.
24. Onuf, Nicholas. (2007). *The Social Construction of Climate Change*. (Pettenger, Mary. Edit.). Hampshire, England: Ashgate Publishing Limited.
25. Parsons, Talcott. (2007). An Outline of the Social System. *Classical Sociological Theory*. (Calhoun, Craig. Gerteis, Joseph. Moody, James. Pfaff, Steven. & Virk, & Indermohan. Edits.). Malden, Massachusetts: Blackwell Publishing Ltd.
26. Patomäki, Heikki. (2001). The Challenge of Critical Theories: Peace Research at the Start of the New Century. *Journal of Peace Research*. Volume 38, number 6, 723-738.
27. Pettenger, Mary. (2007). *The Social Construction of Climate Change: Power, Knowledge, Norms, Discourses*. (Pettenger, Mary. Edit.). Hampshire, England: Ashgate Publishing Limited.
28. Sauer, Carl. (1952). *Agricultural Origins and Dispersals*. New York: The American Geographical Society.
29. Sen, Amartya. (1999). *Development as Freedom*. New York: Random House.
30. Spring, Ursula. Tidball, Keith. & Brauch, Hans. (2014). *Expanding Peace Ecology: Peace, Security, Sustainability, Equity and Gender*. (Spring, Ursula. Tidball, Keith. & Brauch, Hans. Edits.). New York: Springer Publishing.
31. Syiemlieh, Magdalyn. & Nonglait, Naomi. (2015). Ecology and Spirituality: Eco-Theology of the Khasis. *Environment-Cultural Interaction and the Tribes of North-East India*. (Mawlong, Banshaikupar. & Mitri, Marco. Edits.). Newcastle upon Tyne, UK: Cambridge Scholars Publishing.
32. UN. (1976). International Covenant on Economic, Social and Cultural Rights. Geneva, Switzerland: *Office of the United Nations High Commissioner for Human Rights*, article 1, paragraph 1.
33. Wielkiewicz, Richard. & Stelzner, Stephen. (2010). An Ecological Perspective on Leadership Theory, Research and Practice. *Leadership for Environmental Sustainability*. Redekop, Benjamin. Edit.). New York: Routledge.
34. Yi-Fu, Tuan. (1979). Space and Place: Humanistic Perspective. *Philosophy in Geography*. (Gale, Stephen. & Olsson, Gunnar. Edits.). Dordrecht, Holland: Published by D. Reidel Publishing Company.

# Inspirational Thinking: A Manifesto

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## Abstract

*We now face a Global Paradox. The internet has increased human abilities to global proportions, while at the same time our life systems, such as government, security, finance, and education, are extremely challenged. These systems seem to have lost their power and relevance in the face of newly created reality. Living in a global system requires a new way of thinking—Inspirational Thinking. This manifesto will enable us to apply the understandings and actions of the present from an understanding of the future, not by a negation of the past but by learning from it.*

## 1. The Global Giant – A Realistic Metaphor

The beginning of the 21<sup>st</sup> century will most likely be remembered as a period in history in which humanity entered its Global Era. A metaphoric description of the unfolding of events could be described as the virtual web passing from the initial stages of pregnancy of the 20<sup>th</sup> century to the formation of a new global figure at the start of the 21<sup>st</sup> century. The cells comprising the newly formed global figure are the people who have connected to the internet, and so became Global People.

Google\* was established in 1998, and has developed a powerful search engine that serves as the 'brain' of the newly created human life form. A digital brain that aims to supply every global person with the knowledge they need to run their lives. The digital brain enables every global person access to infinite information. Currently some 2 billion users a month find their way in the digital world using Google searches.<sup>†</sup> As a result, humanity finds itself at the dawn of the century in a reality in which information has no barriers or limits. Knowledge and information are accessible to everyone in a way they never were before.

The Global Giant's heart is also developing in parallel with its brain. Facebook<sup>‡</sup>, the "mother of social networks", was established in 2004 and now links over one billion users. This generates the possibility of a new form of interpersonal communication. Social networks—Facebook and its subsidiaries, Instagram and WhatsApp—serve as the emotional engine of the new reality. Social networks act to transform the personal human emotional experience into a joint network experience. The heart of the Global Giant beats through social networks, generating the Global Person's human, emotional connections. This huge

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\* Larry Page and Sergey Brin created Google in 1998 while they were both studying at Stanford University. It became a public company in 2004.

<sup>†</sup> Guy Rolnik, The Marker, "We are like laboratory mice: the great danger of Internet Monsters", September 29, 2017, <https://www.themarker.com/mark-erweek/1.4475318> (Hebrew)

<sup>‡</sup> Facebook was founded by Mark Zuckerberg, Eduardo Saverin, Andrew McCollum, Dustin Moskovitz and Chris Hughes while they were students at Harvard College on February 4, 2004.

heart generates an emotional human experience in an open human system enabled through an infinite network connection.

The digestive system, or, more precisely, the Global Giant's feeding frenzy, is ably represented by Amazon, established in 1994, and its Chinese counterpart, Alibaba, established in 1999. The digestive system fulfills its physical needs: a never-ending abundance of products, online here and now, with direct distribution. The 'digestive system' allows the Global Person to go on a global shopping spree—in his or her slippers.

The brain, heart and digestive system act in the virtual sphere and serve as the basis through which the new global figure is formed. This metaphorically describes what happened to us in the beginning of the 21<sup>st</sup> century.

According to this description, global humanity—humanity connected through virtual networks—can be considered the new Global Being that is being created. This human entity is forming, developing sinews and skin through additional network configurations such as appliance networks, energy networks and so on. At the start of this new century we find ourselves individually empowered by networks yet being simultaneously increasingly dependent on the developing virtual reality.

**The Global Giant began taking its first steps in 2011.** These steps left an impression in the shape of the Arab Spring that swept through the Arab world just as social protests swept through the Western world. These were the clumsy steps of a huge figure being operated through social networks—human force challenging the old social order while not yet ready to generate new ones. An anti-thesis without a thesis. The Global Giant continues to march along the 21<sup>st</sup> century, rocking the world with its forceful footfalls. While marching, it challenges traditional human social orders, the social orders that generated the modern world throughout the 20<sup>th</sup> century.

Some two decades into the 21<sup>st</sup> century, it seems that humanity has hit an existential 'glass ceiling'. This glass ceiling expresses a challenge in which the old reality and traditional social orders are no longer relevant, yet we are unable to generate social orders for the new reality of life. The Global Giant exists and is walking around in the reality of our lives, a giant who threatens all the old systems. The closed life systems—local systems that enabled nations and civilians to flourish within them—find themselves helpless in the face of this global force. In contrast, the Global Giant is ambling around in the new life sphere created by a power-drunk humanity, yet without inspiration or direction. It flings existential threats in all directions while simultaneously spreading virtual illusions that generate thrills and experiences.

The Global Giant threatens us with global terror, threatens our jobs with smart machines, threatens systems of governance and society through human networks, and threatens the economy by formulating a virtual economy alternative to traditional economy. Despite this undermined reality, humanity is completely absorbed in the breathtaking virtual illusions. As a result, it is busy developing more and more spectacular applications and in parallel more and more cyber protections to safeguard this newly created paradise. Humanity is focusing on technological development and ignoring the fact that it has lost its way. Will it succeed in breaking through the glass ceiling? Will it be able to generate new social orders, ones that

will provide its amplified ability with a positive expression? Will we succeed in marching the Global Giant towards a new human horizon, an empowering and inspirational horizon?

## 2. Era of the Global Person – A Reality Check

Over the past three decades we have been experiencing the creation of a new human era—the Global Era. Two cumulative criteria generate a new era in human existence. The first is an essential change in the reality of our lives—a **digital technological revolution**. The second change is a fundamental change within us—a **change in humanity itself**. A change stemming from the reality of global networks to which we are all connected through the internet.

The first change in our reality can be summed up by saying that the humanity that existed in one tangible world throughout its existence has, over the past few years, created a new reality of life. Humanity has developed a parallel world, a virtual world that ‘exists’, is ‘significant’, ‘powerful’ and even ‘threatening’. Social networks affect all our lives and we all have some presence in the virtual world even if we are not active on social networks.

The second significant change is the change that refers to the empowerment process we have all gone through—we have become Global People. The Global Person is empowered with three leadership powers, powers that in the not too distant past and throughout human history were held only by authorized people and entities. The first power is **the power to act in global finance**—access to international markets. This ability, which used to be in the hands of business people, leaders and states, is now open to all. Every person connected to the internet can buy and sell throughout the world. The second leadership power is **access to information**. Today we all have access to infinite knowledge through the internet. Information that used to be classified for authorized personnel only, such as security, financial and professional medical information, is now available to everyone. The third leadership power is **the ability to turn to the masses**, share with them and even call them to action through social networks. This integrated reality serves as the basis for the new period of humanity we live in—**Humanity’s Global Era**.\*

**The new human power opens up a new human horizon.** On the one hand, we are awed by the speed at which the environment we live in has changed. We are currently enjoying abilities that essentially changed our lives due the world of computers which has infiltrated all layers of human existence. Yet in parallel, even in this embryonic stage, we must know that the new human power we are experiencing, the summit we have reached, is the watershed. On the one hand a powerful, spectacular and new human horizon opens before us, a global horizon. At the same time, on the other side, a chasm yawns. A chasm caused by the gulf between the new reality and humanity’s lack of preparedness for this reality. The more technology advances, the deeper this gulf grows.

To illustrate this chasm, it is enough to scan a number of concrete questions posed to us by the new reality. Questions that awaken us to recognition that despite the technological reality that generates a new human power, the personal feeling most prevalent at the start of the 21<sup>st</sup> century is one of instability.

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\* Further details can be found in my book, *Humanity’s Global Era – Dual Paradigm Change*, by Shlomo Yishai, English edition: 2015, Humanity’s Global Era Research Center.

### 3. Challenged Systems

It is important to note that the purpose of this survey is to open the 21<sup>st</sup> century's range of human challenges. Each of these challenges, and many others not mentioned here, compels us to develop creative solutions based on in-depth research.

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*“The developing Blockchain technologies generate the possibility of creating a global financial system—a reliable financial system active in virtual reality.”*

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- **Democratic Systems of Government** – the democratic systems of government that were the source of the previous century's prosperity and progress find themselves in a growing sense that ‘something is just not working...’. The feeling is that the central government is working less and less for benefit of the private citizens who elected it, preferring instead the benefit of those with financial power who activate the central government through lobbyists. The social networks expose the ‘behind the scenes’ of government working to everyone, and so deepen citizens’ distrust of elected officials.

One significant result of this accumulated distrust is that unexpected leadership grabs hold of the world's helm by democratic means. The common trait of leadership change processes in many democratic states is that the ‘new’ leader is not part of the ‘old’ institute. The democratic selection of a new leader in these instances is an expression of anger and despair at the old institutions and not a vote of confidence in the untried and unknown new leader. Many times the new leader's leadership pattern remains one of **Antithesis Leadership**—leadership incapable of becoming a viable thesis—even when he or she comes to power.

Another leadership strategy that we experience at a time of leadership drought is the strategy of fear. Many leaders base their continued leadership on opposition—to a rival or an enemy, either real or imagined. In this way we find that fear is a dominant feeling among the ‘leadership guard’ throughout the world. The sense of fear and lack of stability that is played up by central leadership encounter a reality of a steadily increasing lack of personal safety. Fear stemming from the new reality and its consequences in the transition stage, as we shall see further on.

- **Security Systems** – the cyber terror threatening national infrastructures poses a strategic threat to states. Back in 2013, James Clapper, former director of American National Intelligence, announced in a speech to Congress that the greatest threat to American security stemmed from computer cyber terror. Nowadays, it is clear that the **World Wide Web** serves as a basis for enabling the forceful emergence of terror and crime nets, both on the open internet and on the **Dark Net**, found deep in the internet.

These phenomena sow fear in general consciousness and challenge the world's security systems. The consciousness of terror, such as the ISIS consciousness, manages to recruit supporters and even call them to action through the internet, particularly through the

social networks. Terrorist entities acting in the global virtual sphere manage to weave a web of terror and fear across the world using the internet.

- **Economy** – economic divides, the cost of living and uncertain employment horizons are symptoms of an unbalanced capitalist system. We must develop new financial phenomena in conjunction with this undermined financial reality through the technology available to everyone. The accelerated development process of the virtual sphere is generating changes at a previously unknown force and pace. Here are a few examples that illustrate this reality.
  - **Challenge to industry and financial firms** – In 1997 Prof. C. Christensen published his book, *The Innovator's Dilemma*, in which he identified a phenomenon that gained ground the more the global digital revolution advanced. He called this phenomenon 'Disruptive Innovation', meaning, a phenomenon in which the development of technological innovation or of an internet application brought about the termination of an economic means of support. The book's subtitle reads, "When new technologies cause great firms to fail"—an anxiety prevalent in today's financial world. The fear that the development of one application will make the work of hundreds and thousands of people redundant. Examples of this are applications such as Uber\* and Airbnb†, which—with the launching of one application—generated a reality that upset long-standing financial activities.
  - **Challenges to financial policy institutions** – other continuously developing network abilities also threaten financial institutions and traditional financial methods of acting. The developing Blockchain technologies generate the possibility of creating a global financial system—a reliable financial system active in virtual reality. For instance, a technology that enables creating an internet, supra-state virtual currency such as the Bitcoin. The existence of virtual currencies allows financial configurations in which many functions needed for traditional economies are made redundant.
  - **Challenge to the individual citizen** – we can see 'smart machines' developing in the near future that are destined to replace millions of workers in the foreseeable future. Meaning that in addition to undermining traditional financial institutions and companies that will suffer from a global economy—the shockwaves of which will directly and immediately injure the individual—the individual's workplace is under an immediate existential threat.
  - **Cyber Giants** – supra-state financial powers which challenge society as a whole. The immense financial power and concentration of data found in the hands of very few, the Cyber Giants, is a disruptive phenomenon both for traditional institutions and for each one of us. These giants hold the means for monitoring and control through the Big Data they have. Power held by people who were not democratically elected. Power that serves the organization they work in. The cyber giants are built to grow based on a 'winner takes all' strategy. A very small number of cyber giants, such as Google and Facebook, are in the process of overtaking the entire virtual territorial sphere. The forceful way in which they grow enables them to take over every innovative application and new technology, turning them into sole rulers of the new reality.

\* Uber is an application that enables all car owners to drive passengers for pay and undermines the need for professional taxi services.

† Airbnb is an application that enables private rental of apartments to occasional tourists and undermines the traditional hotel system.



This raises fears of an unknown financial future, a fear that can reach existential levels.

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*“The education system currently finds itself essentially flummoxed by the inability to meet the basic challenge it is facing, namely—the practical and moral obligation to prepare children for the challenges of the future.”*

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- **Education** – the educational system is also in flux as the need for change cries out. The overall feeling is that schools are old and irrelevant for the new reality. The first generation of the Global People’s children is growing up in a reality of dramatic changes and yet are being educated based on Industrial Revolution educational approaches. The reality of information flooding and social network challenges demands a new educational configuration. The education system currently finds itself essentially flummoxed by the inability to meet the basic challenge it is facing, namely—**the practical and moral obligation to prepare children for the challenges of the future.**

We must keep in mind that by 2050 these children, who are currently in the education system, will be running the world... We must ask ourselves—are we being given an education system that is preparing the leadership of the future? We are living in a reality that calls upon the educational system to reinvent itself.

- **Society and Culture** – social networks are a new public sphere that lacks a moral code. This reality generates, among other things, extreme phenomena that require a solution at the individual and national levels. The behavioral and moral code of behavior in our modern public sphere was formulated in a long, cumulative process extending throughout human history. On entering the virtual sphere we discover ourselves in a sphere lacking any moral code. ‘Shaming’ is used as an efficient ‘disinfectant’ in the social networks yet often acts as a disinfectant of poisonous proportions that injuries inflicted on the ‘shamed’ person can reach terminal levels.

Additional cultural consequences stemming from this powerful yet inspiration-less reality are –

- **Time is ruled by the Present** – Time, a basic existential dimension in a person’s life, has become flat and shallow—**the present has almost become the sole dimension of time in our existential experience.** To a great extent it is true to say that we have lost our past and mainly our responsibility for the future. Responsibility for the future existed throughout human existence, serving as a central part of the human developmental approach.

This can be illustrated by the following, well known example. In the past, the previous century, when people stood before a camera to immortalize an important moment of their life, it was so that they would be able to re-experience that very significant moment in future. Nowadays, we post a Selfie to the social networks so that we can experience the present in the present. This is not to say that posting a Selfie on social



networks is bad, the point is only to illustrate an essential change in humanity. A change which shows humanity is busy with thrills in the present, and neglecting its responsibility for the continuity of time. Digital photography has become the chief mediator of present-time reality, a reality in which people constantly photograph everything and post the picture for mass sharing. This reality indicates a deep cultural change in human essence.

The new human time dimension is one in which the current ‘duration’ is the ‘present time’ and more and more ‘present time’, compared to the way humanity historically viewed time. The concept of time held by humanity since its inception was based on the understanding that the present we live in instantly becomes the past of the future we expect to experience. The present is important because it affects our lives just as the past affected the place we are at now.

The concept of continuity of time used to be the premise of every creation in the world. According to the story of creation appearing in Genesis, the first existential dimension created was the dimension of Time. The story of creation opens with the words, ‘In the beginning’. A starting point marking the beginning of time, a new sphere that enables generating the entire creation process. Only after defining the starting point can the physical sphere continue to be created, ‘God created the heavens and the earth’. In contrast with that approach we currently live our lives in a reality of exciting technological power that creates the illusion that everything is in the here and now—the present follows the present—Present Continuous in the existential sense.

The new technological force generates the illusion of instant success. Social networks broadcast fun and success at a continuous pace. This colorful and spectacular power calls to us to live in the moment. To live with the aim of decreasing the gap between activity and pleasure as much as possible. One reason for social network depression is the gap between the illusion of pleasure’s immediacy and availability, which the social networks present to others as instantaneous experience, and our actual lives.\*

- **Thrill-seeking Engine** – even the connection to the Global Brain—Google—does not take us to a place of inspiration. Despite access to unlimited information, humanity still has not learned to use the opportunity it has been given. A survey of popular searches on Google, as published by the cyber giant annually, shows that the Global Person uses the Global Brain to search this sphere mainly for thrills and excitement. A scan of Google<sup>†</sup> searches shows that the Global Person activates the Global Brain to find answers to such fateful questions as, ‘How to tie a tie?’ or ‘How to kiss?’. In parallel, the most popular searches nowadays are for a way to get to the kingdom of thrills and excitement, the path to social networks—Facebook and YouTube. Every so often, humanity reacts with a frisson of fear when a global threat occurs. An example of this is the November 2015 terrorist attack in Paris that received 897 million searches, the record number of searches for that year<sup>‡</sup>, surpassing the 2015 Academy Awards that received 406 million searches. In contrast, the nuclear

\* Gal Itai, Medical Research, <http://www.ynet.co.il/articles/0,7340,L-4645476,00.html>

† Twenty Years of Google, Mor Levy, <http://reshet.tv/item/news/economics/computers-science-technology/neqqq-435421/>

‡ Google trends, [https://trends.google.co.il/trends/story/2015\\_GLOBAL](https://trends.google.co.il/trends/story/2015_GLOBAL)

deal with Iran signed that same year received only 20 million searches. It can be said that humanity that lives in the virtual sphere wakes up in horror only when the Global Giant turns into a Global Terrorist.

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*“We are advancing  
towards a future  
when our reference  
point is the past.”*

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This trend continued into 2016. Again, the main searches were for experiences and excitement. The most popular search that year was for Pokemon Go, the augmented reality game. Augmented reality in itself is an awe-inspiring technology showing considerable development. Yet the search for Pokemon Go in 2016 was aimed at experiencing the new virtual augmented reality and taking part in the worldwide buzz of thrilling excitement.

It is important to note the difference between an emotion and excitement.\*

While emotion has a long-term span, excitement is rooted in the present. Emotions are intended to institute our relationships with the world and to define and deepen these relationships. Excitement on the other hand is expressed as a heightened physical reaction, and aims to create an immediate physical satisfaction whose span is focused in the present.

- **Mental Obesity** – another cultural influence caused by the new reality can be defined as a process of mental obesity. The first developmental stage of the global network reality, the development stage of the Information Revolution, lies in the virtual digital reality. This can be viewed as being parallel to the first stage of a previous revolution, the Industrial Revolution. The increasing production ability generated by the Industrial Revolution generated a new human challenge—marketing. Distribution abilities could not be allowed to lag behind production abilities as the process of producing without consumption would quickly bring about a financial crash. If we refer specifically to the food industry, in order to cause people to consume the never-ending amount of food produced by machines, we must pile industrial food high with human desires—sugars and fats, or alternatively, copious amounts of salt. It goes without saying that we would also add food coloring and other desire-stimulating food additives. It took humanity over a hundred years of industrial revolution to discover that obesity has become a human pandemic.

The product that humanity produces and distributes nowadays is information. Every person who posts statuses and video clips becomes an information vendor. Every information vendor who wants to stand out in a reality of information overload needs to add a healthy dose of human desires to every update or video clip. The main traits of human desire in the field of information are—laughter, drama, and thrills. In a reality in which each and every one of us finds themselves consuming vast quantities of digital information, we find ourselves in an information network that overloads us with emotional desires. On the one hand this is a network focused on constant entertainment, and on the other hand it is an extreme, impassioned, drama-producing network.

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\* In this article, the term ‘excitement’ is used in the sense of – (in psychology), an emotion, a mental state accompanied by eagerness and heightened physical reactions.

This communication overload generates a moral and cultural problem. The problem stems from the fact that discourse has become shallow and extreme in order to gain attention in the dense social media. We are also exposed to another problem. In the network reality we live in, we consume huge amounts of ‘empty calories’ and ‘harmful calories’ of information that flood us through the networks. A study

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*“A new human reality requires a new kind of thinking.”*

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published by Microsoft Corporation showed that human attention span, which was some 12 seconds on average in the year 2000, decreased in 2013 to an average of a mere 8 seconds (a second less than a goldfish, which is considered one of the animals with the lowest mental abilities in nature)\*. This reality of information overload that adversely affects our cognitive abilities can be defined as **Mental Obesity**. This is a process that grinds down our mental capacity.

These challenges and others are testimony that we are being called upon to redesign the reality of our lives. The growing gap between the increasingly more powerful technological developments and our ability to live in the new reality we are creating is causing existential confusion. The system’s automatic reaction is that things should be done differently. We are at the stage in which the old order has been undermined, yet we still do not see the buds of a new order forming.

In a ‘recalculating route’ reality, we often find ourselves ‘driving forward in reverse’—driving forward while looking backwards. This way of proceeding stems from losing our path. Our only certainty is that we need to do things “different” compared to what we did in the past. We are advancing towards a future when our reference point is the past. Our only certainty regarding the future is that it will be different to anything we have seen in the past, yet we have no positive statement regarding the future. Our only reference point is—where not to be.

We can summarize and say that once again we are realizing the truth of the rule defined by Albert Einstein: “We can’t solve problems using the same kind of thinking we used when we created them”. The innovation and creativity that generated the virtual reality hit a glass ceiling when faced with the question of human existence in this reality. We now need to ‘recalculate our route’... a new human reality requires a new kind of thinking.

We are being called upon to develop new thought configurations that will enable us to cope with a way of life that integrates a tangible reality with virtual reality. **We must develop new forms of thinking that will enable us to derive the insights and actions in the present from an understanding of the future, and not just through a negation of the past.**

#### 4. A Brief History of Modern Thought

**Two configurations of thought directed human development into the 21<sup>st</sup> century—Scientific Thought and Leadership Thought. We studied the Scientific Thought method**

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\* Kevin McSpadden, Time Health 2015, <http://time.com/3858309/attention-spans-goldfish/>

throughout the ages. The learning processes developed over generations in all education systems were based on scientific thought configurations. We studied them, their research and their way of thinking. Human development, from infancy through to advanced university degrees, is based almost entirely on this way of thought. In contrast, we left learning from leaders to the field of history. We learned to view them as facts, and we learned to admire or loathe the leaders' way of thinking in correlation with the practical results of their way of thought.

When we come to characterize the different schools of thought, it could be said that scientists possess analytical thinking, a method aimed at making decisions in a closed system reality. A closed system is a system that is governed by rigid laws. Scientific Thought was intended to understand reality by sorting, prioritizing and drawing practical conclusions concerning the given reality. The product of analytical thought is usually knowledge that enables action. The scientific burden of proof requires experimentation, observation and summary—a mathematical formula. In contrast, **Leadership Thought takes place in open systems**. Leaders are meant to generate change in open, dynamic and developing systems. They must lead the historic process to a safe haven—an ideal goal (we will detail this way of thinking further later on).

## 5. Traditional preference for Scientific Thought

Humanity has placed the educational and development processes almost entirely in the hands of Scientific Thought. We generate human progress based on the logical, analytical thought of scientists and not on leaders' wings of inspiration. A number of factors can be identified that led 'human intuition' to the conclusion that Scientific Thought should be allowed to lead.

- **Objectivity** – the objectivity of scientific research enabled it to enter general use, regardless of religion, nationality and sex. The products of scientific research are based on observation, experimentation and drawing conclusions which present an authentic reflection of reality. The objectivity of the knowledge products enabled them to become the building blocks of all of humanity.
- **Practical Product** – the practical products of the Scientific Revolution (16<sup>th</sup>-17<sup>th</sup> centuries) led to the Industrial Revolution (18<sup>th</sup>-19<sup>th</sup> centuries). The products of the Scientific Revolution's studies were translated into mathematical formulas and became common property. As a result of mathematical expressions of reality, knowledge is given practical expression in real life. The Scientific Revolution created the building blocks of the Industrial Revolution. Mathematical formulas, which became the mathematical expressions of reality, were translated back into the language of reality through machines and factories producing many products. At this historic stage mathematical, logical and analytical knowledge became practical products. The combined efforts of scientists and inventors generated the Industrial Revolution.
- **Mental Freedom\*** – studying the list of great scientists and inventors shows a very basic common denominator that can explain another aspect of humanity's choice of the scientific track as the leading school of thought. **In the Scientific Thought track**

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\* The scientists' process of release is worthy of a separate study. It is sufficient to mention the Church's 17<sup>th</sup> century struggle against scientists who fought for scientific truth against the Church's opinion. A famous example is Galileo Galilei who was tried for publishing his approach which flew in the face of the Church's opinion.

**everyone has an equal starting point.** The entrance exam to the scientific pantheon is not based on class.

To demonstrate this claim, let us imagine a meeting between Newton, Einstein and Edison and examine their lives. We will discover that all three began their lives without belonging to a high social order. Moreover, during the course of their lives they were faced with the same challenges as everyone else, and especially of poor people. **Isaac Newton**<sup>\*</sup> (1643–1727) was born an orphan, some three months after the death of his father, who was an illiterate farmer. Newton was raised by his step-father, and we may learn about their relationship from the confession Newton wrote at age 19—“For threatening my father and mother Smith to burn them and the house over them”. **Albert Einstein**<sup>†</sup> (1879–1955) was the son of a failed businessman, which is why the family moved to Munich, Bavaria, six weeks after his birth. For years at the start of his professional career Einstein lacked a steady job, and made a living giving lessons in mathematics and physics. At the time, Einstein felt he was a complete failure, “I am but a burden on my family... clearly it would have been better had I never been born”. **Thomas Edison**<sup>‡</sup> (1847–1931) was born in the USA, and was partially deaf since his youth. Edison barely attended school and was home-schooled by his mother instead. In his youth Edison worked selling snacks on trains and even worked selling vegetables... This examination of the life of three great minds from the pantheon of scientists and inventors shows that Scientific Thought is a meeting of minds with reality, and that social standing is not a precondition to achieve greatness.

In contrast to these primary advantages of the scientific research field, history testifies that in the European monarchical dynasties of the 16<sup>th</sup> and 17<sup>th</sup> centuries, the field of leadership was steeped in manipulation and intrigue. This impulse-riddled reality is not an inviting basis for education and learning. Also, the extremely limited entry into the closed leadership club severely reduced the sense of need and desire to study and develop Leadership Thought as an educational activity for the masses. The 18<sup>th</sup> century's French Revolution marked the beginning of a new age of leadership, yet despite it, Leadership and the development of Leadership Thought remained the concern of few. As a result, when we examine Leadership Thought processes we are satisfied with the end result at the ballot box or alternatively, out of disappointment and despair we send our leaders to stand the test of history. In reality we find that usually it is Scientific Thought that leads humanity in research and development processes throughout the new age.

## 6. The History of Thought – Timeline

- The Scientific Revolution – 16<sup>th</sup> and 17<sup>th</sup> centuries, Isaac Newton developed mechanical physics. During the two centuries, scientists studied reality, translating it into mathematical formulas.
- The Industrial Revolution – 18<sup>th</sup> and 19<sup>th</sup> centuries, Thomas Edison and a band of inventors turned mathematical formulas into products and mass production processes.

<sup>\*</sup>Isaac Newton, from Wikipedia, the free encyclopedia [https://en.wikipedia.org/wiki/Isaac\\_Newton](https://en.wikipedia.org/wiki/Isaac_Newton)

<sup>†</sup>Albert Einstein, from Wikipedia, the free encyclopedia [https://en.wikipedia.org/wiki/Albert\\_Einstein](https://en.wikipedia.org/wiki/Albert_Einstein)

<sup>‡</sup>Thomas Alva Edison, from Wikipedia, the free encyclopedia [https://en.wikipedia.org/wiki/Thomas\\_Edison](https://en.wikipedia.org/wiki/Thomas_Edison)

- The 20<sup>th</sup> century integrated both these phases—research and development while adding a surprising ingredient—imagination and creativity.

Albert Einstein, the father of quantum physics, opened the 20<sup>th</sup> century by presenting his awe-inspiring discoveries. The year 1905 was considered an Extraordinary Year (*Annus Mirabilis*) in which Einstein published four articles in the German science journal *Annalen der Physik*, which was the primary journal in the field of physics at the time. These articles are considered the cornerstones of modern physics and they changed accepted views regarding the relationships between space, time and mass.

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*“We must develop innovative ways of thinking that will enable us to cope with a life configuration that is beyond imagination.”*

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Einstein, a ground-breaking genius, added an unexpected dimension to the process of scientific thought. He added **imagination** to deep scientific research. Of course each of his claims needed to be proven by actual experimentation and summarized in formula, yet his thought process did not stop at observation and experimentation but included imagination. An example of this can be seen when he published his Theory of General Relativity in 1915. He did not even try to prove his claim through experimentation but instead claimed, “It is so beautiful it must be true”. The Theory of General Relativity is one of the most successful theories in the history of physics. Hundreds of experiments were conducted and the ensuing results mostly fit the theory’s predictions. It also has many practical consequences, for instance—GPS satellite designers must take it into consideration so that their satellites and navigational systems will work correctly.\*

Imagination continues to accompany development in the 21<sup>st</sup> century. The inventors who created and developed the internet integrated quantum physics’ research data with imagination, and so generated a digital internet reality that defies imagination. Placing creative thinking and innovation at development’s center stage indicates its next stage—Technological Revolution. Creative thinking that integrates imagination aims to invent new products that do not yet exist but can enrich our world. The product of imaginative thought is an innovative product. One of the main mantras used to encourage ‘innovation’ and ‘creativity’ is the recommendation to ‘think outside the box’.

Today, at the start of the 21<sup>st</sup> century, humanity is hitting a glass ceiling. The entire human system is changing from a closed, local system to an open, global system. Innovation and creativity are no longer enough. It is time to stop ‘thinking outside the box’. When you ‘think outside the box’, the box is completely present and becomes a reference point for changes. We must develop innovative ways of thinking that will enable us to cope with a life configuration that is beyond imagination. **We must develop ways of thinking that will enable us to apply the understandings and actions of the present from an understanding of the future, and not by a negation of the past. We cannot cope with the existential**

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\* Theory of Relativity, from Wikipedia, the free encyclopedia [https://en.wikipedia.org/wiki/Theory\\_of\\_relativity](https://en.wikipedia.org/wiki/Theory_of_relativity)

questions of the new era we live in—Humanity’s Global Era—using the same patterns of thought that generated this reality and challenges.

## 7. Beyond the Glass Ceiling – Inspirational Thinking

Inspirational thinking moves us from the thought patterns of scientists to the thought patterns of leaders. As we have seen, scientific thought is logical and analytical. Scientific research studies reality as though it were a closed system. This is a system intended to create products of knowledge that can be used to develop practical products. In contrast, in Inspirational Thinking, the thought patterns of leaders are not intended to generate products, focusing instead on creating a process leading to an ideal future.

As we saw in the survey of reality, the three leadership powers that used to be exclusively in the hands of leaders are now open to anyone, so that in fact anyone can act with leadership powers. As we also saw in the survey of challenges, our network reality of life has become a reality of life in an open, developing system. **The Global Giant composed of us, the Global People, is finding its way in the new reality. Therefore, leadership responsibility lies on all of us. Leadership thinking, inspirational thinking, refers to an open system that needs designing. Inspirational thinking is intended to enable making decisions in a reality of an open, developing system. We need thought patterns that will allow all of us to make decisions leading to an optimal future reality.**

**Open System** – we must understand that in an open system, in the initial stage of planning and making decisions, future reality is in an optimal state of superimposition. The future can develop in several configurations, yet the principles and trends of that reality can be identified in the present. Responsible leadership understands that a reality of superimposition in the planning stage, a reality that permits several futures, is destined to be generated in the real world at the end of the process in only one distinct way. This is the challenge for leadership throughout history. Acting in the present, from a deep understanding of the existing potential, and leading reality so that the existential result that will eventually form will be a practical expression of the optimal state. One of the possibilities that existed in the beginning—the best one.

## 8. Reality as an Upside-down Puzzle

Let us try to think of reality as a sophisticated puzzle. An ‘upside-down’ puzzle, not the kind that starts out with a cut-up picture that can be seen as a whole on the cover of the box, but a picture puzzle that is being constructed.

The opening facts for the puzzle’s creation are the existence of specific pieces of the puzzle that is being created. The given pieces are shaped like puzzle pieces and contain a very partial picture the size of the pieces. These are basic pieces that determine the future picture’s principles and trends. What is special about this puzzle is the fact that it is an evolving puzzle. At each stage you must add more puzzle pieces, continuing the picture growing out of the basic pieces. In fact, every piece you add determines the shape of the next piece and the continuation of the picture in accordance with the principles and trends of the basic pieces. Clearly, this is a process that enables many future pictures. This, in fact, is an open system.



An evolving system. A system that is constantly in the present in a state of superimposition. A state in which possible pictures stemming from the basic pieces can be different and diverse and even opposite in character, despite the principles and trends of the basic pieces.

In the first stage of the puzzle-building process we need to identify the basic pieces, identify the puzzle's background of events, if it is the sea, a forest, an urban or country landscape. We need to identify the puzzle's human picture, what the characteristics of the period are and so on. The second stage is to complete the picture. At this stage we will be required to use inspiration—a process integrating the data of the existing pieces with a picture of an ideal future. A picture of the possible future according to the data on the existing pieces. In the next stage, the move to practical action, we will need to add units that match the formative process of the future picture we envisioned—the whole picture.

We can summarize and say that the basis for creative thinking is:

*Deep familiarity with the present reality—principles and trends*  
*Creating a picture of a feasible ideal future*  
*Planning a practical process connecting the two*

## **9. Turning Challenges into Power**

We began by saying that we are currently living in a new human era. On the one hand our reality of life has become an open system in all fields. Methods for progressing that led us in a reality of closed local systems cannot cope with the challenges of a human system which is open and global. In addition, we must keep in mind that we are empowered. The Global Person has inherited leadership abilities. Abilities that allow us to act like leaders. The reality of our lives and the power we have inherited require us to develop leadership thinking and act out of inspirational thinking.

**The next stage—after understanding the crucial necessity for inspirational thinking nowadays—is the need to develop a practical guide to inspirational thinking. A guide that will provide understanding and practical tools to enable us to develop inspirational thinking. The guide must also cope with the barriers to creating an inspirational thought process, including obstacles that stem from the new reality.**

**The time has come.**

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## **A Paradigm Shift in Public Service Delivery: The Malaysian PEMANDU**

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### **Abstract**

*There is widespread agreement that improvement in service delivery is the key for sustainable development. One of the major challenges in making this happen has to do with implementation. Over the past two decades, there has been a number of efforts to establish prime ministerial or presidential delivery units that can help overcome the challenges of implementation in key service areas. Such executive delivery units represent a new paradigm in promoting effective leadership and governance for improved service delivery in developing countries. Among these initiatives, the Malaysian experience with Delivery Units is often seen as a transformational model for other countries to emulate. This paper looks at the question of how the Malaysian Performance Management and Delivery Unit (PEMANDU) model can help improve public sector service delivery. As part of the effort to answer this, the paper walks through the context, establishment, challenges, approaches, key outcomes, and success factors of the PEMANDU. It also highlights some contrasting features with the United Kingdom's Prime Minister's Delivery Unit (PMDU) and draws lessons for leaders and policy makers of the developing world who might want to establish such transformational delivery units in their own countries. This paper also studies how PEMANDU was able to sustain itself over a period of six years and maintain its relevance within the Malaysian government and the public. The paper concludes by sharing some policy implications and recommendations that would be helpful for policy makers and government leaders who are thinking of establishing similar units in their own contexts. This paper is not meant to be a comprehensive evaluation of PEMANDU's performance, but rather seeks to highlight a few specific outcomes and to unpack how and why the PEMANDU model is transformative and represents a paradigm shift in transparent, citizen-centric public service delivery.*

### **1. Introduction**

There has been a number of studies on ways in which delivery units could be organized and set up, as well as studies on their impact. This paper looks at the question of how the Malaysian Performance Management and Delivery Unit (PEMANDU) model can help improve public sector service delivery. It seeks to understand the reasons as to why the

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Malaysian government made the decision to set up a delivery unit (PEMANDU) and the process that was undertaken to do so. PEMANDU represents the first time any Malaysian administration had embarked on such an ambitious program reporting directly to the Prime Minister's Office. Accordingly, the paper seeks to document the formational process to better understand its foundational underpinnings, some of which are unique to Malaysia's specific socioeconomic, cultural and political context, and draw lessons that might be useful for other developing countries. Secondly, this paper also looks at how PEMANDU was able to sustain itself over the past six years, and maintain its relevance to the Malaysian government and to the public. Arguably, PEMANDU's model would not have been sustainable at its inception, given the massive duplication of roles with the existing Malaysian civil service. Despite skepticism from various segments of the Malaysian population, PEMANDU has survived and evolved over the past six years. Thirdly, this study also aims to assess the role it has played in driving a broader change in the way Malaysian government functions. Although the Government of Malaysia had at least twelve different initiatives for the improvement of government delivery in the past, none of them had as disrupting and value-adding an impact on the delivery of public services as PEMANDU. The fact that PEMANDU has not only continued to successfully provide valuable services to the government but also exported its brand overseas is worth recognizing and examining and could hold relevant insights for policymakers.

## **2. Background on Delivery Units**

The executive delivery unit model represents a new paradigm in promoting effective leadership and governance for improved service delivery in developing countries. Increasingly, national governments have started turning to the Center of Government Delivery Units to help drive improvements in performance in key service delivery sectors. The history of such delivery units is brief. Though virtually unheard of just a little over a decade ago, they are now actively studied as effective management bodies in promoting better service delivery. In 2014, World Bank President Jim Yong Kim established the World Bank's Presidential Delivery Unit, which is perhaps presently one of the more visible delivery units in the world, to monitor and communicate progress on the World Bank's priorities and country projects.\*

McKinsey defines delivery units as "a small group of dedicated individuals focused exclusively on achieving impact and improving outcomes."<sup>†</sup> In a political context, the delivery unit is an organization commissioned by the government to direct, streamline, and sustain a high level of service delivery by governmental departments. Conceptually at least, it maintains a high level of independence in decision-making, while working closely with the government, thereby ensuring fairly objective checks and balances.

The first delivery unit established in such a context is the Prime Minister's Delivery Unit (PMDU) in the United Kingdom, pioneered by Tony Blair's administration in 2001 as a response to the fragmented delivery of service by various UK governmental agencies, and as part of a system-wide effort to improve government performance. The challenge at hand was how to drive strategic public reform initiatives in a coherent and coordinated manner in a culture of stagnancy within government agencies. The PMDU was envisioned as a small,

\* See <http://pdu.worldbank.org/sites/pdu2/en/about/PDU/LearnMore>

<sup>†</sup> Barber M., Kihn P. and Moffit A, *Deliverology: From Idea to Implementation*, McKinsey on Government, Spring 2011. 33.

high-performance team tasked with identifying priority areas, as well as using data and processes to ensure that the ‘public sector delivery’ achieved specific outcomes.\*

The PMDU worked with Blair on his priority areas: health, crime, education, and transport. With a team of forty staff working with five government departments, the PMDU regularly brought together secretaries and department personnel, thereby accelerating the decision-making process and feedback loop. With such a structure, the PMDU was also able to observe progress and gather performance data, identifying management capacity, and deficiencies at the departmental level. Such an approach forms the core of “Deliverology,” where a small unit focuses exclusively on achieving impact and improving outcomes. Barber’s concept of delivery units has four organizational design attributes:

- Respected leadership
- A small size
- Top talent
- A non-hierarchical relationship with the system†

Michael Barber, an educationist with an outstanding record in leading education policy and reforms, was selected to lead the PMDU.‡ Under his leadership, the PMDU prevented an overlap of responsibilities by focusing on a subset of Public Service Agreements (PSA) targets§, to ensure alignment of PMDU objectives with its financial priorities.

After the considerable success of the PMDU with their PSAs, similar programs were then implemented around the world: The Cabinet Secretariat for Performance Management in India (set up in 2009), Indonesia’s Presidential Unit (set up in 2009), South Africa’s Delivery Unit (set up in 2009), Malaysia’s Performance Management Delivery Unit (PEMANDU) (set up in 2009) and Thailand’s Public Sector Development Commission.¶

### 3. Conceptualization of PEMANDU and its Approach

In 2008, the ruling Barisan Nasional coalition chaired by Prime Minister Abdullah Badawi suffered its greatest loss of seats in Parliament in the 2008 general elections, and lost two-thirds of its majority for the first time since the country gained independence. Conceding that he had lost the mandate, Mr. Badawi stepped down, paving the way for then Deputy Prime Minister Najib Razak to take over at the helm. Within the same year, a global recession occurred as a result of the subprime mortgage crisis in the US. Malaysia was not spared from the effects that reverberated around the world, and national growth contracted due to a collapse in demand for exports to the US. The sharp decline in GDP growth rates also created a shortfall in the trajectory to achieve a developed nation status by 2020 (defined as having a per capita income of US \$15,540).\*\*,††

\* See Panchamia N. and Thomas P., Public Service Agreements and the Prime Minister’s Delivery Unit, Institute for Government.

† Barber M., Kihn P. and Moffit A., Deliverology, 33-35.

‡ Barber had previously been charged with developing a strategy to raise standards of literacy in primary schools over a five to ten year period. The success of the National Literacy Strategy cemented Barber’s reputation and earned him Blair’s and the education community’s trust.

§ Barber M., Kihn P. and Moffit A., Deliverology, 35.

¶ “Recently Asked Questions Series”, GET Note: Center of Government Delivery Units, World Bank (Nov 2010), 1.

\*\* [http://www.isis.org.my/attachments/e-books/The\\_Global\\_Financial\\_Crisis\\_and\\_the\\_Malaysian\\_Economy.pdf](http://www.isis.org.my/attachments/e-books/The_Global_Financial_Crisis_and_the_Malaysian_Economy.pdf)

†† <https://www.theciip.org/sites/ciip/files/documents/PEMANDU%20Study%20--Final.pdf>

The aim to become a developed nation by 2020 had been the brainchild of former Prime Minister Mahathir Mohamad, whose aggressive push to achieve a developed nation status by a definite deadline was once widely lauded for its vision and boldness. Now, however, many were beginning to question the feasibility of the target. This, coupled with boiling resentment over issues as varied as widespread perception of a corrupt government, discriminatory policies, and suppressed personal freedoms, meant that the ruling coalition was at risk of being ousted by the next general elections unless they addressed these issues.

This prompted Prime Minister Najib to embark on a national transformation program. A major challenge for this program was to overhaul a Malaysian civil service grappling with heavy bureaucracy and supported by institutions with limited capacity (as is the case in many developing nations). There was an overdue need to reform the delivery culture of the Malaysian civil service as a whole.

The idea of setting up a Delivery Unit reporting to the Prime Minister in Malaysia was conceived in early 2009. Although there is no firm indication as to how the idea first came about, the idea for PEMANDU incubated at the highest level of government subsequently involved consultants who began the detailed planning and helped set the direction for the shape that the Delivery Unit would take. Given that Michael Barber (former head of the UK's Delivery Unit) was working with McKinsey as a partner, McKinsey was tapped to help kick-start the process.

Along with the launch of a '1Malaysia' slogan campaign which had tinges of a branding exercise, Prime Minister Najib created a new cabinet post, the Minister of National Unity and Performance Management, of which the first appointee was former Penang Chief Minister Koh Tsu Koon. A series of meetings between Prime Minister Najib and his close advisors, Koh, and the rest of the Cabinet quickly reached a consensus on the need for a "government transformation program" which would consist of a formal unit within the government with permanent staffers.\*

A team consisting of local McKinsey consultants as well as international consultants—some from McKinsey's London office, including advisory support from Michael Barber—as well as a partnership with a local strategy consulting firm, was soon established. Thereafter, a working group within the Prime Minister's office was formed to help drive the initial setup of the unit.

Comprehensive planning prior to the setup of the Delivery Unit went into structuring the final mandate, the size of the unit, governance structures, focus areas, the balance between private-public sector talents, and how it would interact with various Ministries. This entire setup process took between three to six months in the latter half of 2009. Beginning in late 2009 and over the course of the next four years, the Malaysian government subsequently embarked on a few key 'Delivery' programs that cut across many areas of public sector governance. These programs are:†

- a. Government Transformation Program (GTP)** – Modeled most closely after the unit in the UK, the focus of this program was narrow, targeted, and focused on public service delivery transformation.

\* <https://www.theciip.org/sites/ciip/files/documents/PEMANDU%20Study%20--Final.pdf>

† Organization Structure, Pemandu, <https://www.pemandu.org/>

- b. Economic Transformation Program (ETP)** – Aiming to build on the efforts of the GTP to use a ‘process’ to transform delivery, the ETP was much wider, involved extensive private-public collaboration, and targeted many areas for economic reform. The ETP consists of the NKEAs (National Key Economic Areas) as well as the SRIs (Strategic Reform Initiatives).

#### 4. The Government Transformation Program (GTP)

According to Michael Barber’s *Deliverology 101*, strong delivery efforts need well-defined aspirations from system leaders. When aspirations are vaguely or poorly communicated, team motivation is affected. At the very least, the specific outcomes of aspirations should be communicated in a clear, concise, and accessible verbal manner.\*

With the goal of clearly communicating well-defined aspirations, Malaysia’s Government Transformation Program (GTP) was launched in 2009, and PEMANDU took significant steps in opening up channels for the public to share their views through a multi-pronged approach. The improvement areas were identified using surveys, opinion polls, and dialogues conducted among Malaysian citizens. This is very much in contrast with the government’s usual style of rolling out national programs with little to no public consultation, an example being all ten Malaysian Plans—a series of quinquennial national economic blueprints dating back to 1966 that were wholly designed within the center of the government.

As part of the public consultation process, members of the public could write down their comments on notice boards posted around public places. “Open Days” were held in Kuala Lumpur (KL), Kuching and Kota Kinabalu from December 2009 to January 2010 at a cost of RM15.1 million.† 5,000 people attended the Kuala Lumpur Open Day alone.‡§ And for those members of the public who missed the Open Days, they could reach PEMANDU via a dedicated public feedback email. Furthermore, all public feedback was reviewed by a joint team of consultants (PEMANDU staffers as well as external specialists in each major development area) before the final plan for the GTP was decided.¶ As a result of the consultations, the following six National Key Result Areas (NKRAs) were identified, namely:

1. Reducing crime
2. Fighting corruption
3. Improving student outcomes
4. Raising low-income households’ living standards
5. Improving rural basic infrastructure
6. Improving urban public transport

In 2011, a 7<sup>th</sup> NKRA was added to address the rising costs of living, following a cabinet meeting where Prime Minister Najib commented that the omission was due to the fact that rising costs of living had yet to become a national concern at the time the NKRAs were

\* Barber M., Kihn P. and Moffit A. *Deliverology 101: A Field Guide for Education Leaders*. Corwin, 2.

† <https://blog.limkitsiang.com/2011/06/15/rm63-9m-spent-on-consultants-and-etp-gtp-open-days>

‡ <http://www.pemandu.gov.my/GTP/upload/96893272-e30f-498f-a156-18b8f5c1a02e.pdf>

§ GTP Road Map, 2010. <http://www.scribd.com/doc/42440223/GTP-Roadmap>.

¶ <http://www.thestar.com.my/News/Nation/2012/07/25/Pemandu-to-review-all-public-feedback/>

first developed. As a certain level of flexibility is necessary to ensure that the NKRA are aligned with the changing needs of the country, in this instance, the inclusion of the 7<sup>th</sup> NKRA demonstrated the government's responsiveness to popular concerns.

Targets for each NKRA were developed collaboratively in an intensive two to three month working session with a variety of stakeholders from the public sector, using a methodology termed 'Delivery Labs'. This methodology was inspired by PEMANDU's former CEO Dato' Sri Idris Jala, who had successfully implemented transformation efforts based on similar approaches at large corporations such as Shell and Malaysia Airlines.

Each NKRA had a specific outcome. For example, the NKRA for reducing crime revolved around five areas with SMART (specific, measurable, achievable, relevant, and time-bound) performance indicators;

- reducing reported index crime by 5% annually from 2010 to 2012
- reducing reported street crime by 20% from 2009 to 2010
- reducing the fear of becoming a victim of crime
- improving the justice system by clearing a backlog of violent crime cases
- increasing public satisfaction with the Royal Malaysian Police's performance via customer service rating devices deployed at all police stations in Selangor.\*

Each NKRA was led by a Cabinet Minister who was responsible to the Prime Minister for the successes and shortfalls of their respective NKRA key performance indicators. From the above examples, the Minister of Home Affairs headed the Reducing Crime NKRA, while the Minister of Transport headed the NKRA on Improving Public Transport. This structure is quite different compared to the PMDU, which was set up to circumvent departments and ministers to deliver priority results.

## **5. Economic Transformation Program (ETP)**

A year after the GTP was launched, the Economic Transformation Program (ETP) was announced to the public. Part of an extensive plan in the making, the ETP was conceived as the Malaysian government's response to an increasing competitive global economy to break out of the middle income trap<sup>†</sup> into a high income economy. The ETP envisioned the following characteristics of a high income Malaysian economy: services to account for a much greater share of the economy, sustainable economic growth as well as a larger portion of the population living in urban areas.

From the ETP's inception, PEMANDU sought to involve the private sector. After a large forum involving many prominent business leaders as well as analysis done by the country's Economic Planning Unit, twelve focus areas were identified. These areas were picked based on their potential to contribute towards the Gross National Income (GNI) of Malaysia by 2020, as well as the number of jobs that they contributed to the overall economy.<sup>‡</sup> (See Table 1 below)

\* [http://www.pemandu.gov.my/GTP/Reducing\\_Crime-@-GTP\\_1@0\\_Reducing\\_Crime.aspx](http://www.pemandu.gov.my/GTP/Reducing_Crime-@-GTP_1@0_Reducing_Crime.aspx)

† The middle income trap is a theorized economic development situation, where a country which attains a certain income (due to given advantages) will get stuck at that level. See [http://en.wikipedia.org/wiki/Middle\\_income\\_trap](http://en.wikipedia.org/wiki/Middle_income_trap)

‡ Economic Transformation Programme Annual Report 2011, Pemandu, [http://etp.pemandu.gov.my/annualreport2011/12\\_National\\_Key\\_Economic\\_Areas-@-12\\_National\\_Key\\_Economic\\_Areas.aspx](http://etp.pemandu.gov.my/annualreport2011/12_National_Key_Economic_Areas-@-12_National_Key_Economic_Areas.aspx).



**Table 1: The 12 Focus Areas of the Economic Transformation Program**

Oil, gas, and energy	Business Services	Healthcare
Palm oil and rubber	Electronics & Electrical	Communications
Financial services	Wholesale & Retail	Greater Kuala Lumpur
Tourism	Education	Agriculture

The ETP's focus was quite different from the GTP's—instead of setting targets on different 'delivery' metrics, the focus was almost exclusively on increasing investment, GNI, and increased job creation by 2020. The 'Delivery Lab' approach was used once again, bringing diverse stakeholders together for a three-month period to collectively define projects as well as the changes needed in the system in order to meet these economic and job targets.

For instance, the target for the oil, gas, and energy NKEA is a 5% annual growth for the sector (PEMANDU 2011) in the backdrop of declining oil and gas production. In nominal terms, this means an increase of RM131.4 billion in GNI contribution between 2010 and 2020.\*

Much of the direction of the private sector within Malaysia is determined by policies within government and state-owned enterprises and this meant that the NKEAs had to be dictated by central planning rather than market forces. For example, several of the Entry Point Projects (EPPs) identified under the NKEA related to oil and gas were under direct control of government machinery† and reported directly to the Prime Minister, who was also the Chairman of the Board. Areas of focus, such as solar and energy efficiency as well as hydro-electric potential, were often governed by actions and/or policies set by the Ministry of Energy and Green Technology, as well as Malaysia's largest electricity provider, the partly state-owned Tenaga Nasional.

There was some overlap and duplication between the 'ETP Process' and regular government functions including the annual planning process by the Economic Planning Unit (EPU), as well as the annual budget process typically run by the Ministry of Finance (MoF). Although EPP's projects are under government-linked companies or private firms, there were sometimes government related regulatory and institutional changes that were occasionally required, and the disbursement for some of this capital was managed by the EPU.

Having learnt from the GTP (Government Transformation Program), where some targets were set despite insufficient budget being set aside to pursue the objectives, PEMANDU involved the Economic Planning Unit and Ministry of Finance deeply in the ETP work to minimize overlap and enhance synchronicity.‡

The SRIs were originally a consolidation of some 40+ proposals developed by the National Economic Advisory Council (NEAC) ahead of the launch of the New Economic Model in 2010. They were subsequently taken over by PEMANDU in 2009 and classified

\* Oil, Gas, and Energy, Economic Transformation Programme Annual Report 2011, Pemandu, [http://etp.pemandu.gov.my/annualreport2011/12\\_National\\_Key\\_Economic\\_Areas-@-Oil\\_Gas\\_--%E2%97%98-Energy.aspx](http://etp.pemandu.gov.my/annualreport2011/12_National_Key_Economic_Areas-@-Oil_Gas_--%E2%97%98-Energy.aspx)

† The oil and gas company PETRONAS is 100% owned by the Malaysian Federal Government.

‡ [https://www.pmo.gov.my/dokumenattached/NTP-Report-2013/ETP\\_2013\\_ENG.pdf](https://www.pmo.gov.my/dokumenattached/NTP-Report-2013/ETP_2013_ENG.pdf)

into six clusters instead (see Table 2 below). These programs are aimed at overcoming some institutional and bureaucratic barriers that hinder the successful implementation of the GTP and ETP, targeted specifically at reforming select processes and foundational elements of public service delivery.

**Table 2: Focus Areas for the Strategic Reform Initiatives\***

Standards and Liberalization (CSL) <sup>†</sup>	Narrowing Disparity
Public Finance	Reducing Government's Role in Business
Public Service Delivery	Human Capital Development

Like the NKEAs, 'Delivery Labs' were used to identify the six SRIs. However, one key difference was that the targets and timelines for the SRIs were undisclosed, potentially due to the sensitive political nature of many of the reforms and the variety of special interests that would be upset if any of these foundational reforms actually went through.

An example of this was the Public Finance SRI. Identified next steps included critical changes needed for public sector delivery such as adopting accrual accounting for prudent fiscal management and implementing efficient broad-based taxes to improve fiscal stability. However, if there had been any detailed implementation plans or specified timelines for completion, they were not publicly available.<sup>‡</sup>

The lack of measurable objectives (as per M. Barber's *Deliverology 101* model), despite the numerous proposals contained within the SRIs, may indicate either that the SRIs were deprioritized compared to the NKEAs, or that the timeline for the implementation of the SRIs was highly dependent on the NKEAs' achievements. Another possible reason for the lack of activity on the SRI front, despite its objective of boosting Malaysia's competitiveness was the sheer number of ministries and departments which were involved. The working team faced coordination issues, therefore increasing the lag time between decision-making and actual implementation, as mentioned by Michael Barber. As of 2015, there remains scant documentation and public information on the outcome of the SRIs.

## 6. Key Outcomes

PEMANDU's progress between the years 2010–2012 were available for review when this section of the paper was written. To illustrate PEMANDU's impact and sustained relevance, we focused on the outcomes from two areas: the Reducing Crime (GTP) and Greater Kuala Lumpur (ETP). We also looked at progress on some macroeconomic indicators and how PEMANDU has been viewed by the international community. This section is not meant to provide a comprehensive evaluation on PEMANDU's performance, but instead assess some outcomes that have been attributed, at least in part, to its establishment.

Although PEMANDU's annual results are audited by an external auditor each year, the extent of the audit reaches only as far as PEMANDU and the relevant Ministries track their

\* 6 Strategic Reform Initiatives, Pemandu, <http://etp.pemandu.gov.my:80/annualreport2013/1>.

<sup>†</sup> [http://etp.pemandu.gov.my/annualreport2011/SRI\\_Overview-@-Competition\\_Standards\\_-%E2%97%98-\\_Liberalisation.aspx](http://etp.pemandu.gov.my/annualreport2011/SRI_Overview-@-Competition_Standards_-%E2%97%98-_Liberalisation.aspx)

<sup>‡</sup> Public Finance Reform, PEMANDU, [http://etp.pemandu.gov.my/annualreport2013/SRIs-@-Public\\_Finance\\_Reform.aspx](http://etp.pemandu.gov.my/annualreport2013/SRIs-@-Public_Finance_Reform.aspx)

performance, and these audits do not seek to provide validation for the broader institutional and macro-economic impacts PEMANDU might have, which is a topic that could be explored in a separate paper.

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*“PEMANDU created conditions for and facilitated a paradigm shift in decision making and implementation in the civil service.”*

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The reducing crime national key result area focused on four main targets. Initial targets in 2010 and actual performance by 2012 are summarized below:

**Box 1: Reducing Crime NKEA: Outcomes Achieved**

The Reducing Crime national key result area had four key objectives:

- a. Reducing the reported index crime by 5% annually from 2010 to 2012 (Actual reduction: 15% annually)
- b. Reducing reported street crime by 20% from 2009 to 2010 (Actual reduction: 35%)
- c. Improving the justice system by clearing the backlog of violent crime cases (Old cases processed in 2001-2010)
- d. Increasing public satisfaction with the Royal Malaysian Police’s performance via Customer Service Rating Devices deployed at all police stations in Selangor (Increase in reported public satisfaction: 35.8% to 55.8%) \*

After three years of progress, evidence shows that all four key objectives in the Reducing Crime NKRA were met. (See Box 1 above)

We also looked at outcomes in the Greater Kuala Lumpur NKEA, of which the outcomes are summarized as follows:

**Box 2: Greater Kuala Lumpur / Klang Valley NKEA: Outcomes Achieved†**

The objective of the Greater Kuala Lumpur (KL) national key economic area was to transform Malaysia’s capital city into a world-class metropolis that boasts top standards in various areas, ranging from business infrastructure to livability. Nine entry point projects were selected as part of this focus area, including a large Mass Rapid Transit (MRT) project and a project to setup a front-end agency (“InvestKL”) to facilitate FDI into the city.

In part, due to project management support from PEMANDU, in 2012 there was substantial progress made in the MRT project. Land acquisition was 94% completed and all civil engineering tender packages were awarded. Project leadership indicated that the project was meeting its budget requirements on time, for its first planned opening on 31<sup>st</sup> December, 2016, and that payments to contractors were made on time.

\* TP 1.0 Reducing Crime, Pemandu, [http://www.pemandu.gov.my/Gtp/Reducing\\_Crime-@-GTP\\_1@0\\_Reducing\\_Crime.aspx](http://www.pemandu.gov.my/Gtp/Reducing_Crime-@-GTP_1@0_Reducing_Crime.aspx).

† Only applies to EPP 1.

InvestKL was able to attract eleven multinational corporations (e.g. Schlumberger, Toshiba, PayPal etc.\*) into the Klang Valley area in 2012, creating 1,393 jobs. British business leaders were impressed with Kuala Lumpur's infrastructure, strategic location, and regional connectivity to neighboring technology markets, and were encouraged by InvestKL's CEO, Zainal Amanshah, to utilize KL's strategic location as the hub for each organization's ASEAN operations. The Express mentioned that this was part of the British and the Malaysian governments' efforts to double bilateral trade to £8 billion by 2016.<sup>†‡</sup>

Perhaps one might question the fact that the outcomes above were sourced from PEMANDU itself, and though PricewaterhouseCoopers (PwC) Malaysia was recruited to verify PEMANDU's program KPIs as well as review KPI results, it is still difficult to assess the veracity of such data sans a full disclosure of the methodology.<sup>§</sup>

Claims from within PEMANDU have also been made with regard to the ETP's influence on Malaysia's macroeconomic environment on several fronts, particularly increases in GNI and private investments. However, the clear impact of PEMANDU's work on the macroeconomic environment is somewhat inconclusive and further research is required before firm conclusions can be drawn.

A strong growth of GNI per capita—from \$6,700 (RM20,920) in 2009 to \$9,970 (RM31,131)<sup>¶</sup>, or a surge of a 48.8%—was recorded in two years since the launch of the ETP in 2010. On the surface, this seems to be indicative of the ETP's success. However, it is extremely difficult to ascertain the extent to which this trend was a direct effect of the implementation of the ETP, and the extent to which it was influenced by other factors, such as the gradual global recovery from the 2008 subprime mortgage financial crisis.

In the initial years of the ETP, there were worries that investment in the ETP would be dominated by government-linked corporations (GLCs), but private investment quickly picked up to a record 22% by 2012 from 12.2% in 2011 and an average of 6.7% between 2010 and 2011.<sup>\*\*</sup> Nominal private investment, being driven by high capital expenditure in the manufacturing, services, and mining sectors, reached RM139.5 billion<sup>††</sup> and in the process eclipsed the 2012 target by 9.1%. However, again, it is hard to draw any direct causation between the implementation of the ETP and the surge in private investments. Perhaps it is still too early to tell whether the improvements made in the post-2010 years can be merely attributable to the global recovery from the 2008 global recession.

Nonetheless, after three years in operation, in part due to their transformation efforts, PEMANDU was able to facilitate the creation of 1.8 million new jobs between 2010 and

\* [http://www.investkl.gov.my/Investors\\_Says-@-LandingContent.aspx](http://www.investkl.gov.my/Investors_Says-@-LandingContent.aspx)

† <http://www.express.co.uk/finance/city/440549/Kuala-Lumpur-s-Eastern-promise-for-UK-firms>

‡ Greater Kuala Lumpur/Klang Valley, Economic Transformation Programme Annual Report 2012, [http://etp.pemandu.gov.my/annualreport2012/upload/Eng\\_ETP2012\\_03\\_NKEA01\\_GKL.pdf](http://etp.pemandu.gov.my/annualreport2012/upload/Eng_ETP2012_03_NKEA01_GKL.pdf)

§ [http://etp.pemandu.gov.my/annualreport2013/upload/ENG/01\\_ENG\\_Opening\\_8Steps.pdf](http://etp.pemandu.gov.my/annualreport2013/upload/ENG/01_ENG_Opening_8Steps.pdf)

¶ [http://etp.pemandu.gov.my/annualreport2012/upload/Eng\\_ETP2012\\_01\\_Opening.pdf](http://etp.pemandu.gov.my/annualreport2012/upload/Eng_ETP2012_01_Opening.pdf)

\*\* [http://etp.pemandu.gov.my/Transformation\\_Unplugged-@-Helping\\_businesses\\_flourish\\_in\\_Malaysia.aspx](http://etp.pemandu.gov.my/Transformation_Unplugged-@-Helping_businesses_flourish_in_Malaysia.aspx)

†† <http://www.mot.gov.my/en/Explosion/Ucapan%20YB%20Senator%20Dato%20F2%80%99%20Sri%20Idris%20Jala-%20ETP%20dan%20GTP%20pada%2026%20Feb%202013%20V03.pdf>

2014.\* Due in part to this strong performance, the PEMANDU team was invited by the Government of Tanzania to lead a similar transformation program there, which was funded in part by a consortium of donors likely including the UK's Department for International Development (DFID).† PEMANDU was also selected as a case study in Harvard Business School.‡

To some extent, the heavy involvement of management consultants at the establishment phase of PEMANDU helped to build capacity within the civil service, particularly in performing rigorous analysis and due diligence before determining policy decisions. Bringing in external consultants and creating a new body with responsibilities which in many cases overlap with those of regular civil service bodies had a potential to create tension and friction between the PEMANDU staff and civil servants. However, PEMANDU avoided such a scenario and successfully put Malaysian public service on the path of change and improvement. Characteristic of the program was inclusive planning which contributed to the sense of ownership among many stakeholders, including public servants. The consultants collaborated closely with civil servants in “reconnaissance” work, including identifying weaknesses and strategic entry points, scoping, and developing detailed action points for each GTP/ETP area, and the civil servants absorbed much of this expertise. Visible progress towards specific and feasible targets showed not only people but the civil servants as well that the new system works, and in that way motivated them to embrace it. A combination of top-down and bottom-up approach, as opposed to only the former, and engagement of the civil servants in the process resulted in a large-scale spill-over of good practices and professionalization of the Malaysian civil service. Not only that. With its nodal role it served as a knowledge-sharing center, PEMANDU created conditions for and facilitated a paradigm shift in decision making and implementation in the civil service. This reflects sustainable and lasting impact it had on governance improvement. As PEMANDU gradually weaned off the external consulting expertise, the internal team had built sufficient capacity to provide consulting support to developing nations seeking to adopt a similar approach such as Tanzania and India, thereby promoting delivery strategies beyond Malaysia.§

One such example is the role of McKinsey in helping PEMANDU and the civil service develop their capacity in monitoring school performance. During the early years (between 2010-2011), McKinsey was responsible for developing the National Education Blueprint (NEB), a large-scale plan to transform the Malaysian public education system between 2013-2025, with a focus on teacher support, improving core skills among students, accelerating system improvement, and increased operational flexibility. Over time, however, the dependence on McKinsey was gradually decreased. By 2012, the Ministry of Education in consultation with PEMANDU was able to set up the Education Performance and Implementation Unit (PADU) to track the progress of 100 initiatives set out in the NEB, using many of the same management principles, as well as the same level of analytical rigor and clarity of communication that was learned from McKinsey.¶\*\*

\* [http://etp.pemandu.gov.my/annualreport2014/upload/ETP2014\\_ENG\\_full\\_version.pdf](http://etp.pemandu.gov.my/annualreport2014/upload/ETP2014_ENG_full_version.pdf)

† T.Selva (September 2013), Tanzania to work with Malaysian firms. *The Star*, <https://www.thestar.com.my/news/nation/2013/07/01/tanzania-to-work-with-local-firms-malaysia-helping-with-education-economic-planning-and-technology-s>

‡ Comin, Diego A., and Ku Kok Peng (2012) *Malaysia: The Economic Transformation Program (B)* in *Harvard Business School Supplement* 713-008, September 2012. (Revised February 2013.)

§ <http://dev.nst.com.my/node/53160>

¶ <http://www.themalaymailonline.com/malaysia/article/local-experts-better-pick-to-prepare-schools-blueprint-mps-say>

\*\* <http://www.padu.edu.my/resources/meb-2013-2025/pppm/>

The analysts and managers who made up the PEMANDU staff were generically termed consultants. However, they should not be confused with management consultants in the conventional sense. They had a dual role in both implementing private sector practices within the civil service, and in supporting the civil service from within. In that sense, the growth of PEMANDU's internal team also helped the growth of the civil service and development of good governance in Malaysia.

## 7. Challenges Faced by PEMANDU

In spite of the aforementioned successes, PEMANDU attracted substantial external critique throughout its early years, most notably from the independent think-tank REFSA (Research for Social Advancement).\*

In 2012, REFSA evaluated the ETP based on the following framework:†

1. Data transparency: the ease with which an independent analyst can evaluate relevant figures and ETP's targets
2. Execution: progress of EPPs
3. Enterprise: status of private investments
4. Distribution: distribution of EPPs across NKEAs which show a balance of projects
5. Socio-economic impact: evaluation of main beneficiaries of the economic activities generated by EPPs.

Among the concerns raised by REFSA include:

1. The complete omission of notable EPPs in Annual Reports released by PEMANDU‡
2. Data misinterpretation in said reports arising due to failure to differentiate between nominal and real growth rates§
3. Possible bias towards more financially capable (and more vocal) companies with vested interest in project recommendations.¶
4. Lack of data transparency due to omission of GNI and employment figures during recalibration exercises.\*\*

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\* Caution must be paid to the possibility of conflict of interest due to the fact that REFSA, being set up and staffed by members of the opposition coalition, focuses its critique on the federal government. Furthermore, one of the co-authors of the 'Critique of the ETP' paper series, Ong Kian Ming, is now a prominent opposition politician, although he was an independent analyst at the time of writing these papers.

† O. Kian Ming and T. Chi-Chang, Critique of ETP(1), REFSA, Focus Paper 2010/01/19, <https://refsa.org/focus-papers/dissecting-the-etp-annual-report-part-2-the-mystery-of-the-disappearing-epps>

‡ O. Kian Ming and T. Chi-Chang, Dissecting the ETP Annual Report: Part 2

- The mystery of the disappearing entry point projects (EPPs), REFSA, Focus Paper 2012/06/07, <http://www.refsa.org/focus-papers/dissecting-the-etp-annual-report-part-2-the-mystery-of-the-disappearing-epps/>

§ O. Kian Ming and T. Chi-Chang, Dissecting the ETP Annual Report: Part 3

- It was only RM12.9 billion of ACTUAL investments, REFSA Focus Paper 2012/06/21, <https://www.refsa.org/focus-papers/dissecting-the-etp-annual-report-part-3-it-was-only-rm12-9-billion-of-actual-investment>

¶ O. Kian Ming and T. Chi-Chang, A Critique of the ETP: Part 3 (iii) - Execution (iii)

- Doubtful EPPs; doubtful achievements and due diligence, REFSA Focus Paper 2012/02/09, <https://refsa.org/focus-papers/a-critique-of-the-etp-part-3-iii-doubtful-epps-doubtful-achievements-and-due-diligence>

\*\* O. Kian Ming and T. Chi-Chang, Dissecting the ETP Annual Report Part 7

PEMANDU Perception Manipulation and Deception Unit, REFSA Focus Paper 2012/08/09, <https://refsa.org/focus-papers/dissecting-the-etp-annual-report-part-7-pemandu-perception-manipulation-and-deception-unit>

With these concerns in mind, REFSA has made the following recommendations for PEMANDU:

1. Greater transparency on key data for each and every EPP, methodology, as well as targets for GNI, investment, and job creation
2. The creation of a revision mechanism for EPPs in light of actual impact on GNI, investment, and job creation, and the removal of doubtful EPPs if/when necessary
3. Clearer explanation of transformation resulting from EPPs\*

PEMANDU's focus on increasing per capita GNI fails to meaningfully take into account how increasing wealth is distributed among the public. After adjusting for the income of the self-employed, Malaysia's income as a share of GDP increased from 33.6% to 52.7% between 2005 and 2013. However, this is still lower than its peers among the upper-middle income and advanced economies using the same methodology Thailand (averaging 76.4% between 2005 and 2010) and Singapore used (averaging 63% over the same period).†

Then, there is the theoretical issue of effective penalties for government institutions that fail to comply with targets set by PEMANDU. Traditionally, government agencies such as the EPU (Economic Planning Unit) or UKAS (Public-Private Partnership Unit) had more power to require compliance because of the control they commandeered in terms of fund allocations, but PEMANDU has no pragmatic authority in effecting change in existing institutions, so it is questionable to what extent PEMANDU can ensure the cooperation of government instruments that is critical to its transformation projects.

Still, all delivery units (and delivery unit-style programs) in developing context are bound to encounter significant challenges when implementing large-scale changes in complex environments, due to similarities in fragmented institutional environments. Based on the authors' experience, these include, but are not limited to, variable stakeholder expectations, typically insufficient adherence to minimum standards of professionalism throughout the system, failed compliance, as well as weak management and leadership capacity at multiple levels. This is often further hampered by a lack of education, training, and expertise (especially at the grassroots level).

Perhaps it should be noted that the critiques brought up by REFSA are all technical problems not uncommon to young organizations. For example, even the PMDU has not been spared from making the same mistakes. The noted British economist Tim Harford has criticized the PMDU for its poor design in target-setting in some areas which has resulted in a distorted picture of progress. For example, one of the priorities set by the PMDU was to speed up the delivery of emergency medical care, and one of the stipulated targets was that first responders should arrive to "immediately life-threatening cases" within eight minutes, 75% of the time. What resulted was that the data showed a disproportionately high number of first-responders arriving in seven minutes 59 seconds despite the variance in the severity of cases. In some instances, a lone first responder had arrived on scene on a bicycle and would therefore have no realistic chance of delivering a patient to the hospital, thereby hitting the target without producing the desired outcome of improving healthcare.‡

\* O. Kian Ming and T. Chi-Chang, *Dissecting the ETP Annual Report: Part 6 Recommendations for Pemandu and the ETP*, REFSA Focus Paper 2012/08/02, <http://www.refsa.org/focus-papers/dissecting-the-etp-annual-report-part-6recommendations-for-pemandu-and-the-etp/>

† [http://www-wds.worldbank.org/external/default/WDSCContentServer/WDSP/IB/2014/12/17/000333037\\_20141217021308/Rendered/PDF/932370WP0P1528010MiddleClassSociety.pdf](http://www-wds.worldbank.org/external/default/WDSCContentServer/WDSP/IB/2014/12/17/000333037_20141217021308/Rendered/PDF/932370WP0P1528010MiddleClassSociety.pdf)

‡ <http://timharford.com/2014/07/underperforming-on-performance/>



## 8. Implications and Insights for Policy

While it is important to note that this paper is not designed as a how-to guide on setting up a delivery unit, it would be useful to highlight the unique factors that contributed to PEMANDU's successful integration into government and its long-term sustainability. We also looked behind the scenes to provide the context and details on critical elements in its formation and operations to explore the policy implications in establishing and sustaining a delivery unit like PEMANDU.

Very early on in the process, some initial big questions emerged—ones that were critical in shaping how the Delivery Unit would be structured in Malaysia. Some of these decision points highlight a few of the differences in implementing these type of units in emerging markets, vs. a more mature political and economic landscape such as that in the UK. Some of these examples of decisions that were made early on when comparing between the UK model and what PEMANDU would do in the Malaysian context are incorporated into the policy implications below.

## 9. Leadership Matters – PEMANDU's Singing Minister

In order for PEMANDU to function effectively, two factors were essential in the selection and empowerment of its leader:

- a. Background and experience of the leader:** It was determined early on that a CEO for the Delivery Unit should have extensive project management and performance-management experience and should ideally be an expert in transformation and turnaround given the state of public sector delivery in Malaysia. This was different from the UK where the head of the Delivery Unit typically had a stronger background in one content area (e.g. Michael Barber was an academic) in using data/statistics to drive performance, versus broader experience in culture-change and large scale transformation programs.
- b. Official designation of the leader:** If the CEO of the Malaysian delivery unit did not have a Ministerial post, his/her clout in being able to collaborate with other Ministers in charge of specific areas would have been limited. Given the importance of status/bureaucracy in the Malaysian government relative to perhaps the UK, a CEO of the Malaysian delivery unit would be required to hold a Minister-level appointment.

The CEO of Malaysia's Delivery Unit is Dato' Sri Idris Jala. Apart from holding a Ministerial level appointment to ensure his credibility among other top government officials, Jala is one of the highest paid public sector officials in Malaysian history. He was not a politician prior to his appointment as a Minister, thus earmarking a departure from typical practice of appointing politicians to Ministerial posts.

Jala comes from humble beginnings. As a native who was born in a small town in eastern Sarawak state, he attended a local public school which he walked to and from for several hours each day. Through diligence and hard work, he was one of the few from his hometown to secure a position as an undergraduate student in Peninsula Malaysia, where he pursued a degree in management and graduated in 1982. He subsequently secured a job with Shell and pursued his graduate studies in the UK on scholarships. His career within Shell grew rapidly; his last held position was that of a VP based in London with Shell's internal consultancy

group. He had a reputation as a corporate troubleshooter, turning around problematic operations into success stories.<sup>\*,†,‡</sup>

In 2005, he was recruited as the CEO to lead the transformation effort at Malaysian Airlines System (MAS). The challenge to turnaround MAS was immense as it was reporting an annual loss of RM1.7 billion. Jala started at MAS in December 2005 and presented a turnaround plan that involved dropping unprofitable routes, and eliminating jobs using the voluntary separation scheme, in addition to overhauling every department in the company. MAS broke even after a few years of Jala's leadership, and started to deliver record profits.<sup>§</sup>

In 2009, after having gained the attention of the Prime Minister as a credible 'transformation expert', Jala was approached to lead the newly setup Delivery Unit. Given his lack of interest in being involved in anything tied to politics, Jala's initial reaction was one of reluctance. However, after much persuasion about how this role could significantly contribute towards meaningful development in Sarawak (his home state), Jala decided to accept the role under three conditions.

The first was that he would remain politically unaffiliated. The second was that he would be made a full minister with equivalent authority as other members of the cabinet. This made him the only minister without a political party in the cabinet, a distinguished concession in a politically charged federal government. The third condition was that he would be allowed to recruit talented executives from the private sector with competitive wages, which would become both a success factor for and source of resentment against PEMANDU.<sup>¶</sup>

The importance of Jala's ministerial position cannot be understated. Unlike the UK or other culturally similar countries where the President's/Prime Minister's buy-in would have been sufficient to lend legitimacy to a Delivery Unit, Malaysia has the highest Power Distance Index in the world.<sup>\*\*</sup> This indicates a very hierarchical society where authority rests on official titles. Additionally, the historian Farish Noor has written on how politics in Malaysia remains very much driven by the cult of personalities.<sup>††</sup> It is likely that Jala would have been much less persuasive to his colleagues had he not been made a full minister.

Jala has a warm, joyful personality, as well as an affinity for music, and could sometimes be found strumming his guitar and humming tunes at events. This, along with his career background, made him unique among Malaysia's high-profile public officials. As one of the few cabinet ministers hailing from Sarawak—the largest and second least-developed state in Malaysia, he had a deep empathy for the inequalities in development across the Malaysian states. As the former CEO of MAS, he was one of the very few leaders in the country who combined global perspective with the experience of executing a multi-billion-transformation program. Last but not least, he successfully introduced the innovative management techniques that he had pioneered in the private sector into government.

\* <http://www.flightglobal.com/news/articles/idris-jala-transforming-malaysia-airlines-222296/>

† <http://idrisjala.blogspot.com/p/about-me.html>

‡ Human Heart of Borneo, Heart of Borneo Initiative, [http://awsassets.panda.org/downloads/versi\\_inggris\\_revisi01092013\\_cetakfinish\\_1.pdf](http://awsassets.panda.org/downloads/versi_inggris_revisi01092013_cetakfinish_1.pdf)

§ D. Alex, Lind F., and Singham S, Turning around a struggling airline: An interview with the CEO of Malaysian Airlines, McKinsey Quarterly (Nov 2008).

¶ Elena Lesley, *Mapping a Successful Transformation Journey: A Strategy for Malaysia's Future 2009-2011*, Innovations for Successful Societies, Princeton University.

\*\* Power Distance Index 2015 – Malaysia, <https://www.hofstede-insights.com/country-comparison/malaysia/>

†† <https://www.malaysiakini.com/news/2028>

Subsequent to his appointment as the CEO of PEMANDU, it is evident that Jala's presence has shaped much of the organization's journey. Many senior staffers and corporate leaders who had joined PEMANDU shared with the co-author that a key reason they joined the government was because they were inspired by Jala's charismatic leadership style and reputation as an incorruptible official, and wanted to work with him. Beyond attracting corporate sector 'superstars' into the PEMANDU team, Jala's consensus-building approach enabled him to rise above party politics—giving the Prime Minister enough confidence to elevate him to a full Cabinet Minister. Before long, Jala was representing Malaysia at international business forums alongside other Ministers, enabling PEMANDU's mandate and approach to be broadcast to the world.

In the course of working with PEMANDU staff, the co-author attended project briefings with Jala, who insisted on the application of rigorous 'Six-Sigma'\* inspired thinking to public sector delivery programs—the first time it was done in the country. Measurable and realistic performance delivery targets were set for different social focus areas, for instance in education, the aim was to increase the enrolment of students attending pre-school by 15% within twelve months. He also borrowed corporate management practices from his previous roles extensively, including the Delivery Labs methodology which he had developed at Shell. More recently, Jala was named by Bloomberg as one of the 10 most influential policy makers in the world.<sup>†</sup>

Jala's role in PEMANDU's success cannot be understated. In addition to his years of experience in the private sector at the highest level and innovative management approaches, his lack of political affiliation and the universal respect which he commanded made him the ideal mediator in a complex network of politicians from both sides of the political divide, civil servants, and private sector leaders. In hindsight, he was very much the appropriate person to lead PEMANDU.

## **10. 'Delivery Labs' – Inclusive Problem-Solving in Project Design**

When Jala joined the Delivery Unit, he set in motion a process-oriented approach that has defined much of his leadership in Malaysia—the 'Delivery Lab' approach. Initially, the consultants who were largely leading the strategy and setup of the delivery unit were keen on using a more typical approach involving small working teams and select stakeholder interviews to determine the 'plan and targets'. Jala favored a more inclusive, broader approach to problem solving, one that involved creating internal champions, and pulling together people from all segments of the organization to 'pitch in' to solve a challenge.<sup>‡</sup>

Influenced from his experience using the Six Sigma methodology at Shell (which he later replicated at Malaysia Airlines), Jala pioneered the concept of 'Delivery Labs' in the Malaysian public sector. Starting with the Delivery Unit, Jala set the course for a multi-stakeholder, multi-sectoral approach to problem setting and target setting. Over 150 officials, academics, and subject matter experts from the public sector were carefully selected to be part of an intensive twelve-week process. Subsequently, the ETP, together with 500 of the best representatives from the private sector (350 persons from 200 different companies and

\* Six Sigma is a set of techniques and tools for process improvement.

† <http://www.thestar.com.my/News/Nation/2014/09/09/Idris-Jala-named-in-Bloomberg-list/>

‡ Interview with Idris Jala, Delivering Change Foundation, <http://www.deliveringmaharashtra.com/Article.aspx?AID=5243082309353455676&isKA=1>

150 persons from 60 different public institutions, ministries, and agencies), over a grueling two month period attended 600 syndication meetings with government ministries, agencies, MNCs, and NGOs (Performance and Delivery Management Unit, 2011).\*

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*“Strengthening ties through inclusivity facilitates learning and knowledge sharing, as well as adoption of good management practices, result-oriented thinking and professional conduct by civil servants.”*

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Each delivery lab is differentiated by topic and there is a full-time team working towards clear goals and problem-solving. This process is intensively monitored. This platform is used for the syndication and experimentation of ideas, followed by the swift implementation of those ideas. The labs are run with a lean structure, placing everyone on the same playing field and encouraging the conception of groundbreaking yet practical solutions. After forming the teams for the labs, the next step was to conduct “lab scoping.”† This is a process of defining problems and identifying directions towards the goals. The proposed directions were supported by data analysis, followed by brainstorming sessions with the relevant stakeholders (i.e. fact-finding discussions and debriefs). The findings and proposed solutions are then presented to the ministries and departments to create a delivery plan for each area, together with procurement and resource utility strategies. The delivery plan includes detailed information on projects, resources, timelines, targets and project owners. The success of each lab is highly dependent on the quality of the team members to ensure the quality of the solutions.

This structure has a few differences compared to the UK’s PMDU, which plays a more facilitative role in setting targets for the center of government and ensuring that it delivers on its public delivery promises. Contrast this with PEMANDU, which is highly involved in detailed policy making, of which the delivery labs is just one of its policy-making processes. As described by Richards and Smith, PEMANDU has direct contact with the various government departments as compared to previous years where the center of government in Malaysia was dependent on the departments for information.‡

PEMANDU is more inclusive in its approach as the labs include members of the public in charting Malaysia’s future, compared to PMDU’s approach, which is still top-down. Each approach has its own pros and cons, but the essence of the models is similar: using a highly empirical process to identify and solve problems, and measuring the effectiveness of the proposed solutions.

Aside from its core goal, delivery labs add value to the public service of Malaysia through their inclusive nature. Having civil servants take part in the labs helps them gain sense of ownership of the process and identification with its purpose. This consequentially prevents

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\* [http://www.pemandu.gov.my/gtp/upload/BFR\\_Methodology.pdf](http://www.pemandu.gov.my/gtp/upload/BFR_Methodology.pdf)

† [http://etp.pemandu.gov.my/News-@-Quick\\_results\\_from\\_labs.aspx](http://etp.pemandu.gov.my/News-@-Quick_results_from_labs.aspx)

‡ Alessandro M., Lafuente M., and S Carlos., The Role of the Center of Government: A Literature Review, Inter-American Development Bank (Sep 2013).

alienation of civil servants from the core PEMANDU staff and contributes to communication and cooperation in the later stage of implementation. Strengthening ties through inclusivity facilitates learning and knowledge sharing, as well as adoption of good management practices, result-oriented thinking and professional conduct by civil servants. In other words, better governance comes directly as well as indirectly from PEMANDU's actions. This process is already being replicated in Tanzania, where former Prime Minister Mizengo Pinda announced the adoption of Malaysia's delivery unit model.\*

'Delivery Labs' set very ambitious targets and seek to remove hurdles. During these meetings with PEMANDU staff, Jala highlighted the need for ambitious targets as transformation would be irrelevant and the purpose of the labs would be defeated if only incremental targets were set. He quoted the example of setting a reduction target of 20% for crime rates, which although seemingly impossible was the right thing to do, as radical approaches were needed, thereby fulfilling the need for the labs.† He added that people are usually aware of the solution but seldom embark on achieving it due to roadblocks (whether administrative or political). The labs help bring those solutions to fruition, along with best practices from the industry.

The collaborative approach used in the 'Delivery Labs' was essential in helping to bring interesting and new ideas to the table, while keeping the broader goal of growing the economy intact. For example, as a result of the labs, techniques like Enhanced Oil Recovery (EOR) that uses chemical injections or thermal flooding were identified as a means to pursue mature oil fields for exploration and were also expected to improve oil recovery from mature oil fields.‡ The low first-cut risk analysis (fiscal, social, environmental) for these new technologies were conducted simultaneously during lab sessions, and for areas where further research was required, it became part of the detailed implementation plan to be executed by project owners overseen by PEMANDU.

The Delivery Labs, however, are not without their limitations. Sabel and Jordan (2015) highlight the risk that the Labs might become divorced from the reality of the budget and planning process.§ Secondly, although hundreds of firms are invited to participate in the Delivery Labs process, some self-selective effect might still take place, as firms that are smaller or with more limited capacities might be less willing to commit the enormous time and leadership expertise needed for the labs, skewing the final selection of participating firms towards those that already have sufficient resources in voicing their views.

Nonetheless, steps were also taken to mitigate these risks. First, "stress tests" were held regularly, whereby the relevant officials were invited to quiz the Labs' members on the rationale behind their proposed plans, as well as discuss the financial reality of what's achievable. Secondly, the recursive process of invitations means that firms that might have been marginalized at any stage had future opportunities to participate in the Labs to help make them as inclusive as possible.¶

\*<https://www.thestar.com.my/news/nation/2013/07/01/tanzania-to-work-with-local-firms-malaysia-helping-with-education-economic-planning-and-technology-s>

† Lim N., Malaysia's Point Man on Reform, *Forbes* (June 2010), <http://www.forbes.com/2010/06/14/malaysia-idris-jala-razak-reform-guitar.html>

‡ EPP 1: Rejuvenating Existing Fields through Enhanced Oil Recovery (EOR), [http://etp.pemandu.gov.my/Oil\\_Gas\\_and\\_Energy-@-Oil\\_Gas\\_and\\_Energy\\_-\\_EPP\\_1-:Rejuvenating\\_Existing\\_Fields\\_through\\_Enhanced\\_Oil\\_Recovery\\_\(EOR\).aspx](http://etp.pemandu.gov.my/Oil_Gas_and_Energy-@-Oil_Gas_and_Energy_-_EPP_1-:Rejuvenating_Existing_Fields_through_Enhanced_Oil_Recovery_(EOR).aspx)

§ <https://www.theciip.org/sites/ciip/files/documents/PEMANDU%20Study%20--Final.pdf>

¶ Luke Jordan and Charles Sabel, *Doing, Learning, Being: Some Lessons Learned from Malaysia's National Transformation Program*, Competitive Industries and Innovation Program, World Bank Group, January 2015.

## 11. Crafting a Public Communications Strategy – Integrating Politics and Delivery

At the time of PEMANDU's formation, the public sector did not enjoy the most favorable perception, collectively—rightly or wrongly—painted with the same perceptual brush as ineffective at best, and distrusted at worst. Stepping into this breach, PEMANDU's communications strategy took on the tricky balancing act of elevating the perception of the entire sector without overly diluting the role of other agencies.

When the unit was conceptualized to spearhead the transformation of the public sector, generating the right sort of publicity for its efforts was very important for the ruling coalition. Prime Minister Najib was taking over a somewhat rocky position within party leadership and therefore needed to ensure that all the transformation efforts received the right attention from within his party as well as from the general public.

However, creating a comprehensive public relations strategy for PEMANDU was no easy task. At first, several advertising and marketing agencies were approached to do branding for PEMANDU, but all of them dropped out as soon as they realized the scale and complexity of its programs. In the end, PEMANDU had to do its own branding campaign. A large part of this public communications strategy was achieved through two means—using a strong, public-focused roadshow methodology as well as a strong external facing communications team within the delivery unit.\*

After initial targets and recommendations for focus areas were developed through the 'Delivery Labs' approach, highly publicized 'Open Days' were held to get feedback from the broader public about the approach. In reality, the exercise was broadly focused on generating buzz and buy-in for ideas versus any real 'feedback solicitation'; the public attended expensive and ostentatious events held in hotels and convention centers around the country and were allowed to share their thoughts using sticky notes as well as pose questions to public sector officials who manned the booths throughout the event. The booths also had large charts and displays that highlighted the different delivery targets and rationale for each of the focus areas.

*An example of these 'Open Days' was events held after the recommendations for the Economic Transformation Program were developed, where public syndication was held all across the country for public feedback. As a consequence of the RM12.5 million investment<sup>†</sup> spent to engage Malaysians, the twelve focus areas for reform got a huge amount of local and international press coverage, and a significant amount of buzz was generated on all the upcoming projects. Although the broader public feedback process could still be improved upon, it was still an improvement upon the government's usual way of rolling out policy decisions with limited public engagement, and in this sense, outreach efforts by PEMANDU can be considered a success.*

\* Elena Lesley, *Mapping a Successful Transformation Journey: A Strategy for Malaysia's Future 2009-2011*, Innovations for Successful Societies, Princeton University.

† <http://www.themalaysianinsider.com/malaysia/article/rm63.9m-spent-on-consultants-and-etp-gtp-open-days>



After the ‘event driven’ media strategy, a strong communications team was built within the Delivery Unit. Bringing in a variety of communications professionals from the private sector as well as some small companies in the PR space (e.g. social media firms), the government began an ongoing process of keeping the Malaysian public involved and interested in their delivery work. This ranged from full-page newspaper advertisements, close support provided to each Ministry on their own communications efforts, to actually engaging Malaysians on Facebook and other social media platforms. This marked a radical refashioning in transparency from the government on critical areas of public sector delivery.

Many of these intensified communication efforts were received with mixed support from the public, with some hailing the increase in engagement as helpful and meaningful in furthering the debate on key issues, while many others (especially those from the opposition party) seized the opportunity to carefully analyze the shared data and information, and identify flaws in the approach.

It should also be noted that the incumbent government probably also used the road shows and open days as a subtle method to survey public sentiment and understand why it lost two-thirds of its majority in the 2008 general elections. A pre-election study carried out by the Merdeka Center back in 2007 showed that issues such as low household income, crime, and corruption topped the list of issues that generated the most resentment towards the Barisan government.\* The public engagement exercises carried out by PEMANDU merely helped confirm these findings. The NKRA that was subsequently drawn up, as well as the very vocal public statements by PEMANDU in asserting that improvements have been made in these areas, suggest an effort to address these issues, in part perhaps to regain support for the next general elections.†

## **12. Ensuring Sufficient Financing – Delivery for a Price**

Sufficient budgetary resources were crucial for PEMANDU to attract the best talent, enable capacity building and sustain an ambitious communications strategy. Given the large gap between the pay-scales within the Government and the private sector, the one factor needed to attract the best talent was to ensure a competitive remuneration scheme for those working in the Delivery Unit. A detailed scheme that was developed set the pay very close to within 20% of comparable private sector roles, across all levels of the organization.

PEMANDU leaned heavily on external consulting support and an extensive communication budget to ensure that it developed in-house capabilities and also brought the Malaysian public along for the transformation journey. Even with private sector compensation schemes in place, the ‘up-skilling’ that was required by placing the PEMANDU employees next to seasoned management consultants and policy experts proved to be valuable in the long run.

Consulting support costs and communication expenditure across 2010-2011 for PEMANDU are estimated to cost RM66 million (est. US \$20 million), of which the majority of RM36 million (est. \$11 million) was supposedly paid to consultants, thereby generating significant public criticism‡ (the remainder, US \$9 million, went mostly towards

\* <http://www.merdeka.org/v2/download/Post%20Election%20Overview%20-%20Presentation.pdf>

† <http://www.themalaysianinsider.com/malaysia/article/pemandu-crime-dropped-10.1pc-from-january-to-may>

‡ <http://www.malaysiakini.com/news/149861>



communication efforts). Of the initial cohort of 13 ETP (Economic Transformation Program) labs held concurrently over a three-month period, at least seven commissioned external consulting teams from companies such as McKinsey, the Boston Consulting Group, and Bain were hired.

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*“External consulting support is temporary but can be meaningfully used to build capacity, if utilized in the right way.”*

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The high salaries of the internal consultants have been a source of resentment for the civil service. According to Jordan and Sabel (2015), the active recruitment from the private sector, the high wages, as well as the use of performance bonuses have all been vital to PEMANDU's success in maintaining a staff of high-performing individuals. However, such blatant use of monetary incentives also carried several risks, including the effect on the morale of middle and junior officials, the effect on recruitment for the civil service beyond PEMANDU, the undercutting of esprit-de-corps, and the herd mentalities that such incentives might generate.\*

In response to charges of high expenditure allocated to PEMANDU, Jala released a statement in October 2010, contending that the operating budget of PEMANDU for 2011 was RM40 million (est. \$12 million), while a further RM334 million (est. \$100 million) and RM355 million (est. \$105 million) were allocated for the GTP and ETP transformation projects respectively.† Nonetheless, the establishment of PEMANDU in the early years could still have been replicated at a lower cost, had the Malaysian government been more willing to rely on capable local experts than on international management consulting support—a view that has been shared by opposition lawmakers.‡

The high expenditure notwithstanding, the investment in consulting support helped develop capacity-building for PEMANDU staff, who subsequently (without any further consulting support) ran the more complex delivery labs for the Strategic Reform Initiatives (SRIs) and went on to provide consulting support to countries such as Tanzania, for which PEMANDU has received remuneration for its expertise. Hence, high compensations which might seem like a short-term expenditure were rather long-term investments which contributed to the professionalization of the public service and better governance.

Based on the authors' close working knowledge and interviews with current and ex-PEMANDU staff, it is also important to note that today the organization informally serves as a 'center of excellence' within the government and is often seen as a place where several Ministries and agencies can go to for internal consulting support on complex problem-solving. The lead author (as one of the external consultants involved in PEMANDU's early days) can also testify to PEMANDU's dramatic reduction in reliance on consultants over the first few years, to the point that by 2013, external consulting support for PEMANDU's activities had become an exception rather than a norm. In that period, PEMANDU developed

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\* Luke Jordan and Charles Sabel, *Doing, Learning, Being: Some Lessons Learned from Malaysia's National Transformation Program*, Competitive Industries and Innovation Program, World Bank Group, January 2015.

† Media Statement by Senator Dato' Idris Jala (Oct 2010), [http://etp.pemandu.gov.my/upload/Media%20Statement%20-%20Recently%20Asked%20Questions%20\(29%20October%202010\).pdf](http://etp.pemandu.gov.my/upload/Media%20Statement%20-%20Recently%20Asked%20Questions%20(29%20October%202010).pdf)

‡ <http://www.themalaymailonline.com/malaysia/article/local-experts-better-pick-to-prepare-schools-blueprint-mps-say>

a strong internal team who had, from years of close collaboration with external consultants, learned to incorporate many standard consulting approaches such as stakeholder management plan design and 80-20 analysis, as well as translate complex processes into meaningful and accessible presentation documents. This demonstrates that external consulting support is temporary but can be meaningfully used to build capacity, if utilized in the right way.

### **13. Aligning Targets with Implementation Feasibility**

PEMANDU seems to have documented less success in implementing the SRIs relative to other components of the ETP or the GTP. The SRIs, focused on extremely broad institutions such as public finance, cover challenges that are difficult to measure by a KPI-type mechanism. Meanwhile, there are also SRIs, such as human capital development, which require changes on a societal level. For an organization that delivers solutions from a top-down level like PEMANDU, there are realistic limitations on the extent with which PEMANDU is able to effect change on a vast social scale. This is perhaps something that other countries intending to replicate the PEMANDU model might want to take note of.

Another example of the possible misalignment between program targets and implementation feasibility in PEMANDU is the case of improving access to education for special needs children in Malaysia. Under the 2013-2025 Education Blueprint drawn up by PEMANDU, the government aims to enroll 30% of all special needs children in inclusive programs by 2015, and up to 75% by 2025. However, the same document also admits that (1) the UNESCO estimates that approximately 10% of children in Malaysia have special needs, and (2) there are currently only 50 clinical psychologists and 157 speech therapists employed by the government. Given the current population of Malaysia at 30 million and approximately 30% of the population aged 15 and under, there could be up to 900,000 children with special needs in Malaysia, whereas *The Star* reported in 2014 that only a paltry 58,253 children with special needs have been enrolled in Malaysian schools, and of which less than 8,000 were in inclusive programs.\* As lofty as PEMANDU's goals may be, it's highly unlikely that these targets can be met without an accelerated program in place to train the necessary personnel for special needs education on a large scale. This is just one example, and it suggests that some targets set by PEMANDU may be unrealistic given the implementation constraints in the country.

The pressure to meet targets with implementation issues brings to question the extent to which delivery units should balance between strategy/monitoring and implementation support. Given that many of the executing agencies in Malaysia are less effective than their counterparts in developed countries in terms of implementing public policies, a strategic decision was made that PEMANDU would play a small role (ideally minimal) in implementation support versus pure monitoring and analysis of results.

### **14. Conclusion**

The fact that PEMANDU has received significant recognition beyond Malaysia for its transformation efforts and been heavily studied as a reference point for the establishment of similar organizations in developing nations is testimony, to a certain extent, to the effectiveness

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\* <http://www.thestar.com.my/News/Education/2014/08/24/Special-needs-learners-face-obstacles/>

of its organizational and execution frameworks. This paper has outlined the background and context of how and why such a delivery unit was conceived of, and eventually set up, in Malaysia. Secondly, based on PEMANDU's experiences both in its successes and challenges, our research has identified several key policy implications, namely:

- the importance of strong leadership;
- the delivery labs approach;
- a strong public communications strategy;
- the ability to finance program and staff, and;
- the need to align targets with implementation feasibility.

PEMANDU has often been on the receiving end of external criticism, but as laid out in the paper, many of these are technical in nature. If the PMDU, a delivery unit in a developed nation headed by leaders hand-picked by the Prime Minister, is capable of committing technical mistakes, then it would not be hard to imagine that similar organizations like PEMANDU, in developing countries, would be susceptible to making some mistakes over the course of executing such a vast and complex transformation program.

While PEMANDU's long-term success remains to be seen, the authors are largely in agreement with some of the criticisms leveled against it that the problems highlighted could be rectified through the proposed solutions—greater transparency, the creation of a revision mechanism to ensure that figures are updated in a timely fashion, better monitoring, to name a few. This is not a defense of PEMANDU's genuine shortcomings, we are merely pointing out that these shortcomings are not unique to PEMANDU, and that they are not insurmountable.

As for Malaysia's role in helping Tanzania implement its Big Results Now program, a few caveats need to be kept in mind with regard to the application of a PEMANDU-like agency in another country. From Malaysia's perspective, the opportunity to expand the principles and methodology of PEMANDU beyond its shores is attractive for cementing its credibility and heightening its political influence, but the approach is not without risks.

According to Jordan and Sabel, replicating a PEMANDU-like program requires at least three conditions: first, a political consensus in favor of carrying out reform in public service (or at least a lack of possible political hindrances), second, a government that is responsive towards information in enacting changes and penalties, and third, a minimal level of variation in the capabilities of government, firms, and agencies so that there is space for improvement. Failure in securing these conditions would be costly to both PEMANDU and the government receiving consulting support. However, it seems that PEMANDU has developed mechanisms for ensuring that the political/government conditions are met, as well as willingness on part of the recipient government in information sharing before engaging abroad as in the case of Tanzania.\*

The ETP launched by Prime Minister Najib was a means to an end; to elevate the country to developed nation status by increasing investments and creating jobs in twelve NKEAs.

\* Luke Jordan and Charles Sabel, *Doing, Learning, Being: Some Lessons Learned from Malaysia's National Transformation Program*, Competitive Industries and Innovation Program, World Bank Group, January 2015.

The delivery unit (PEMANDU) fulfilled the key organizational-design attributes described by Michael Barber (Barber, 2011) namely; respected leadership (Jala's proven track record at Shell and MAS' business turnaround plans), limited team size, top talent from the private and public sectors, and a non-hierarchical relationship with the system (PEMANDU's non-overlapping relationship with government agencies and ministries).

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*"We have identified several insights and implications for policy makers that can help operationalize a paradigm shift."*

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Given the significant differences in political and economic development between Malaysia and the UK, the design and setup of PEMANDU (the Malaysian Delivery Unit) had to be tailored to suit the Malaysian socio-political landscape, even as it was modeled after the PMDU (Prime Minister's Delivery Unit). Though the political maturity may vary among other countries seeking to simulate the establishment of delivery units, the need for region/culture-specific customization of leadership styles, organizational hierarchy, and human resource management is essential for the maximal alignment of the Delivery Unit's structure as well as its goals and purposes. Bearing these inevitable differentiations in mind, the measured success of PEMANDU, since its inception in 2010, in improving governmental service delivery in Malaysia, demonstrates the viable adoption of the PMDU model to other developing nations.

At the outset, this paper sought to study how the Paradigm Shift that PEMANDU represents could help improve governance and leadership for better public sector service delivery. Over the course of the paper, we have identified several insights and implications for policy makers that can help operationalize a paradigm shift. It is our hope other countries and organizations will look at the transformational efforts of the Malaysian PEMANDU as an inspiration in the establishment of contextualized delivery units.

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#### **References**

1. Barber M., Kihn P. and Moffit A, *Deliverology: From Idea to Implementation*, *McKinsey on Government*, Spring 2011. 33-35
2. Panchamia N. and Thomas P., *Public Service Agreements and the Prime Minister's Delivery Unit*, Institute for Government.
3. World Bank, "Recently Asked Questions Series", GET Note: Center of Government Delivery Units, World Bank (Nov 2010), 1
4. UNDP, Mahani Zainal Abidin and Prof. Rajah Rasiah, "The Global Financial Crisis and the Malaysian Economy," 2009
5. Charles Sabel and Luke Jordan: "Doing, Learning, Being: Some Lessons Learned From Malaysia's National Transformation Program," January 2015
6. Barber M., Kihn P. and Moffit A. *Deliverology 101: A Field Guild for Education Leaders*. Corwin, 2.
7. Office of Prime Minister, Malaysia, "Government Transformation Program, The Roadmap - Executive Summary," 2010
8. Pemandu, Economic Transformation Program Annual Report 2011
9. Pemandu, Economic Transformation Program Annual Report 2012
10. Pemandu, Economic Transformation Program Annual Report 2013
11. Pemandu, Economic Transformation Program Annual Report 2014

12. Pemandu, Oil, Gas, and Energy, Economic Transformation Program Annual Report 2011
13. Greater Kuala Lumpur/Klang Valley, Economic Transformation Program Annual Report 2012
14. Comin, Diego A., and Ku Kok Peng (2012) Malaysia: The Economic Transformation Program (B) in *Harvard Business School Supplement* 713-008, September 2012. (Revised February 2013.)
15. D. Alex, Lind F., and Singham S, Turning around a struggling airline: An interview with the CEO of Malaysian Airlines, *McKinsey Quarterly* (Nov 2008).
16. Elena Lesley, *Mapping a Successful Transformation Journey: A Strategy for Malaysia's Future 2009-2011*, Innovations for Successful Societies, Princeton University.
17. Alessandro M., Lafuente M., and S Carlos., The Role of the Center of Government: A Literature Review, *Inter-American Development Bank* (Sep 2013)
18. Lim N., Malaysia's Point Man on Reform, *Forbes* (June 2010)
19. Luke Jordan and Charles Sabel, *Doing, Learning, Being: Some Lessons Learned from Malaysia's National Transformation Program*, Competitive Industries and Innovation Program, World Bank Group, January 2015.
20. O. Kian Ming and T. Chi-Chang, Critique of ETP(1), REFSA, Focus Paper 2010/01/19
21. O. Kian Ming and T. Chi-Chang, Dissecting the ETP Annual Report: Part 2 & 3
22. O. Kian Ming and T. Chi-Chang, A Critique of the ETP: Part 3 (iii) - Execution (iii)
23. O. Kian Ming and T. Chi-Chang, Dissecting the ETP Annual Report: Part 6 Recommendations for Pemandu and the ETP, REFSA Focus Paper 2012/08/02

## **Mastering What Transforms: Dream the Impossible Dream and Go for It**

**Charles E. Smith**

Institute for Advanced Freedom, Santa Fe, New Mexico, USA

*"Most civilization is based on cowardice. It's so easy to civilize by teaching cowardice. You water down the standards that could lead to bravery. You restrain the will. You regulate the appetites. You fence in the horizons. You make a law for every movement. You deny the existence of chaos. You teach even the children to breathe slowly. You tame."*

**– Frank Herbert**

### **Abstract**

*For a long time, we have been operating in ways that are used up and do not adequately address contemporary issues and concerns. People everywhere know it. This bankruptcy calls for a new code—a new Magna Carta, denying the rights given by the old social and economic order and declaring a new platform for the rights of men and women. Taken from fifty years of observation and experience in both successful and unsuccessful efforts to help individuals and organizations reach seemingly impossible goals, the article presents counter-intuitive roadmaps for leaders, teachers and students, grounded in what is real for them. This 'kaleidoscope' of choices from points of view other than one's own often helps individuals and systems move from cultures of bureaucratic complexity to cultures of human mutuality and extraordinary performance.*

### **1. The Problem**

At this extraordinary time, the most important question we can ask is how to deal with massive disruption. The challenge is in how to change the nature, appearance, character or function across business, education, community, leadership, governance, and relationships. The intent is to foster cultures of mutuality and bravery while succeeding in this new world, delivering on essential expectations and achieving performance excellence.

Three friends, each leaders in their fields, independently said to me recently that they attend many conferences about innovation, collaboration, and consciousness, but little actual innovation, collaboration, or consciousness happens. Somehow language, linearity, cognitive and analytic conversations, or what is missing in their relationships keeps them from finding what they are looking for. Perhaps, in the search for answers, we should stop looking for them under the streetlight and look instead in the dark, where we lost them.

Chinese Philosopher Lao Tzu tells us that the 'Tao' is the natural order within which human intuition must discern, in order to realize the potential for individual wisdom. This intuitive

‘knowing of life’ cannot be grasped as just a concept, but through the actual living experience of one’s everyday being.<sup>1</sup> From that viewpoint, I have been inspired by:

- Teaching my children to think for themselves in home schooling by honoring their own bliss in that to which they were naturally drawn and wanted to excel.
- A client’s success in helping bring peace between warring nations at a Middle-East Peace Conference, by capturing people’s hearts as well as minds with a counter-cultural, uncharacteristic approach.
- Winston Churchill leading England through its Darkest Hour in World War II, with the force of his own will, in the face of massive disagreement.
- Leaving planet Earth and going to the Moon in 1969; a stellar example of turning the impossible into the possible.
- Franklin Roosevelt welcoming and defying his opposition and staying true to his principles in emerging from the Great Depression.
- An energy company’s CEO who continuously makes fundamental life changes by recognizing what is no longer working and choosing new, unknown paths.

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*“Self-importance is a primary barrier to innovation, teamwork and collaboration.”*

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## 2. The Tao of what Transforms

*“The words of truth are always paradoxical.”*

– Lao Tzu

Mastering the Tao of What Transforms in life requires a myriad of choices from counter-intuitive points of view that allow systems to move from cultures of bureaucratic complexity to cultures of collaborative innovation and commitment. It offers a Philosopher’s Stone of values, abstractions and intentions that can transform the base metal of human behavior into the gold of human passion, mutuality and high performance.

The Tao Te Ching is a short text of 81 brief chapters or verses. (There is some evidence that chapter divisions were added later, and that the original text was more fluidly organized and read.) The ideas are complex and often poetic. The style of writing encourages varied, even contradictory interpretations, and is the model for what follows.

(Note: It is often useful to read a few lines and contemplate on one or two that attract or seem most relevant, rather than approaching the whole as a single piece.)

- From the wisdom of Albert Einstein: “I believe that we do better to try to understand things with the help of concepts we have formed for this purpose—but being conscious every minute that these concepts are our poor inventions which will never enable us to draw final conclusions about the ‘nature of ultimate reality’ whatever this may mean.”



- Self-importance is a primary barrier to innovation, teamwork and collaboration.
- The initial topic, however complex it may be, does not matter because the spirit of something (and the possibility of it), has no perceivable essence; masters of transformation deal rather with specific essences in which they are able to shatter the mirror of self-reflection.<sup>2</sup>
- Seek to change what people experience rather than what they understand.
- Be willing and trust your capacity to allow someone to share an intense trauma or experience that has caused a fixed point of view.
- Listen in a way to maximize the freedom of others to choose, consistent with what they deeply care about.
- Seek Human Mutuality—the experience that, “We are in this together.”
- Practice ‘Overview Consciousness’—the whole of a situation is always greater than, or other than, the sum of its parts.
- Create ‘Islands of Sanity’—an experience of coherence, safety, and vibrational energy that opens up the capacity to address unasked questions.
- Live from ‘Contemplative Action’—patient consideration over time and action that is concrete, competent, honest, compassionate, forgiving and courageous.
- Trust that ‘Breaking Free’ is possible—energetic, concrete action that breaks the grip of gravity and unwanted constraint.
- Put ‘Dots in the Future’—know that the most reliable predictor in a possible future is what is imagined and acted on now.
- Embrace the reality of a never-ending war between the Force (a universal energy field for compelling action, healing and compassion), and the Dark Side (an opposing force driven by fear, anger, hatred and aggression).
- “There are two kinds of pain in this world: one that hurts, and one that alters.” \*
- ‘Not Knowing’ is essential to moments of Advanced Freedom.
- Know that your main job is to expand your own and others’ Energy.
- Accelerate Human Contact—looking, listening, moving, talking, touching, breathing to expand energy.<sup>3</sup>
- Do not hide from chaos with the false expectation of order.
- Pay attention to your confusion, before your certainty.
- Seek to perfectly integrate Intention and Flow.
- Listen and Speak from the Creative Use of your Present Awareness.
- ‘Connect and Move-on’ as a practice and a gateway to freedom.
- Notice that ‘Consciousness’ and ‘Freedom to Choose’ are the same.

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\* Denzel Washington in the film, *The Equalizer II*

- Always remember your Primary Intention.
- Now is the Moment of Power.<sup>4</sup>
- Grasping is the source of suffering.\*
- Pay attention to ‘Context’—circumstances that form the setting for an event, statement, or idea; the terms from which something can be fully understood.
- Always pay attention to your own freedom first.
- Appreciate the extreme power of being single-minded.  
(e.g., in one tough-minded business environment:
  - Who are you?
  - Why should I listen to you?
  - How will you make money for me?
  - Who that is truly credible will stand up for you?)
- What is your ‘Dream of the Earth’?
- ‘What is Missing’ that gets what is missing to be missing?
- Never avoid ‘Speaking and Listening From your Heart’.
- If one moment were not connected to the next, what would you do?
- Practice committing yourself to the impossible.
- Recognize and avoid ‘Energy Vampires’.<sup>5</sup>
- Remove blocks to human connection in listening, speaking, avoiding.
- Practice Acknowledging and Acting on what you are afraid of.
- Say ‘What Lies Beneath’.
- Attempt to refrain from Transactional Relationships.
- Don’t Be a Noodle in Someone Else’s Soup.<sup>6</sup>
- Listen to your internal vibrational sense: “If there is any doubt, there is no doubt.”
- Look for the ‘Kairos Point’—moment-to-moment knowing without thought.
- In the vast emptiness of Creation, awesome Creator and Creation are one.
- Be Silent.
- Stop seeking agreement for who you are.
- Be Curious and collect curious ‘Kindred Spirits’.
- There are an infinite number of possibilities that do not exist until you ask a question.
- Trust that something is not True just because you believe it.
- Practice ‘Causation that Resonates’.<sup>†</sup>

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\* See [Four Noble Truths](#), multiple versions at Amazon

† Richard Whitehurst’s reference to [Morphic Resonance: The Nature of Formative Causation](#) by Rupert Sheldrake

- Eliminate Force from speaking, agenda, process.
- Be Ruthless and Compassionate at the same time.
- Keep looking for what is possible.
- Eliminate Noise.
- Stop Unnecessary Explanation.
- Be ‘Cause’ in the Matter at Hand.
- Grasp and Release at the same time.
- Remember that, “Everything Wonderful is a Surprise”.\*
- Bring the ‘Overview Effect’—the awesome astronaut experience of seeing the earth and universe from space—to your immediate situation.<sup>7</sup>
- Consider the physical and relational worlds at the same time.
- Be vulnerable without being weak.
- Say what you mean and mean what you say: Assert, Declare, Request, Promise.
- Fundamental change requires pain, cognitive dissonance, zero gravity, and a warrior’s mentality.
- Allow curiosity rather than current beliefs, opinions and perceptions to shape every engagement.
- Be aware of when one’s agreement and disagreement are blocking new insights.
- Focus on what is minimized or avoided.
- Become aware of what is not yet visible.
- Be inquiring—a conclusion is the place where you stopped thinking.
- Be the Spark: ‘Sparking me, Sparking you’—a living sense that something new is possible.

### 3. The Next Question

With respect to your own interests and concerns, what alternative models exist or can be conceived of to more effectively pursue the ideals of freedom, competence, security, prosperity, social equality and mutuality?

***The premise is that the universe consists of an infinite number of possibilities that do not exist until you ask a question.***

- At this extraordinary time, what is the most important question I can ask?
- What is missing/absent which, if it were present, would make a big difference?
- What is missing that gets what is missing to be missing?

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\* Charles E Smith, Library of Professional Coaching <https://libraryofprofessionalcoaching.com/case-studies/leadership-case-studies/everything-wonderful-is-a-surprise>

- What is impossible, which if it were possible, would create a great leap forward? What could I do just to make it possible?
- Is relationship the foundation of accomplishment?
- Are consciousness and the freedom to choose the same?<sup>8</sup>
- Am I willing to promise what I cannot predict?
- From the Johnny Depp movie, Don Juan De Marco: “There are only four important questions in life”:
  1. What is worth living for?
  2. What is worth dying for?
  3. What is sacred?
  4. Of what is spirit made?

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*“The time, the need, is Now.”*

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#### 4. An Alliance of Kindred Spirits

What is next is an Alliance of Kindred Spirits—a movement based on leaders’ existing or aspirational, spiritual, human and pragmatic values and interests. Practically, this looks like the expansion of Present Awareness-based, Conscious Conversation in everyday life and work. This is teachable, accessible, coachable and applicable in strategic visioning, education, conflict resolution, project management, leadership development, family and community.

For individuals and cultures, ‘Mastering the Tao of What Transforms’ is a form of evolutionary activism; a place from which to teach to train, mentor, and support leaders, scientists, teachers, advisors, mediators and coaches who want to create collaborative innovative systems for what is possible. In its absence, we are stuck with what we already have, or forever trapped in the grip of existing character, power, position, and economic interests. The time, the need, is Now.

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#### Notes

1. Lao Tzu, *The New Translation from Tao Te Ching: The Definitive Edition* (New York: Jeremy P. Tarcher/Penguin, 2008)
2. Adapted quote from Carlos Castaneda, *The Power of Silence: Further lessons of Don Juan* (New York : Washington Square Press, 1997)
3. Charles Smith, “In Search of Islands of Sanity,” *Eruditio* 2, no.3(2017):18-27
4. Serge Kahili King, *The Urban Shaman* (New York: Touchstone, 2014)
5. Charles E Smith, *Don't Be a Noodle in Someone Else's Soup* ([S.I.] : BLURB, 2017).
6. Charles E Smith, *Don't Be a Noodle in Someone Else's Soup* ([S.I.] : BLURB, 2017).
7. Frank White, *The Overview Effect* (Reston: American Institute of Aeronautics and Astronautics, 2014)
8. Mark Friedman, *The Origin of Consciousness: The Natural Selection of Choice-Making Systems* (North Charleston: CreateSpace Independent Publishing Platform, 2012)

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The editorial guidelines reflect the policy priorities for the publication of articles in this forum of the World Academy. These priorities are:

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