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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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World Academy of Art & Science, 4225 Solano Avenue, Suite 631, Napa, CA 94558, USA.

Editorial office:

University of Florida, Levin College of Law, P.O. Box 117625, 2500 SW 2nd Avenue, Gainesville, FL 32611, USA.

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Website: <http://eruditio.worldacademy.org/>

Email address: eruditio@worldacademy.org

Editorial

[“For a Universal Declaration of Democracy”](#) by **Federico Mayor Zaragoza** promotes the adoption of a universal declaration of democracy. He reminds us that the UN charter was adopted with a preface that it is being adopted on behalf of the peoples of the United Nations. While the document in the same paragraph reaffirms its faith in fundamental human rights, the term democracy doesn’t appear in any of its provisions. It is possible, of course, to imply that the reference to the peoples of the UN is as well a reference to the rights of peoples and their role in the creation of a new global constitution. He notes that democracy appears in the preamble to UNESCO’s constitution as well as in the universal declaration of human rights. He draws attention to the fact that democracy works if human rights are respected and have their most important traction within a democratic political culture. He asserts that the concept of democracy has not received adequate development and explication in terms of agreements and other UN related instruments. He believes this is an important gap and that it can’t be remedied by the development and adoption of a universal declaration of democracy. To this end he has put together the outlines for a project on a universal declaration of democracy and has articulated the framework of articles that should be reflected in the possible adoption of such a declaration. The central idea behind the impulse of democracy is shared rights and shared responsibility as a pathway to global solidarity and universal dignity. The Editor believes that this universal declaration should be adopted not only via the aegis of the UN General Assembly but by legislatures of governments throughout the world. It should indeed be endorsed by all learned associations and all progressive internal non-governmental organizations. This is an important initiative and editors of *Eruditio* hope that it would receive appropriate attention in the world community.

[“World University: Global Strategy for Higher Education”](#) by **Jüri Engelbrecht** is a short article that provides important pointers about globalizing strategies for higher education. In this space Engelbrecht views the university partly as an inter-temporal and unique human institution. He draws attention to the fact that global problems are sufficiently equipped today, which begins to challenge the very conception of the university and what universities are for. He points out that the universities’ ways of functioning implicate, inter-alia, finance, industry and manufacturing institutions which make money from knowledge generation. A problem for the future is that society needs both knowledge and money and it is a challenge to appropriately reconcile these in beneficial ways. He gives several important illustrations of innovations in higher education such as the venture capital fund “SITRA” which created courses for policy makers. This initiative, it seems to the Editor, is important because policy education often does not find an explicit academic form in the context of higher education. His article concludes with two simple rules: (1) Support quality and (2) Support young people. This is a very useful article for thinking through the globalization of higher education.

The article by **Jayasree Ahuja** on [“Human Needs Approach: A New Foundation for Knowledge Organization in the 21st Century”](#) examines the epistemology of the humanities and notes that the concept of knowledge remains somewhat ambiguous and controverted. It gives us a short overview of the development of epistemological thought in the West and then brings us to the modern period. Central to her approach is that knowledge should have its focus on human needs and to provide clarity about what human needs are. She believes

that if we organize knowledge according to human needs, it may be seen as superior to an approach based on conventional subject-oriented topics. She demonstrates the value of the needs-based epistemology and demonstrates that the link between knowledge and the human mind is better understood using the needs approach. This is a very useful contribution to examining the challenges of modern epistemology. In particular, the legal anthropology of Malinowski developed the legal categories of relatively primitive societies showing that the categories that are referenced to human needs in the jurisprudence of the policy sciences were developed by WAAS Fellows Lasswell and McDougal. These theorists took the needs idea of Malinowski and analyzed them to basic values which are cross-culturally demanded and sought on a global basis. In this sense, the values themselves form a clarification for the development of a human-centered epistemology.

J. Martin Ramirez's article on [“Aggressiveness can be Psychobiologically Milder: How to Achieve Peace”](#) is an insightful inter-disciplinary investigation into whether aggression is built into the human DNA and makes human beings a war-prone species. The scientific evidence repudiates this and therefore demonstrates that there is nothing inevitable or natural about war; the scientific evidence points to the possibilities of globalizing a culture of peace. In short, science demonstrates that war is not inevitable and that peace is possible.

Jakob von Uexkull has written a brilliant and important observation from the battlefield. [“Science and Spirituality: Observations from the Battlefield”](#) questions the idea that science holds a monopoly on the modern path to truth. In particular, he is skeptical of the implications of scientific truth driven by a mechanistic universe and a mechanistic selection of the fittest without purpose or meaning. In contemporary secular tradition matters that cannot be explained by mechanistic laws of cause and effect are completely discarded and yet the abundance of evidence of non-mechanistic insights, for example, healing, is largely ridiculed or denied. Thus, operations, in which acupuncture is used as an anesthetic although demonstrated to be successful, cannot be the test of a specifically material causal relation between the acupuncturist's intervention and pain. Uexkull draws attention to matters of telepathy and tele-kinetic powers, and notes that the findings of quantum physics limit the validity of scientific materialism. Uexkull argues that wisdom and truths that may emerge from the spiritual tradition may well represent a broader notion of enquiry with immense benefit to mankind – matters that conventional science cannot explain. This is a brave and important contribution that will help to generate interest and concern.

[“The Future of the Pacific and its Relevance for Geo-economic Interests”](#) by **Francesco Stipo et al** is a useful article which highlights the most important US-Asian relationships, especially in the area of economic organization. It touches on the issues of energy, resources and how these will play out in terms of the interests of the Pacific region. It provides an excellent summary of an important future trend.

Winston P. Nagan

Trustee of the World Academy of Art & Science

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Editor-in-Chief, *Eruditio*

For a Universal Declaration of Democracy

Federico Mayor Zaragoza

Chairman, Foundation for a Culture of Peace
Fellow, World Academy of Art and Science

Abstract

The Charter of the UN, which was adopted on behalf of the “Peoples of the United Nations”, reaffirms the “faith in fundamental human rights, in the dignity and worth of the human person, in the equal rights of men and women and of nations large and small”... However, the term “democracy” is not used by any of its provisions.

It is only in the preamble of UNESCO’s Constitution that the “democratic principles” are mentioned: “dignity, equality and mutual respect”...

The Universal Declaration of Human Rights only mentions democracy once in Article 29.2: “...human rights based mainly, but not solely, on the requirements “of morality, public order and the general welfare in a democratic society”.

During the Cold War democracy took shelter in the regional organizations (the European Council, the Organization of American States and, sometime later, the European Union). Since 1989 democracy has continuously been dealt with in every work undertaken by international organizations: United Nations, the African Union, the Inter-Parliamentary Union...

Democracy can only exist if human rights are respected and protected, while human rights may in turn flourish only within a democratic regime.

It is the first time that democracy is dealt with as a five-fold reality which includes political, economic, social, cultural and international democracy.

Since it is based on liberty and human rights, the democratic regime is indeed the best guarantee for national and international peace, combining the efforts of all actors in social life: States, individuals, public and private organizations. Under these conditions a true culture of peace could emerge.

1. Rationale

1.1. Democracy Disregarded

1. The Charter of the UN, which was adopted on behalf of the “Peoples of the United Nations”, reaffirms the “faith in fundamental human rights, in the dignity and worth of the human person, in the equal rights of men and women and of nations large and small”... However, the term “democracy” is not used by any of its provisions. The democratic nature of the government is not the main requirement for a State to become eligible to join the United Nations; nor is the violation of democratic principles – and, first of all, the violation of human rights – a reason for a State to be excluded from the United Nations.

It is only in the preamble of UNESCO's Constitution that the "democratic principles" are mentioned.

2. It's undeniable that the East-West confrontation from 1940 to 1980 is to be regarded as the explanation of the United Nations' conception of democracy. Since there were basic discrepancies about the meaning of democracy ("popular" democracy versus "real" democracy), it was only considered as another supplementary argument to be used in the conflicts between them, instead of being the stand-base for national and international peace.
3. Even at the end of the Second World War, the disagreement over the meaning of democracy was not – or at least not immediately – extended to the other essential feature that makes a human life worth living: the human rights, as evidenced by the fact that the Universal Declaration of Human Rights was endorsed in 1948. And even if the Universal Declaration of Human Rights only mentions democracy once in Article 29.2, article 21 proclaims that "everyone has the right to take part in the government of his country, directly or through freely chosen representatives". This provision allows for limitations to be applied to human rights based mainly, but not solely, on the requirements "of morality, public order and the general welfare in a democratic society". It is, therefore, with regard to the requirements of democracy that the limitations to human rights should be appraised. Democracy, which is a regime of freedom, thus becomes the tool to evaluate eventual limitations to human rights.
4. While there is a Universal Declaration of Human Rights, further developed by a series of Agreements, Treaties and Declarations, there is no such equivalent for democracy. Shouldn't the work that was undertaken in 1948 be completed with a Universal Declaration of Democracy?

1.2. The Return of Democracy

5. During the Cold War democracy took shelter in the regional organizations (the European Council, the Organization of American States and, some time later, the European Union) and it was not until the fall of Berlin Wall that democracy could find again a place within the frame of international relations. Since 1989 democracy has continuously been dealt with in every work undertaken by international organizations: United Nations has devoted a series of meetings targeted to "new democracies", many of which have drafted Declarations regarding democracy. African Nations have also drawn up their own projects, of which the African Charter on Democratic Elections and Governance of the African Union must be emphasized.
6. The project known as "Declaration of the European Council on True Democracy" is perhaps the most comprehensive, although it could not be adopted due to the opposition of one sole Member State. The Universal Declaration on Democracy of 16 September 1997, adopted by the Inter-Parliamentary Union, is also worthwhile mentioning because of the plurality of opinions it represents and the innovative concepts it includes.
7. Several UNESCO instruments should also be taken into consideration, and especially those devised by the International Labour Organization. The French and North American Declarations issued during the last decades of the XVIII century are naturally worth

mentioning, as well as the instruments (Declarations and Conventions) developed by the Organization of American States. All these tools have been taken into account when drafting the project of the Universal Declaration of Democracy.

1.3. Democracy and Peace

8. Initially peace was regarded solely as the absence of war between States or within one particular State. This somewhat negative peace was gradually replaced by a “positive peace”: the latter concept was meant to go further beyond a simple armed peace, and included all the requirements relating to security, mutual understanding, tolerance and economic and social development. Very soon it became clear that this positive peace was based on human freedom –and, therefore, on human rights – as well as on a political system of democracy understood in the largest sense of the word: from a political, economic, social, cultural and international standpoint.

“The system of democracy, based on freedom, is the most adequate means to ensure national peace and international peace.”

Ultimately, peace should be at the same time negative and positive, but first of all it should be global, that is, a matter of concern for everybody: all men and women are from now on accountable to their fellow human beings, and even to future generations, for peace in the world. If we all have a duty to strive for peace, we also have the right to benefit from peace. We are thus led to plead, in freedom, for a true human right to peace, as opposed to all sources of power, whether exerted by the State or not; a right that should be expected from all power sources and that will, above all, be attainable only by joining the efforts of all actors in social life: States, individuals, public and private organizations. And yet the system of democracy, based on freedom, is the most adequate means to ensure national peace and international peace.

9. This yearning for peace, which implies the existence of a democratic regime, makes it necessary for peace, enhanced by democracy, to become a matter of concern for everybody: but before this can be achieved, a true culture of peace has to be established. This was the target of those who, under the auspices of the UNESCO, created the Foundation for a Culture of Peace. The project developed for a Universal Declaration of Democracy is a response to this twofold target of humankind: democracy and peace.
10. Because the Universal Declaration of Democracy is intended to actually become the equivalent of the Universal Declaration of Human Rights; both include 30 articles. Article 30 is shared by both declarations: it clearly states that “nothing in this Declaration may be interpreted as implying for any State, group or person the right to engage in any activity or to perform any act aimed at the destruction of any of the rights and freedoms set forth herein”.

2. Project for a Universal Declaration of Democracy

Whereas the Law and the international relations have for a long time ignored the political nature of State government, the effective protection of human rights requires at present the existence and free operation of a democratic regime, regarded as the government of the people, for the people, by the people;

Despite the fact that international instruments, universal and regional, designed to protect human rights, have given rise to a body of innumerable and detailed rules based on the Universal Declaration of Human Rights, the indispensable equivalent is still lacking, that could be found in a Universal Declaration of Democracy, a tool that is urgently needed to reorient the behavior and governance of human societies on a personal, local and global scale;

Whereas the drawing up of the aforesaid Declaration should enhance the intrinsic bond between human rights and democracy, based on the effective respect of the political, social, economic, cultural and international rights, at the personal and collective, national and world levels;

Whereas the World Plan of Action on Education for Human Rights and Democracy (Montréal, 1993) represents an excellent guide, and some of its points have already been incorporated into the text of the World Conference on Human Rights (Vienna, 1993);

Whereas as established in the Resolution A/67/L25 of the General Assembly of United Nations, of 21st November 2012, on Education for Democracy, democracy is a universal value based on the freely expressed will of the people to determine their own political, economic, social and cultural systems and their full participation in all aspects of their lives;

Whereas it is acknowledged that the democratic regime constitutes the best guarantee for the promotion and implementation of Human Rights;

Whereas all democratic governance has values and actions shared worldwide, while there is no single model of democracy belonging to any country or region;

Whereas the systemic and ethical crisis that humanity is facing can only be solved by a democratic spirit and behavior at all levels, in such a way that the reins of their destiny can be placed in the hands of “the peoples”;

Whereas the times of a bloodstained history based on male absolute power are over, and that the humankind, “freed from fear” and able to invent its future, will begin, with the transition from force to word, a new era;

Whereas a Universal Declaration of Democracy should, therefore cover political, economic, social, cultural and international democracy at the same time;

We now, therefore, proclaim this Universal Declaration of Democracy:

2.1. Fundamental Principles of Democracy

Article 1

Democracy is a political, economic, social, cultural and international regime, based on the respect for a human being, the supremacy and independence of justice and law, as well as on the possibility for any individual to participate in the life and development of society, in freedom and peace and in a favourable natural and cultural environment, being always fully conscious of the equal dignity and interdependence of human beings.

2.2. Political Democracy

Article 2

Political democracy represents an objective based on values shared by all peoples that make up the international community, regardless of their cultural, social and economic differences. It is, therefore, a fundamental right for all human beings, and shall be exercised under conditions of freedom, equality and responsibility, ensuring diversity of opinions, beliefs and common interest.

Article 3

- **3.1** Since it is based on everybody's right to participate in the administration of public affairs, political democracy implies freedom of meeting and association and the existence of institutions that are representative at all levels and, particularly, of a Parliament representing all constituent parts of society, endowed with real powers and having at its disposal all means required to convey the will of the people, through legislation and control of governmental action.
- **3.2** Participative democracy will be fully effective when the ways to allow civil society to express its priorities will exist, in order to adapt the expenditures and investments of the public institutions with the needs and interests of the community.
- **3.3** The modality of participation provided by the new technologies of communication and information will contribute without any doubt to widen the capacity of the citizens to freely express themselves, reaffirming in this way a genuine democracy.
- **3.4** To ensure the citizens' capacity to freely express themselves, it is essential to guarantee truthful and verifiable information, particularly on government and institutions.
- **3.5** The political power must always be attentive to the citizens' voices and views, respecting and warranting the right to disagreement.
- **3.6** The unavoidable respect to diversity of beliefs and convictions of the citizens demands the neutrality of the democratic State in all cases. It should include the guarantee of the right to freedom of thought, conscience, religion and ideology of any person.

Article 4

A very important element to ensure the democratic exercise of political power is the periodic holding of regular and free elections, allowing the people to express their will concerning the composition of the legislative body and other organs of political power within the State.

Article 5

Voting shall take place by universal and equal suffrage and by secret ballot, of women and men without any restriction, under conditions ensuring the possibility of a real choice to the benefit of voters, and allowing their opinions to be taken into account.

Article 6

The presence of election observers and national and international media shall not be considered as interference in the domestic jurisdiction of any State.

Article 7

A democratic society entails a multi-party system that must work in a spirit of tolerance: freedom to create political parties or any other political groups in compliance with the guidelines of international law shall be guaranteed. Parties can only be forbidden in those cases and under those circumstances stipulated by the law. Even if it has been elected democratically, the majority shall not abuse its right to govern by infringing the legitimate rights of minorities, to which end the appropriate regulatory mechanisms should be established. Members of the Parliament and of any other representative organ shall consistently participate in all debates.

Article 8

Political democracy requires the separation of legislative, executive and judicial powers. The role of the legislative power, which represents citizens, consists in drafting and passing laws, voting taxes and exerting control over the executive power. The executive power shall ensure in particular that law is strictly observed by the security institutions responsible for its correct implementation.

Article 9

The judicial power shall be exercised by independent judges, who shall be impartial and make decisions that are not influenced by the interests of the executive power, the legislative power or any other public authority or private group.

Article 10

- 10.1 Political democracy shall ensure that an equal and effective protection is provided to everybody against any kind of discrimination, and that every human being benefits from equal opportunities during her/his life. All provisional measures aimed to correct any kind of discrimination; the amends of the damage caused by it or for achieving the equality attainment among persons, shall not be considered as discriminatory.
- 10.2 Any kind of discrimination as well as any humiliation, by way of imprisonment or freedom privation, including death penalty, is against fundamental democratic principles which must be fully respected.

2.3. Economic Democracy

Article 11

- 11.1 Democracy shall develop economic systems based on social justice, to which all the other aspects and dimensions of economic life will be always subordinated, whose aim shall be free and fair competition as well as indispensable cooperation, in order to achieve a human and sustainable economic development growth, shared prosperity, the promotion of employment and labour, and a rational use of economic, nutritional, natural and energy resources, with the main objective of ensuring to everybody to have access to the goods and services - particularly health services - necessary for a dignified life.
- 11.2 The principles of responsibility in relation to society - transparency, permanence, tax justice - must be always taken into account to avoid the hegemony of profit.

Article 12

The democratic process requires the existence of an economic environment that favours the development of all sectors of society and that is aimed, in particular, at satisfying the essential economic needs of disadvantaged groups, in order to allow them their full integration and participation into democratic life. Public powers must ensure the regulation and redistribution of the benefits of development by means of the appropriate social and fiscal tools, for an equitable system of sharing and to prevent social exclusion.

Article 13

- 13.1 Economic democracy requires the acknowledgement of the economic rights of all human beings, amongst others the freedom of all persons and institutions to buy and sell, and the right to propriety, individual and collective, the deprivation of which shall only intervene on the grounds of public interest and under those conditions required by regulations and by the international law.
- 13.2 At the same time and with equal emphasis, requires the acknowledgement of the right of everybody to receive from the State the support and minimal income that, in case of need, will allow the full exercise of the fundamental Human Rights.

Article 14

Freedom of industry and commerce is crucial to democracy, whether national or international: all persons shall be free, except on grounds of general interest, to develop any business or to exercise any profession, art or craft they shall deem adequate. Freedom of commerce will be regulated by national and international institutions in order to promote the development of a real democracy, able to create goods and services with permanent respect for the environment and the rights of the succeeding generations.

Article 15

Freedom of contract, which is the basis of life in society, is particularly relevant for economic democracy because it allows society to freely operate within the national and international framework, provided that the general interest and the requirements of the democratic process are observed.

Article 16

Freedom to undertake, which is today regarded as an indispensable driving force behind economic and social development and, thus, behind economic democracy, is the result of freedom for all persons to exercise their rights, without hindering the rights of others, whose limits can only be established by national regulations and international law.

Article 17

Freedom to invest is an important factor of the economic development of a country; without it the economic rights could not be fully exerted because individual initiatives would lack the guarantees and protection that should always be granted to Human Rights, this being the fundamental condition for the existence of a democratic regime in any Nation.

2.4. Social Democracy

Article 18

Democracy comprises an essential social dimension, in accordance with the conditions established in article 25 of the Universal Declaration of Human Rights: the non-observance of fundamental social rights threatens equal dignity and opportunities for all human beings, which is the basis for Democracy.

Article 19

Trade union freedom shall allow workers to defend their own interests actively and without obstacles. It shall enable them to participate, on an equal footing, to free discussions with the representatives of employers and governments, which will lead to democratic decisions aimed at promoting the general good and ensure acceptable labour conditions.

Article 20

- 20.1 Social democracy requires that all citizens contribute, through taxes established to this end, to solidarity and to the fair distribution of resources of all kinds.
- 20.2 Rigorous measures shall be taken to eradicate inequalities, extreme poverty and economic, social and cultural exclusion, as well as any marginalization, in particular by providing people in need with the means to become aware of their own rights and to make themselves heard; a series of adequate services will also be made available for them, including an appropriate training aimed at reinforcing their capacities.

2.5. Democratic culture and Cultural Democracy

Article 21

- 21.1 To achieve a sustainable democracy, it is essential to understand it as culture, as a daily behaviour rooted at all levels: personal, institutional and collective.
- 21.2 It is also necessary for a democratic culture to be constantly nurtured and enriched by education, freedom of expression without restrictions and dissemination of different cultural means, as well as by access to plural information.
- 21.3 A democratic society has, therefore, the duty to promote education in its broadest sense of the word: to build free and responsible human beings who are able to act upon their own reflections. Learning to be, to know, to do, to undertake and live together in a process that includes, in particular, philosophical and artistic education, to ensure the full exercise of thought and creativity, the distinctive faculties of the human being, as well as civic education and responsible citizenship training with the perspective of education for all throughout life.

Article 22

Cultural democracy is a dynamic process that includes all segments of social life. It also concerns the relationships within the systems of values established by different cultures and the relationships among them. It implies an approach including the imperatives and objectives of culture. Inseparable from the democratic regime, it is a condition of its development and sus-

tainability. Cultural democracy plays a decisive role to overcome the domination by cultural values that are globally imposed.

Article 23

When fulfilling the functions it must exercise within the field of education and knowledge, the State shall not hinder the right of parents to choose, in addition to the public general education curricula, the teachings provided to their children in accordance with their religious, philosophical and ideological beliefs.

“International democracy not only implies an equal and equitable representation for all States, it also covers the social, economic and cultural rights and duties of States.”

Article 24

- 24.1 Democracy implies the possibility for everybody, without discrimination, to participate in, to access and benefit from cultural life, information and social communication. All cultural communities, including those placed in a disadvantageous situation because of their small size or because they have a cultural ethnic, religious or any kind of specificity, shall be entitled to develop their own cultural policy, provided that it does not infringe on any human right or the rights of other communities. Due to their prolific variety, their diversity and the mutual influence they have on each other, all cultures are part of the common heritage of humankind.
- 24.2 An important aim of cultural democracy is to associate identities very different among them but all belonging to the same world community, that implies equal rights for all without any discrimination.

2.6. International Democracy

Article 25

- 25.1 Democracy shall be regarded as an international principle to be observed by international organizations and States in their international relations. International democracy not only implies an equal and equitable representation for all States, it also covers the social, economic and cultural rights and duties of States.
- 25.2 At the scale of the United Nations whose Charter calls for action to be taken by “We, the peoples of the United Nations”, it is needed that, with the appropriate structures, they are directly represented and, all together with the representatives of the Governments of Member States, can always take into consideration the concerns of representatives of other organizations of civil society, voiced through different ways, as associations, professional entities, public and private groups, social networks, including and in particular those national and regional elected representatives.

Article 26

- 26.1 International democracy implies that it is incumbent on States to ensure that their behaviour complies with international law; that they shall not resort to threat or the use of

force against the territorial integrity or political independence of any State; and, finally, that they shall strive to settle their disputes by peaceful means, in agreement with international law, taking advantage of the international jurisdiction, and, in particular, of the International Court of Justice.

- 26.2 High level legal institutions, which all human, technical and financial resources need for most effective action, will be provided, in order to ensure that in all contexts and scales the principles of the Universal Declaration of Human Rights and this Declaration are fully observed.

Article 27

Democracy shall play an increasingly important role in conducting regional and international affairs. To that end, the international community, integrated in the United Nations as expression of democratic multilateralism, shall support States in the transition to democracy. It shall also have to show solidarity towards people that are oppressed or live under conditions that are detrimental to their human development.

Article 28

- 28.1 All persons have the right to the establishment of an international and social order in which the rights and freedoms proclaimed in the Universal Declaration of Human Rights and in the present Declaration will become fully effective.
- 28.2 No State shall be entitled to make appeal to the principle of non-intervention of the United Nations in domestic affairs when faced with denunciation of Human Rights violations.

2.7. Duties Towards Democracy

Article 29

All human beings have the duty to respect and defend democracy and peace in their various fields of operation: political, economic, social, cultural and international. They shall in no circumstances exercise or defend their rights in ways contrary to the aims and principles of the United Nations.

Article 30

Nothing in this Declaration may be interpreted as implying for any State, group or person the right to engage in any activity or to perform any act aimed at the destruction of any of the rights and freedoms set forth herein.

Author Contact Information

Email: f.mayor@fmayor.e.telefonica.net

World University: Global Strategy for Higher Education*

Jüri Engelbrecht

Member of the Board of Trustees, World Academy of Art and Science
Vice President, Estonian Academy of Sciences

Abstract

The paper presents some ideas about the development of contemporary universities. Being probably the oldest existing institutions in the modern society, universities are ready to face challenges of globalisation, combining old traditions and new thinking. In principle, universities should always be some steps ahead of the society, both in terms of education and research. Education in universities should not address the current needs alone but equip graduates for activities in the future. And in research one should understand that contrary to pragmatic ideas about innovation, research is much wider including studies about man, society and the world, about culture and human perception. To be effective, simple rules should be followed: support quality, support young people.

Universities have a very special place in the society because they have faced challenges over centuries being probably the oldest existing institutions in modern society. The Bologna University was founded in 1088, followed by Oxford, Cambridge, Salamanca, Padua and others. Their assets were and are wise people and independent thinking and a clear idea to educate young people. It is well known that mankind has faced many problems during the last millennium of its existence and that the role of universities has been enormous in all fields of human activities. The reason is simple: the research into new knowledge makes people involved to find rational arguments and to base the solutions on scientific evidence. In a nutshell – as it is said in old British universities – university is a place where people think. Certainly, thinking is not enough and the motto of WAAS enlarges it in the following way: promoting leadership in thought that leads to action. And wise actions are needed in the contemporary world; otherwise, society cannot find its sustainable way for the future.

We live in a networking society and its academic subparts – universities, academies, research centres, etc. – have complicated links with the whole. Much has been spoken about the challenges faced by mankind i.e. society. Indeed, the problems of welfare, environment, health, energy, poverty, natural hazards are all to be solved. But sometimes, the most important problem is overlooked which is how mankind could cope with it all. It means how individuals, groups and countries behave and communicate and manage in our complex world. Clearly, the new ICT technologies have changed the environment which leads to a new question how people will manage to live in such a world. It is noteworthy that in the EU the new framework called Horizon 2020 stresses the importance of humanities and social sciences.

* This paper is based on the author's presentation at the international conference on 'Opportunities and Challenges for the 21st Century – Need for a New Paradigm' organised by the World Academy of Art and Science and the United Nations Office in Geneva on 3rd June, 2013.

The problems around us are acute and it is no wonder that the pragmatics would like to get the results immediately. This also concerns the attitude towards universities. There is a growing tendency to see universities as sources of marketable commodities, but universities are not enterprises with a defined product. A detailed analysis on the role of universities in the contemporary world is presented by the League of European Research Universities (LERU) – see G.Boulton and C.Lucas, *What are the universities for?* (LERU, 2008) and here their ideas are followed.

If we use an extremely simplified scheme then we could say that universities make knowledge from money, economies/industries make money from knowledge. Society, however, needs both – knowledge and money. The question is how to balance all that and move on in the most optimal way.

A more detailed look at universities gives two main keywords: education and research. In both fields of activities one should find new ways to act not forgetting this enormous experience universities have gathered in their past.

First – research. Following the ideas of LERU, research not only contributes to innovation and to economic development, it is about man, society and the world, about culture and human perception, about inquiry into phenomena, a response to societal problems, to natural hazards and to climate change, a way to improving health and education and so on.

Second – education. Education in universities should not address the current needs only; it is to develop the thinking and the mental and conceptual skills and habits that equip the graduates to adapt to the changes and steer changes in the future. Even more so, the graduates should be able to face uncertainties of the world.

It is very difficult to determine a new paradigm for future strategies of universities. The existing celebrated rankings of universities do not reflect the real role of universities; that is why new value systems are now elaborated by many communities – in the EU, for example the U-Map, the U-Multirank, etc. Characteristically to those, the attention is not only to the research performance or the number of graduates but also to the role of every university in a local environment.

In general terms, however, society should also understand the immediate and future needs and to be sometimes more flexible in funding activities which will be useful in the future. In this context, education is important; decision-makers and politicians all the more so. Let me give an example from one of the smaller EU countries – Finland. About 20 years ago, a venture capital Fund SITRA started courses for policy-makers. As my Finnish colleagues told me, the first reaction was not very positive but after some years the courses by SITRA became popular. We know that now Finland is doing pretty well both in research and education (cf PISA tests). One cannot forget the science education at the early age in order to prepare children for inquisitive work.

The universities from their side should not only perform facing the future (see above) but also explain to society what they are doing, what the new knowledge is and what could be done using the new knowledge.

And what is important in the society is mutual understanding about all the activities of its actors. Although the principle of understanding is not a new idea, it should probably be a basis for a global paradigm and joint efforts. The key words for actions could be flexibility, openness, networking and trust. The communication as known in semiotics of sign systems between the parts of the system is decisive for understanding each other.

“The key words for actions could be flexibility, openness, networking and trust.”

I am tempted to finish by using some notions from my own field of research – nonlinear dynamics and complexity. In the theory of fractals usually simple rules govern building up a very complicated structure which is not only characteristic for a certain process but in addition has a special beauty. Only these simple rules must be applied many times consecutively. In a university two simple rules are important: support quality, support young people. But this support should be applied every day, every term, and every year in order to get results.

I agree that the unemployment of young educated people is a general problem. However, the voice of young researchers gets stronger and stronger. At the Annual meeting of New Champions organised by the World Economic Forum in Tianjin (2008), the InterAcademy Panel (IAP) and the European Federation of Academies (ALLEA) organised sessions for young scientists. They said: “Making a better world needs better science – we young scientists are ready to contribute our share”. Indeed, equipped with such a support, ALLEA has constantly stressed the importance of young people in formulating the EU’s future strategies. And youth academies have been launched in several European countries (the Netherlands, Germany, Austria, Sweden, Poland, etc), who bring the voice of young researchers to society including the policy-makers. The Eurodoc society unites European PhD students and junior researchers. It works on many themes such as social security and unemployment which are important for young people.

Author Contact Information

Email: je@cens.ioc.ee

Human Needs Approach: A New Foundation for Knowledge Organization in the 21st century

Jayasree Ahuja

Independent Researcher, Developer, Knowledge Organization
Systems and Tools based on “Human Needs” Approach

Abstract

Knowledge organization has a major role to play in effective and efficient storage and dissemination of information. Traditionally, enumerated subject heading lists, library classification systems, controlled vocabularies etc. were used to organize knowledge. However with the advent of information and communication technologies like Internet and world wide web, knowledge organization has acquired new significance as people are relying heavily on these technologies to store, transmit and disseminate information. In this digital age, when computers and other such gadgets are taking the role of information service providers, replacing human interfaces designing efficient and effective knowledge organization systems and tools has become paramount in order to enable machines to understand, interpret and satisfy the information requirements of people not only belonging to academic and scientific community but also belonging to various sections of the society. In addition to the traditional systems, new tools like ontologies, concept maps etc. are being developed to organize knowledge. In spite of all these efforts, developing effective Knowledge Organization systems and tools still remains as a distant goal to be achieved. Primary reason for persistency of the problem is knowledge organization systems and tools developed till date are based on the philosophical view which equates knowledge with facts and treats knowledge as independent of the subject i.e. human being. This paper attempts to discuss the limitations of such philosophical basis for developing knowledge organization systems and tools and suggests an alternative approach based on human needs as human needs are the fundamental driving force for man to seek knowledge.

1. Introduction

Knowledge organization has a major role to play in effective and efficient storage and dissemination of information. Traditionally, enumerated subject heading lists, library classification systems, taxonomies, controlled vocabularies and thesauri were used to organize knowledge. However with the advent of information and communication technologies like the Internet and world wide web, knowledge organization which was earlier considered to be more relevant only in places like libraries, archives and museums, which collect and organize different sources of information such as books, magazines, and artifacts etc. has acquired new significance as people are relying heavily on these technologies to store, transmit and disseminate information. In this digital age, when computers and other such gadgets are taking the role of information service providers, replacing human interfaces, designing efficient

and effective knowledge organization systems and tools has become paramount in order to enable machines to understand, interpret and satisfy the information requirements of people not only belonging to the academic and scientific community but also belonging to various sections of the society including industries, businesses and even amateur and enthusiastic common man on the street whose information requirements are different from another. In addition to the traditional knowledge organization systems, new tools like ontologies, concept maps and topic maps etc are continuously being developed to organize knowledge suiting to the information requirements of the modern society. In spite of all these efforts, developing effective KO systems and tools still remains as a distant goal to be achieved.

2. Reasons for the Persistency of the Problem*

“Knowledge” as a concept is still ambiguous and there is lot of debate over what constitutes knowledge. A peep into the developments that took place both in epistemology and knowledge organization systems over the centuries reveals how western philosophers since ancient to contemporary times while trying to define knowledge took many seemingly contradictory positions, and how it got reflected in knowledge organization systems which organize knowledge based on the theories of knowledge postulated by philosophers.

2.1. Ancient, Medieval and Modern Periods

In ancient Greece, Plato theorized that knowledge is merely an awareness of absolute, universal *Ideas* or *Forms*, existing independent of any subject trying to apprehend them. Later Aristotle, the student of Plato, while working on his teacher’s postulates emphasized on gathering such knowledge through logical and empirical methods and thus laid the foundations on what developed the modern day science. Following the Renaissance with the invention of instruments such as the microscope and telescope etc. the world gave rise to two distinct schools of thought namely empiricism and rationalism. Empiricism views knowledge as a product of sensory perception formed by the mapping of the external objects by human mind through sensory organs with the help of different observation instruments. According to these empiricists, though knowledge has no a priori existence, as described by Plato, it is still absolute, in the sense that any piece of proposed knowledge is supposed to either truly correspond to a part of external reality, or not. At the same time rationalists consider knowledge as a product of rational thinking.

Later, Immanuel Kant developed a theory of knowledge with the objective of providing a solution that is a synthesis of empiricism and rationalism. According to Kant, knowledge results from the organization of perceptual data on the basis of inborn cognitive structures, which he calls “categories”. Categories include space, time, objects and causality. This epistemology does accept the subjectivity of basic concepts, like space and time, and the impossibility to reach purely objective representations of things-in-themselves. Yet the a priori categories are still static or given.

One of the prominent and fundamental characteristics of these western theories of knowledge is their emphasis on external objects, which are absolute and permanent and their inde-

* Contents of this section are based on the information provided on the website: Epistemology, introduction - Principia Cybernetica <http://pespmc1.vub.ac.be/EPISTEMI.html>

pendence from the subject. Knowledge organization systems which came into prominence mainly after the Renaissance period have adopted the existing theories of knowledge. This influence would very clearly be seen through the writings of pioneers of library classification schemes like Henry E. Bliss, Melvil Dewey among others. One of the 30 principles evolved by Henry E. Bliss, the creator of the Bibliographic classification, states that, if a classification is to serve with maximum efficiency, it should conform fundamentally to the organization of knowledge established in the scientific and educational consensus.¹ Similarly Dewey developed the Decimal classification system based upon the structure of knowledge developed by Sir Francis Bacon during the scientific revolution. Francis Bacon was famous for working further on the theories postulated by Aristotle. Even the canons of classification such as mutual exclusivity, part-whole, etc were also developed based on the principles formulated by natural philosophers while developing the taxonomies of the biological organisms. They also brought objectivity, which suggests that scientists, in attempting to uncover truths about the natural world, must aspire to eliminate personal biases, a priori commitments, emotional involvement, etc – the founding principle of modern science in those KO systems. They believed that a relatively permanent order of sciences has been established and it would remain stable despite interrelations, complications and even ‘revolutions’. Thus it would constitute a permanent framework for organizing knowledge even in the times to come.²

2.2. Contemporary Period

In the next stage of epistemology development which is called as pragmatic, knowledge consists of models that attempt to represent the environment in such a way as to maximally simplify problem-solving. It is assumed that no model can ever hope to capture all relevant information. Therefore, several models exist simultaneously, even if they appear to be contradictory. A model will be chosen depending on the problem to be solved. There is an implicit assumption that models are built from parts of other models and empirical data on the basis of trial and error complemented with some heuristics or intuition.

By this time advanced information and communication technologies have become the major medium for information storage, transmission and dissemination resulting in information explosion and information overload. It has grown beyond human capabilities to analyze and make sense of such large chunks of information. So, in order to enable computers to process that information, computer scientists have started developing ontologies, to designate the building blocks of concepts, out of which models of the world are made whereby an agent such as a computer program will be in a position to process information, as represented by those models. As it is not possible to develop a computer program which can perceive the whole world, as Michael Lesk speculates that while a single KOS would be advantageous, it is unlikely that such a system will ever be developed. Culture may constrain the knowledge classification scheme so that what is meaningful to one culture is not necessarily meaningful to another.³ Therefore, we live in a world of multiple, variant ways to organize knowledge. So, there will be several models representing several building blocks of knowledge depending upon the situation and depending on the point of view in which a particular chunk of information has to be processed.

Whatever may be the focus of all these theories of knowledge, all those theories are trying to define “WHAT” Knowledge is. It is justified as far as epistemology is concerned,

but when it comes to devising a system to organize knowledge, apart from the “what” aspect of Knowledge, the “WHY” and “HOW” aspects of knowledge i.e. Why knowledge is sought and how the human mind organizes the knowledge so acquired are also very vital because after all the sole purpose of any knowledge organization system is to provide information about the objects (those objects could be about tangible entities or intangible and abstract ideas, beliefs etc.) to subjects i.e. human beings. In other words, the design and development of any knowledge organization system has to be in accordance and in synchrony with the methods and processes adopted by human mind to organize knowledge within.

“Man seeks knowledge to fulfill his aspiration.”

3. Why is Knowledge Sought?

To live and grow are the fundamental instincts of all living beings. Other living forms are able to survive and grow because of the biological instincts. But in human beings their aspiration is the key for their survival and growth. Man seeks knowledge to fulfill his aspiration – to attain perfection, freedom and happiness.⁴ To achieve happiness, man aims to fulfill his fundamental needs including basic needs such as food, shelter, health etc. cognitive needs such as curiosity to know and understand mysteries of the nature, expressing through various forms of arts and culture, sharing his knowledge with other members of the society etc; and social and emotional needs such as religion, customs rituals, and institutionalizing all these activities etc. All these fundamental needs are interdependent and impact and get impacted by each other.

Professor György Márkus* while systematizing the ideas of Karl Marx on human needs describes that “humans are different from other animals because their vital activity, work, is mediated to the satisfaction of needs, which makes a human being a universal natural being capable to turn the whole nature into the subject of his/her needs and his/her activity, and develops his/her needs and abilities (essential human forces) and develops himself/herself, a historical-universal being. Work generates the breach of the animal subject-object fusion, thus generating the possibility of human conscience and self-conscience, which tend to universality (the universal conscious being). A human being’s conditions as a social being are given by work, but not only by work as it is not possible to live as a human being without a relationship with others: work is social because human beings work for each other with means and abilities produced by prior generations. Human beings are also free entities able to accomplish, during their lifetime, the objective possibilities generated by social evolution, on the basis of their conscious decisions. Freedom should be understood both in a negative (freedom to decide and to establish relationships) and a positive sense (dominion over natural forces and development of human creativity, of the essential human forces. To sum up, the essential interrelated traits of human beings are: a) work is their vital activity; b) human beings are conscious beings; c) human beings are social beings; d) human beings tend to universality, which manifests in the three previous traits and make human beings natural-historical-universal, social-universal and universal conscious entities, and e) human beings are free”. In other words human beings perceive “Nature” as a source to fulfill their needs of self and of the society.

* A Hungarian philosopher. See <http://www.jornada.unam.mx/2007/03/09/index.php?section=opinion&article=02601eco>

Similarly McGarry in his book titled “The Changing Context of Information” explains the reasons for the growth of disciplines.⁵ He says, “No matter how theoretical a discipline may be its origins lie in a social need of some kind and it also satisfies some of the social needs of its members. Not least among these needs are intellectual curiosity and self esteem”. Peter Drucker the management guru of the 20th century also expresses the same view when he says, “Knowledge like electricity or money is a form of energy that exists only when doing work.”⁶ Thus, man through a continuous process of learning seeks knowledge to sustain and improve the quality of life as an individual and of the society as a whole not only for the present but for the future too. Thus, at the physical level, knowledge has two purposes; firstly to enable humans to use the knowledge to solve their individual, social and societal needs, secondly to pass on the knowledge accumulated while solving the human needs to next generations, through education and also as a knowledge base. At a level higher than physical, the purpose of knowledge is to enable human being to know himself.

3.1. Constituents of Knowledge

This is the reason why human beings seek knowledge, then knowledge constitutes facts, perspectives, concepts, beliefs, judgments and expectations, methodologies, and know-how and much more. With its unique characteristics, mind is capable of dwelling on physical objects or non-physical phenomena without resorting to the aid of the physical senses and the channel of sensation that accumulates observed facts. This is the beginning of the birth of knowledge. All knowledge is founded upon assumptions, perspectives, information and previous understanding that consciously or subconsciously determine the pattern of our observation and understanding and, thereby, govern the acquisition of further knowledge.⁷ Thus knowledge is the mental reference model created in the Human mind because of the cognitive ability of human mind to deduct, infer, comprehend and document/develop reference models in response to:

- The interactions and dynamic relationships that humans establish with their environments (including both natural that is physical as well as social environments).
- The interactions and dynamic relationships that operate between various components of natural/physical and social environments.
- The results and outcomes of those interactions.

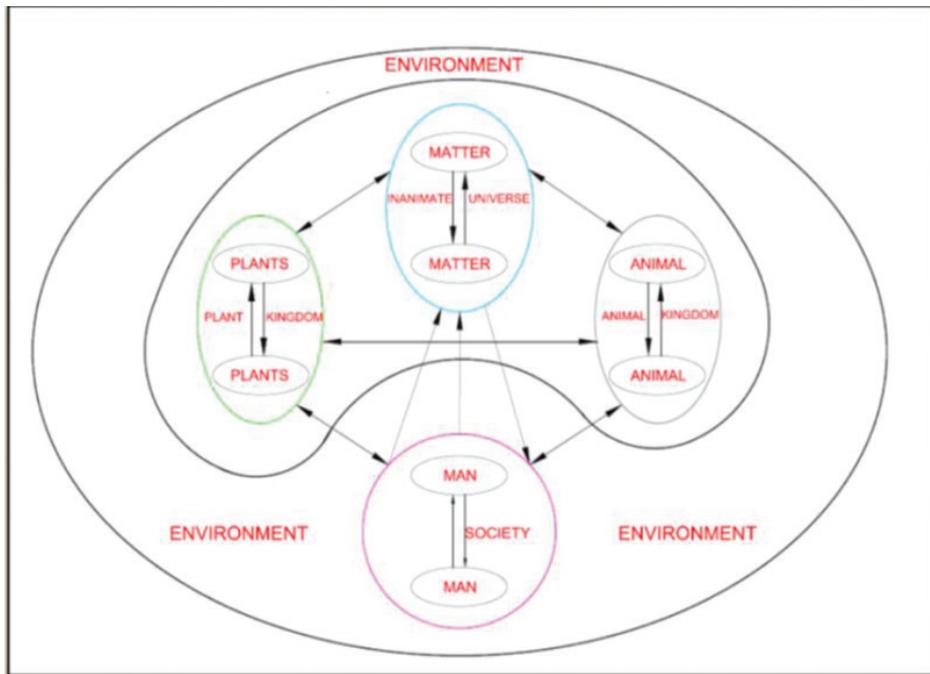
Development of these mental reference models are conditioned by various social, economic, political, cultural situations in which human beings perform; and also the kind of functional roles performed by human beings in the society within the geographical spaces and time frames.

As depicted in Figure 1, this universe with all its components like matter, meta matter, plants, animals, human being himself (as an individual and as a collective), planets and planetary systems is the source for fulfilling his needs. In order to use these sources as a means to fulfill his needs, man seeks knowledge about these sources in terms of

- their fundamental composition
- their intrinsic properties, behaviour

- the dynamic relationships that exist among these various components of the universe and their influence and impact on each other.*
- the ways and means by which these components of the universe can be used to fulfill the type of his needs (for eg: certain plants can be used to meet his needs of hunger, certain plants can be used to cure his disease and keep him healthy and certain other plants can be used to cover his body etc.)

Figure 1: Scope of Knowledge



In other words, “human need” is the fundamental link between human mind and knowledge. Human mind perceives everything in this universe including man himself as a means to fulfill his needs and the knowledge so created when shared with others becomes the ‘universe of knowledge’. The knowledge so formed when shared among other members of the society or community, becomes external knowledge.

* The dynamic relationships those exist between various components of the universe: Each of the components depicted in figure 1, while creating an environment within the same type of components become the environment to the other components belonging to other categories (eg. Entire plant kingdom becomes the environment for other plants of same type and different types as well as for animals, matter, and human being, similarly animals. For human beings, the human society becomes the environment for human beings within themselves and also for other components namely matter, plants and animals). Each of these components will have either direct or indirect linkages among themselves and impact each other either positively or negatively in one of the following ways:

- Enriching both the components involved in the relationship (symbiotic and synergetic relationship)
- One of the components gets enriched, while the other component deteriorates (parasitic relationship – This is one of the most important reasons for conflicts between various components of universe. Some of the common conflicts seen today are man versus environment conflicts, ethnic conflicts, gender conflicts, socio, economic and political conflicts, and religious conflicts etc.)
- One of the components causes a change in the other but does not get effected (catalytic relationship)
- Detrimental to both the components involved in a relationship
- No apparent impact on either of the components (peaceful coexistence)

4. Knowledge Organisation by Human Mind

Human mind tries to know about things of the external world by dividing them into small parts and viewing each part as a whole in its own right. The process of learning includes understanding facts and phenomena about self, surroundings, and environments and also learning about personal, individual, social and societal needs and problems, etc. and forming opinions, values, beliefs etc through analysis, evaluation and comparison. Understanding is at primary level. Evaluation, analysis and comparison are at higher levels.⁸ Thus, human mind learns and understands by division. However, while finding solutions to human needs, human mind does so by integrating the knowledge acquired by division. In other words while working on solutions to human needs, mind with its unique abilities like combining and recombining different types of knowledge and information in order to gain new understanding; applying the solution of one problem to a new and different situation retrieves information from all the relevant components of the knowledge base cutting across all arbitrary divisions like natural sciences, physical sciences, social sciences etc. Molecular biology, artificial intelligence and biotechnology are some of the examples that illustrate these unique abilities of human mind. Similarly with its other unique ability of using a single system of thought in multiple ways and translating knowledge from one context to another human mind,* it applies same knowledge in different contexts to address different needs. For example, human mind is capable of using music, which is a form of art for recreation, for therapeutic purpose in medicine, may use it as an income generating activity or may use it as a tool for creating awareness, so on and so forth. These complex cognitive processes are possible because human mind recalls information through commonality and associations (semantic relationships) that are established among different phenomena rather than by any other organization.⁹

“Human mind tries to know about things of the external world by dividing them into small parts and viewing each part as a whole in its own right.”

4.1. Semantic Relationships used by Human Mind

Of the many semantic relationships identified by psychologists, linguists and computer scientists, semantic relationships such as genus-species, part-whole, instance of, paradigmatic, causal relationships are the ones most often used for organizing knowledge both by conventional KO tools such as taxonomies, thesauri and classification systems as well as advanced KO tools like semantic networks.^{10, 11} All of them are developed based on “is a” relationship to represent super ordinate and subordinate, cause and effect relationships. These semantic relationships form the core in understanding what knowledge is.

However, human mind, apart from “is a” relationship, organizes knowledge based on another important relationship namely “required for” because, the fundamental purpose of seeking knowledge is to fulfill the needs, i.e. all phenomena are fundamentally perceived,

* Marc D. Hauser, an American professor of psychology, evolutionary biology, and biological anthropology, who has written widely on human and animal cognition, summarizes the distinguishing characteristics of human thought under four broad capacities. These include: the ability to combine and recombine different types of knowledge and information in order to gain new understanding; the ability to apply the solution for one problem to a new and different situation; the ability to create and easily understand symbolic representation of computation and sensory input; and the ability to detach modes of thought from raw sensory and perceptual input.

evaluated based on their capacity to fulfill various human needs. Human mind due to its unique capabilities simultaneously organizes knowledge in more than one way. During the process of learning and understanding these associations are organized hierarchically, while applying that knowledge to fulfill the needs the same phenomena are associated with each other as networks based on “required for” relationship. For example both cotton plant and lady finger (okra) plant belong to the family *Malvaceae*. While understanding about these plants, it organizes them together hierarchically based on “is a” relationships. However while evaluating their usability, mind associates cotton plant for fulfilling the clothing needs, whereas okra (lady finger) is associated with food based on “required for” relationship.

5. Organizing Knowledge based on ‘Human Needs’- An Alternative to Subject-based Approach

Since human needs are eternal, universal and the motivators for humans to seek knowledge. Organizing knowledge based on ‘human needs’ provides an efficient alternative to subject-based approach. Throughout the history of mankind, human needs remained constant, because human being the ‘Homo sapien’ is the same since its origin, however the means adopted by humans to fulfill and meet their needs have kept on changing as man went on acquiring more and more knowledge. Human needs are universal in nature and are same irrespective of national boundaries, economic status of nations, religions, beliefs and cultures followed by populations of the world. Hence knowledge organization model based on human needs will have

- universal applicability,
- adaptability,
- scalability,
- interoperability and
- suitability to both electronic as well as conventional environments.

Human needs are multi-dimensional and multifaceted because they originate, and operate within the social and natural environments in which human being lives and as a response to the dynamic interactions and relationships human being develops with its environments. Thus, whatever may be the level and type of the human need, it will always influence and be influenced by social, economic, environmental, political, scientific, technological situations and factors of the society at physical level and judged by beliefs, values, opinions at higher level within the context of space and time. As a result the external knowledge created by man will also be multi-faceted and multidimensional. If we consider ‘human-needs’ as the basis for designing knowledge organization and information retrieval tools then the tools so developed will be able to represent and accommodate these intricate and complex relationships that operate in the society.

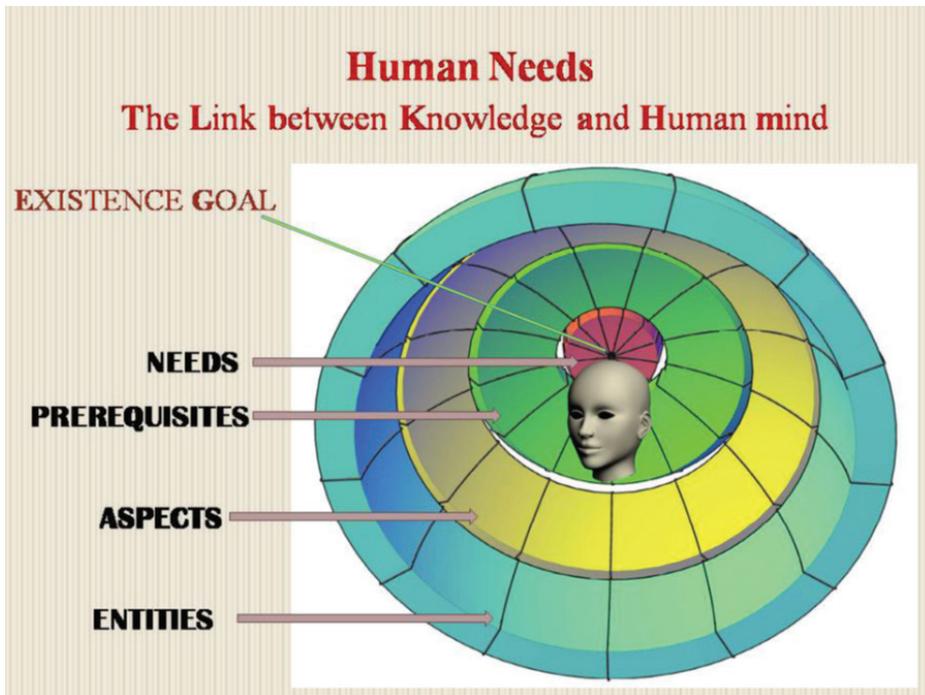
6. Features of the Proposed Scheme*

Knowledge is organized at four levels. Fundamental needs are placed at level 0, followed by pre-requisites at level 1, Aspects at level 2 and entities at level 3.

* This section of the paper is an improvised version to the original version presented by the author in a national seminar on classification in the digital environment in 2001, organized by Sarada Ranganathan Endowment for Library science, Bangalore, India.

- Fundamental Needs Level 0
- Pre-requisites Level 1
- Aspects Level 2
- Entities Level 3

Figure 2: Human Needs - The Link between Knowledge and Human Mind



6.1. Basic Needs – the Fundamental Categories

Since fulfillment of human needs is the prime motivator of knowledge, all the basic needs become the first level categories, which are called as the “Fundamental Categories”. The universe of knowledge is then placed under these categories depending upon the fundamental need they fulfill. Figure 2 gives a diagrammatic representation of the basic framework for organizing knowledge based on “human needs” approach.

Fundamental Categories

- Health
- Food
- Clothing (includes personal care and beautification etc)
- Human Settlements (shelter)
- Knowledge Acquisition and Communication
- Recreation, Entertainment, Creativity
- Environment and natural resources

- Philosophy/Religion
- Society (Social Security, includes governance, law & order, public administration)
- Emotional Security (social relations, culture, rituals, life styles)
- Economy, Industry, employment and resource optimization and management
- Infrastructure
- Trade, Commerce, Business

6.2. Pre-requisites

There will be certain pre-requisites to fulfill the human needs. All those components, which are essential to fulfill the needs, are placed under each fundamental category.

For example, health is one of the fundamental categories in the new scheme. Diet, exercises, hygiene, diseases, prevention/curing systems, pharmaceuticals, pharmaceutical industry, knowledge about human body, infrastructure, psychology, management and administration of medical facilities, role of government/NGOs/ other organisations etc. are the “Essential Components” required to achieve the objective of Health. All phenomena that perform the function of the Essential Components are placed in this level.

6.3. Aspects

The core facets of each of the pre-requisites. For example, while Diet is one of the pre-requisites to fulfill the need of health, it may have the following core facets (see *illustration*):

- Dietary Types
- Dietary Habits
- Specific Dietary Regimens (specific age, sex, physical condition, occupation etc.)
- Developmental Nutrition
- Nutrition Policy/Planning/Programs
- Nutrition Education
- Nutritional Requirements
- Nutrition Productivity
- Environmental Aspects of Nutrition
- Nutrition Indicators/ Surveys/ Statistics
- Socio-economic, Cultural, Religious Influences on Diet

6.4. Entities

All individual entities in each of the facets will be grouped at this level. For example the entities in diet types will be as follows:

- Carbohydrates
- Proteins
- Fats
- Vitamins
- Minerals

7. Advantages of this approach

7.1. Ease of Use

The categories and sub-categories are all designed based upon the fundamental needs. Therefore, it will be very easy to analyse the subject content of documents depending upon the fundamental need they fulfill and organise them at appropriate places in the scheme. As every human being is familiar with most of the basic needs, they can easily relate documents with the categories. It requires very little training.

7.2. Permanency and Sustainability

Social needs do not change with the changing times. What changes is the means adapted to fulfill these needs. For example, health is a basic need of man from times immemorial and it will remain so even in future. However, the means adopted by man to have good health have certainly changed with the changing times. Earlier man used to believe in superstitions and mysticism to cure his ailments. Today he uses more scientific means such as medicines and other such means to cure his diseases. So if we structure our knowledge based upon the fundamental needs, it can sustain itself through the changing times.

7.3. Proactive

The divisions and categories of the scheme are natural and developed based upon the human and societal needs, whatever be the growth of the knowledge, it just fits into the scheme.

7.4. Holistic and Comprehensive

By this approach all the subjects and disciplines whether basic or applied which fulfill a particular fundamental need are brought together. This enables users to see a particular topic in its totality and give due importance to the topic depending on the role it plays to fulfill the fundamental need. This approach also helps in understanding the topic better and its relation with other topics and also provides more options to deal with problems. As Millis, an advocate of the educational value of classification puts it, "Classification structures assist seekers of information realise the connectedness of concepts in a store of information ... It presents a clear picture not only of the concepts involved but also of their generic contexts and their syntactic relation."¹²

7.5. Displays the Relationships that Exist between Subjects and the Fundamental Needs they Fulfill very clearly and explicitly

Due to the inherent principle of organising knowledge based upon the fundamental needs, the relationship between subjects and disciplines. For example pharmaceutical industry in conventional classification schemes would be located under industry in the main category of economics. Because of this separation, the relationship which exists between health and pharmaceutical industry either gets hidden or is totally lost. But under this new scheme pharmaceutical industry is placed under health because the fundamental need it fulfills is health. Pharmaceutical industry has come into existence because of health, not the other way around. Though it certainly contributes to national economy and revenue, the primary objective and purpose of the industry is to fulfill the health needs of people.

8. Conclusion

So far, the objective of creating comprehensive, universal systems of knowledge organization remained unfulfilled because every attempt of knowledge organization has followed subject-based approach. However, we can attempt to create comprehensive and universal knowledge organization systems if we follow the human needs approach, as Human needs are eternal and universal in nature and are same irrespective of national boundaries, economic status of nations, religions, beliefs and cultures followed by populations of the world. Hence if we consider ‘human-needs’ as the basis for designing knowledge organization and information retrieval tools then the tools so developed will be able to represent and accommodate these intricate and complex relationships that operate in the society. Such KO tools will provide comprehensive and stable framework to organize knowledge both in physical as well as in digital environments.

“We can attempt to create comprehensive and universal knowledge organization systems if we follow the human needs approach.”

Author Contact Information

Email: jayasree.ahuja@gmail.com

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Aggressiveness can be Psychobiologically Milded: How to Achieve Peace

J. Martin Ramirez

Fellow, World Academy of Art and Science; Universidad Complutense Madrid, Spain; Hoover Institution, Stanford University, USA

Abstract

The Seville Statement on Violence (SSV) was originated by an ISRA-(International Society for Research on Aggression)launched UN-Committee in the late seventies of the past century. Its final product was presented in Seville in 1986, at the VI Coloquio Internacional sobre Cerebro y Agresión (CICA). Three years later, it was endorsed by the 25th General Conference of UNESCO, in Paris. Its main message was that violence, and consequently war too, are avoidable and aggressiveness can be tamed. The present paper wants to offer its next step, showing how we can prevent the problems of violence and war and achieve a culture of peace: understanding aggression, violence and war, as well as the real meaning of peace, stressing the importance of peace education, schooling of emotions, and techniques for non-violent conflict resolution, and suggesting that the main goal for it will be the development of inner peace.

The main message of the Seville Statement on Violence (SSV), elaborated in the early 80s of the last century by scientists from all the world and from many different disciplines and endorsed by the 25th General Conference of UNESCO, was that peace is possible and that wars and violence can be ended, making clear that there is nothing in biology that stands in the way of making a world without war (Adams, 1991).

That first ‘scientific step’ towards peace concluded that, far from condemning humanity to violence and war, falling into the psychological trap of believing that people cannot change and that peace is therefore impossible (Tyler, 2012), psychobiology tells us that aggressiveness can be tamed and consequently it is possible to end violence and war and to achieve peace. On the occasion of an international conference in Dubrovnik on ‘Nuclear threats and Security’ in September 2012, the Academy’s President Ivo Šlaus said that “war is useless”. And the very same day (14 Sept 2012), during his visit in Lebanon, Pope Benedict XVI stated that, far from being peace which is the only thing that works, “violence destroys; it is not useful at all”. We can therefore happily join the Beatles (or more specifically John Lennon and Yoko Ono), and sing with them that “War is over, if you want it” (1969).

Once we are aware that violence, and consequently war too, are avoidable, that aggressiveness can be tamed (Ramirez, 1994, 2003, 2012), and that peace is the only thing that works (Benedict XVI, 2012), we scientists have to analyse how to achieve a culture of peace. Obviously achieving peace is not an easy task at all, even if the wish for peace expresses a

much-felt need in our days. But we should never forget that, if peace is possible, in order to influence our surroundings positively, we must learn to develop inner peace within our minds, because peace must begin in the mind of each person with the belief that it is possible... This is the main message of the SSV, quite in conjunction with the spirit of WAAS, expressed in the words of Albert Einstein: “The creations of our mind shall be a blessing and not a curse to mankind.”

“Peace must begin in the mind of each person with the belief that it is possible.”

Within this universal and transdisciplinary task for constructing peace, scientists have a specific role to play. The challenge is to find the peace we are looking for. Where does one start and how to do it in order to counteract the prevailing culture of violence which has pervaded so many societies and to transform it into a culture of peace? Let me offer a few precise suggestions, perhaps a little bit disjointed, and without the pretension of being comprehensive.

First, we have to understand the problem and its possible solutions: to know what is aggression, violence and war, and what peace really means in its deepest meaning, as well as what their interacting biological and cultural factors are.

And, second, we should emphasize the potential value of education which provides a major contribution to the control of aggression, in the prevention of violence and in the achievement of peace, stressing the importance of a comprehensive and global education with a transdisciplinary approach, which may allow us to school emotions and develop inner peace. This task is especially important during the early critical periods of development. We should convince the society about the benefits of investing adequate resources in such extensive educative efforts, instead of limiting its resorts to control aggression and to solve conflicts by means of threats or punishment.

While problems are relatively obvious, even if you are not in direct contact with aggression, you often can be indirectly affected; effective resolutions are not affected. They depend on understanding problems. A most effective means of understanding them is a **systematical study of aggression, violence and war**, utilizing scientific techniques. For example, in our case, with a greater knowledge of the many causes and kinds of aggression, we can develop an appreciation of the possibilities for controlling it, as well as an understanding of some of the reasons why we have failed to effectively control it in the past, such as lack of an appropriate definition and measurement (Ramirez, 1997).

Here, I will just state that biology and environment taken separately are never causes of anything in an organism’s development. The human brain should no longer be considered as a generator of possible – or, even less, inevitably occurring – aggressive behaviour (with improper emphasis on some humoral factor or even a single gene thought to be specifically implicated), but rather as the mediator of a dialogue which may take on an aggressive form for reasons that can only be truly clarified through joint interdisciplinary efforts. Biology is the foundation of all behaviour only in the same way that bricks and paper are the founda-

tions of all (traditional) libraries, but the content of the library, whilst being printed on paper, is not otherwise dependant on the bricks and paper.

“Since there is no one factor that overwhelmingly produces aggression, what we need is a comprehensive approach integrating different perspectives on violence, with an appreciation for the various objectively supported contributions of biology, learning mechanisms, social experiences, and, what is more important, their dynamic integration.”

Biology is the means by which information is accumulated and transmitted both in day-to-day interactions between people (in brain), the generation to generation transmission of adaptations right up to speciation information (the genome). But it is the interaction with the environment that steers these changes. It is just as true, then, to say that the environment is the foundation of the content of behaviour and that the interaction between the environment and the phenotype determines which behaviours will be selected i.e. reinforced. Behaviour, then, is the selection of what can be done (the phenotype) from what is available (the environment, including conspecifics) with the ultimate goal of maximum survival of current and future generations. In humans, survival of non-physical elements may be treated highly or higher than the physical: one's reputation, legacy, knowledge, religion, people, country, political belief and so on may be the object of behaviour over and above one's physical survival, inheritance and legacy (see: Robert Karl Stonjek, evolutionary-psychology.yahoogleroups, 2012). In other words, organisms are open systems in more ways than one. Behavior is controlled not only by biological characteristics, mainly of the brain and nervous system, but also in large part by external events surrounding and impinging upon that brain and nervous system. Human beings possess biological structures conducive to use of language, true, but without a “linguistic environment” those structures would not function.

Delimitating this assertion to our topic, an adequate control of aggression is not an unrealistic goal for a society, but it is certainly a reality in innumerable discrete settings. Since there is no one factor that overwhelmingly produces aggression, what we need is a comprehensive approach integrating different perspectives on violence, with an appreciation for the various objectively supported contributions of biology, learning mechanisms, social experiences, and, what is more important, their dynamic integration.

Our purpose has to begin with the process of integrating the various domains of science that are studying the development of aggression and peace, in an attempt to use science to guide society in its efforts to prevent and control harmful aggression. Basic scientists, within their experimental settings, may have the luxury of separating the biology of aggression from its psychosocial and environmental context with questions arising within their isolated domains. But, if we want to reach the ultimate goal of application of scientific information in the real world, we can never separate them. There is a constant and circular interaction. As Craig Ferris likes to say, “development is 100% environment and 100% heredity”, in a dynamic interaction (Ferris & Grisso, 1996).

This brings me to the next major feature. If we want to achieve peace, we need to know **what peace really means** in its deepest meaning. According to Paul VI, the new name of peace is *development* because, if we understand as peace the harmonic whole of all what people need, personally and socially, for their happiness, development is a very good way for achieving it. Development embraces dimensions so distinct and integrated as culture, economy, education, politics, and promotion of the weakest, as well as a profound respect for human dignity and human life, and of the environment in which we live.

An optimal approach towards peace, therefore, would be to prevent the problems of violence and war with a political, cultural and economical intervention, alleviating poverty and other social conditions that breed these problems (Ramirez, 1996, 2009). A true peace thus has to be supported by development and social justice, with a more just distribution of the world's resources within and between societies. The only sure foundation on which to lay a better welfare state, a happier society and a more pleasant life is a real development of humanity subordinating all goods and technical resources to human dignity. Therefore, peace = development + justice.

“One way to contribute towards the transformation of a culture of war into a culture of peace is to permanently shift attitudes, values and behaviour in order to promote peace and social justice.”

And, since we would like to live in a permanent state of peace and well being, we have to lay down solid foundations to make peace education available (Ramirez, 1994b). **How to achieve a culture of peace?**

One way to contribute towards the transformation of a culture of war into a **culture of peace** is to permanently shift attitudes, values and behaviour in order to promote peace and social justice, and the non-violent resolution of conflict and security through a transdisciplinary approach. This primary scope, which is the aim of the UNESCO's Culture of Peace Programme (1994), requires cooperation at all levels, everyone working together for peace and reconciliation.

Education becomes a preventative measure that creates a culture that recognises the **value of human life** and is less conducive to aggression, informing individuals and caregivers about how to deal with the causes of aggression and with its control (e.g. by reducing wealth differentials, emphasizing achievement rather than competitiveness, reducing the availability of weapons and removing other triggers for aggression) (Hinde, Nelson & Wrangham, 2010). Starting with pre- and postnatal healthcare, it would progress through the raising and **formal education** of children, and continue into adult social settings.

A very specific point which has to be raised is the in-group versus out-group issue: **us vs them**. It is well known that, whereas prosociality is directed primarily towards the group to which the individual belongs, selfishness is much less inhibited towards out-group members. This explains why acts of aggression are shown more readily to strangers and members of other groups than to members of the same group. And its most extreme act, killing, which

is morally forbidden in virtually all human societies, except where legitimized by societal consensus, in war is sanctioned and even praised for enemies, because they are portrayed as dangerous and even sub-human by propaganda.

Thus, much depends on where the boundaries between in-group and out-group are perceived to lie. Given the genetic uniformity of the human species, there is no biological justification for feelings of in-group favoritism and out-group derogation, based on an in-existent in-group superiority. It is possible and praiseworthy to love one's own culture (patriotism), but we can do it without denigrating others (nationalism). In this way, we can expand the scope of the in-group, providing better education which gives greater emphasis to our common humanity than to cultural differences, thereby continuing to extend the perceived boundaries of the in-group (Hinde, et al, 2010).

This increased connectedness of peoples around the world inspires a vision of a future in which the common humanity of all peoples will be globally recognised. This attitude matches quite well with the already mentioned spirit of WAAS, which is seen in its 1960 founding Manifesto: Fellows share the ambition "to rediscover the language of mutual understanding," surmounting differences in tradition, language, and social structure which, unless fused by creative imagination and continuous effort, dissolve the latent human commonwealth in contention and conflict. It was also said within the Middle East conflict by Pope Benedict during his above mentioned visit to Lebanon: "If we want peace, we have to see in the other a person to be respected and loved" (14 Sept 2012). Expanding the scope of the in-group can be expected to continue to promote increased prosociality. "Instead of Us Versus Them, Us Plus Them" (Pittinsky, 2012).

The importance of family in education should always be stressed. Rearing by a parent-figure sensitive to the child's needs and exercising firm but reasoned control is especially potent in promoting prosociality. Consequently, a positive task would be to foster **parenting programs**, helping parents to improve their skills, and ensuring that parentless children are supported by others. A flagship program is known as the Triple P -positive parenting program, created by Matthew R. Sanders and colleagues at the University of Queensland in Australia. It evolved from a small "home-based, individually administered training programme for parents of disruptive preschool children" into a comprehensive preventive whole-population intervention programme invested in heavily by public bodies in the UK and beyond. Although it has been hailed as a success around the world, a new study led by Philip Wilson, at the University of Aberdeen in collaboration with researchers from the Universities of Glasgow and Gothenburg, assessing the outcomes of Triple P programmes of 33 English language studies, has called into question its effectiveness, recommending a more rigorous methodological report. For instance, they pointed out that only mothers reported an improvement in their children's behaviour, but no significant difference was noted by fathers or independent observers of the children's behaviour (Wilson et al., 2012). This may be another data point in the ongoing argument about whether you can 're-make' people, even if I don't doubt at all that some people can be helped to get along better in society. But it seems to me just another example of people seeing what they HOPE to see in the analysis of these behavioral intervention programs.

Besides formal education, one needs to learn how to deal with emotion, how to transform anger and fear into love and compassion, how to develop forgiveness, how to communicate positively with others... In one word, how to become happy, assuming we really can 're-make' people.

An important aspect of this global education is the **schooling of emotions**, given the influenciability and malleability of the feelings, especially during the early years. The affective education movement of the 1960s – psychological and motivational lessons were more deeply learned if they involved an immediate experience of what was being taught conceptually – has rather become the emotional-literacy movement of the turning of the century: instead of using affect to educate, it educates affect itself. Prevention programs are far more effective when emotional and social competences are taught: such as impulse control, managing anger and finding creative solutions to social predicaments. Emotional skills have to be also stressed: self-awareness, identifying, expressing and managing feelings; impulse control and delaying gratification; and handling stress and anxiety... (Goleman, 1995)

Chronic anger is a habit that can also change through education: for instance, teaching basic elements of emotional intelligence, particularly mindfulness of anger as it begins to stir, ability to regulate it once it has begun (substituting reasonable thoughts for cynical, mistrustful ones), and empathy (for frustrating encounters, you learn the ability to see things from the other person's perspective). As Redford Williams said, "the antidote to hostility is to develop a more trusting heart. All it takes is the right motivation. When people see that their hostility can lead to an early grave, they are ready to try" (1989; see also: Ramirez et al., 2002).

Forgiveness of offenses is another of the ideas people have to fill their heads with, if one really wants to achieve peace in the world, because it can be a powerful means to healing. Although you still see the wound, you forget its pain. And consequently it helps you to keep going ahead.

In its broadest sense, forgiveness encompasses a multitude of virtues. Michael Henderson (2009) analyzes five critical components: 1) dialogue, addressing the root causes of conflicts, instead of searching for revenge; 2) reaching out to 'the other', because without forgiving and trust many good initiatives will be fated to fail; 3) moving beyond victimhood (Henderson refers to a very illustrative story: an Orthodox Jew, Yitzak Frankelthal, after Hamas kidnapped and killed his son Arik, founded an organization, Parent Circle, to bring together parents from both sides for personal support and for meeting with governmental representatives and decision makers); 4) taking responsibility; and 5) creating safe space.

Forgiveness can be considered at the personal and the public levels. Offenses are easier to forgive to the extent that they seem small and understandable and when we see ourselves as capable of committing a similar action to the offender. In this context, having been taught from an early age to be more empathetic, we lean toward relationship building and do not emphasize the vengeful side of justice (Exline et al., 2012). And, in the public realm, a pivotal piece of forgiveness is related to historic grievances, leading to apologies and reparations. Are we condemned to follow a wrong past, or can we make a break with it, if new situations allow us to adopt new truths?

Conflict resolution in a non-violent way is another interesting point that can be meliorated via education, fostering a deeper understanding of conflict and violence prevention, learning the many choices for dealing with conflict besides passivity or aggression. Given the futility of violence, it has to be replaced with concrete skills. When tension erupts, you can seek out a mediator to help settle arguments that otherwise can escalate. You have to learn to think differently about disagreements, and to recognize an expanded range of feelings.

Given the diplomatic load of this parliament, I would like to stress the importance of an adequate training in preventive diplomacy for conflict resolutions. We need outstanding peacemakers, helping resolve disputes in the world: arms control, nuclear matters, hostage-taking, conflicts between Arabs and Israelis, wars in Africa, Middle East or wherever..., and remembering that, as Anthony Zacharzewski of the British think-tank Demsoc, says, “successful politics is not about finding people who agree with you. It is about making difficult decisions without killing each other.” (2013)

A good agreement is one which is wise and efficient, and which improves both parties’ relationship. Wise agreements satisfy both parties’ interests and are fair and lasting, most notably where there is a major imbalance of power. This is the approach of a technique called “principled negotiation”, taught by Roger Fisher through his **Harvard Negotiation Project** (he was 40 years on the faculty of Harvard Law School). It allows parties to decide questions on their merits rather than on the haggling skill — or willpower — of the people involved. “In any negotiation — even with terrorists — it is vital to separate the people from the problem; to focus on the underlying interests of both sides, fine-tuning their demands, rather than stake out unwavering positions; and to explore all possible options before making a decision. The parties should try to build a rapport, check each other out, even just by shaking hands or eating together. Each should “listen actively” to what the other is saying. They should recognise the emotions on either side, from a longing for security to a craving for status. And they should try to get inside each other’s heads.” (Fisher, Ury, 1981).

Among many situations where Fisher put his theory into practice, I will mention only one, closer to me because of family connections: **his** success in ending apartheid in South Africa: the Afrikaner cabinet and ANC officials, trained separately by him in negotiation workshops, agreed to end apartheid without resorting to violence.

These considerations are valid not only in a public context, but also at a personal level. Negotiation is a fact of our daily life. Whether we want or not and whether we know it or not, we all are negotiators. We negotiate something nearly every day: what to do today, what to have for supper, how or where to spend the weekend. We try to agree on a price for a house or bargain for a souvenir in a market. Who has not tried some haggling tricks in a souk: pretending not to be interested, refusing to react to pressure, being prepared to walk away. All are examples of questions that are decided among people with different interests. Even if at first look we may think they are competing, maybe they overlap, or they complement one another and only the positions of the parties are actually at odds. Maybe by focusing on the interests, rather than the positions, parties can invent options for mutual gain and resolve issues to everyone’s satisfaction.

Finally, I have to remark that this important task of achieving a culture of peace, which has been suggested to get through a series of steps, such as peace education, schooling of emotions, and conflict resolution, is not an exclusive domain of government, police and other security forces, or any other public institutions or authorities. On the contrary, it demands the participation of the entire society: educational institutions, religious movements, mass media, families and, last but not least, everybody. Each of us has a specific part of responsibility in this achievement because, although these tasks may be mainly institutional and collective, they also rest upon the consciousness of individual participants for whom pessimism and optimism are crucial factors. Finishing with the same words of the *Seville Statement of Violence* (1986), just as “wars begin in the minds of men, peace also begins in our minds. The same species who invented war is capable of inventing peace.” The responsibility lies with each of us!

“The time has come to take on the commitment to heal our society, the world, and ourselves by the power of truth, life and justice, especially through science.”

On the occasion of his 1987 visit to Gdańsk, cradle of Solidarity, John Paul II told the youth that “before there is a revolution in the world, it has to be a revolution in our hearts, minds and characters, out of which will come truth, life and justice” (Luxmoore, Babiuch, 1999, p. 214). Even if until now we have not had time for peace, the time has come to take on the commitment to heal our society, the world, and ourselves by the power of truth, life and justice, especially through science. I am aware that this is really difficult to apply into our mind and hearts, and that patience must become a habit that will help us deal with life more ‘peacefully’. But with the confidence of knowing that peace is possible, we will be able to influence our surroundings positively and making the world better, even it is indeed a hard task. And, in order to achieve it, we should never forget that we must learn to **develop inner peace** within our minds.

Author Contact Information

Email: mramirez@med.ucm.es

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Science and Spirituality: Observations from the Battlefield

Jakob von Uexkull

Founder, World Future Council
Fellow, World Academy of Art and Science

“The most common misunderstanding about science is that scientists seek and find truth. They don’t – they make and test models.”

Neil Gershenfeld, MIT (‘Edge’ Magazine, Jan. 2011)

“We know this rich and complex world in many ways, among which physical science is important, but our immediate experience is much more so.”

Mary Midgley (‘The Guardian’, 5.2.11)

“It suits the purposes of our economists, technologists and politicians to pretend that living organisms are machines, since the benefits provided by the state and the formal economy cater above all for humanity’s mechanistic needs.”

Edward Goldsmith (‘The Ecologist’, March/April 1990)

Abstract

As society today finds itself confronted by a tabula rasa, a void created by science’s increasing lack of authority to interpret reality and its over-identification with a specific world-view, it is time to consider another alternative, and a legitimate, modern path to truth. Instead of merely accepting science as another à la carte belief system, purpose or meaning to our existence can be provided by spirituality.

However, coexistence between spirituality and science is currently recognised only on the terms of the latter and sparks concern with regard to the dangers of scientific fundamentalism. Rather than managing to disprove spiritual truths, modern science has led to a research methodology which excludes even the possibility of immaterial realities.

To this end, the need to pursue open-minded spiritual research cannot be under-emphasized in order to cease the ongoing subservience of science to the creed of scientific materialism. On the path to harmonious cooperation between science and spirituality lies a rebuilding of the concept of community in order to provide a new beginning based on humility and circumspection. Such reconciliation would facilitate modern society to develop a lifestyle of modest sufficiency, one which may only be achieved by understanding spirituality as a science in its own right.

Discussions on this topic usually start from the premises that science provides the only legitimate modern path to truth, and that we live in a mechanistic universe, where the material level is the ultimate reality and life, a ‘blind’ trial-and-error selection of the ‘fittest’ with no

purpose or meaning. This dismal “Western creed”, based on a “firm foundation of unyielding despair” (Bertrand Russell), is presented by celebrated scientists and philosophers as proven beyond doubt. While it is recognised that many people, including scientists, need spiritual crutches to cope with their ultimately meaningless existence, any suggestion that there are other realities and paths to truth are dismissed as a dangerous retreat to the past, opening the floodgates to irrationality.

Co-existence between science and spirituality is thus seen as acceptable only on terms set by science, i.e. recognising it as the only modern path to truth. But, while “the opposition of faith to reason has behind it an old tradition, ... the opposition of faith to truth is a desperate novelty and dangerously favours any self-imposed deception.” (Czeslaw Milosz)

Darwinism is then no longer a powerful scientific theory but “the most important bastion of the humanistic-liberal worldview. If it falls, ... it will not be long before the ostracism of all leftists, homosexuals and pro-abortionists begins”, according to the liberal German weekly DER SPIEGEL (52/05).

In a recent report the same magazine described the teaching of homeopathy at German Universities under the heading “Fall-back to the Middle Ages”. Homeopathy was dismissed as “scurrilous... humbug”, comparable to “voodoo medicine” and “long disproven”. An open-minded attitude on this issue was only proof of “moving ever further away from international medical standards”.

My issue here is not whether homeopathy works – although I saw it curing my son from nightly epileptic fits after one treatment. My concern is with our ways of ascertaining reality. The scientific method of doing so has been ideologically and dogmatically reduced to a narrow mechanistic path, impoverishing science and modern life in many ways. The ‘dissident’ scientist Prof. Rupert Sheldrake – who faced a call from the editor of a top scientific publication, ‘NATURE’, to burn his books – recently spoke of the dangers of scientific fundamentalism. Thus, homeopathy must be only a subjective placebo effect – despite its many successes with children and animals – because anything else would threaten the materialistic world-view imposed on us in the name of science.

Spiritual seekers are bad consumers and care little about economic growth. Therefore research into non-material realities and non-mechanistic paths to (spiritual or inner) truth is very difficult to fund. If, on the other hand, you can present your research as scientific, then money is no problem, however weird your project is. The “Biosphere 2” project in Arizona was based on the belief that we understand enough about interactive natural eco-systems to be able to replicate them. “Biosphere 2” was to show how humans can survive nuclear war or environmental collapse by escaping underground or, preferably, into space. It attracted huge publicity and hundreds of millions in funding. Support from top universities, NASA, etc. gave it credibility. It proved completely unworkable – the “bionauts” inside had to smash the walls to escape suffocation.

It was the pet project of a charming, eccentric professor and his group of young female assistants. Had their quest been spiritual, the media would have had a field day, denouncing the waste of private and public funding for this “sect”. But, because it was “scientific”, it escaped such scrutiny.

There are other problems. Physics still cannot explain why the universe now consists almost entirely of matter, although matter and anti-matter are supposed to have been created in equal quantities in the Big Bang. Even less can our experts explain the Big Bang itself: why would nothing suddenly bang?

Those acquainted with research into so-called paranormal phenomena will spot another fundamental problem with the scientific quest. One such well-documented phenomenon is telekinetics, i.e. the ability of certain individuals to influence and move objects with the power of their minds. While research into such phenomena is not regarded as respectable or fundable in the West today, it was seen as potentially military use and thus well-documented in the Soviet Union. In one famous experiment, witnessed by US researchers, a Leningrad house-wife lifted heavy objects from a table and moved them purely with her mental telekinetic powers.

“The findings of Quantum Physics limit the validity of the scientific materialism still dominating our social sciences. While this materialism and its ‘science’ of economics destroy the concept of community, leaving us both alone and meaningless, quantum physics re-asserts the primacy of consciousness and re-creates community by re-connecting us with the world around us.”

Modern science has not disproven spiritual truths. It has developed a research methodology which excludes the very possibility of immaterial realities. When confronted with such phenomena, it capitulates: “I don’t want to discuss evidence... It’s too complicated.” (Richard Dawkins on telepathy. Network Review, Winter 2007 www.scimednet.org.) Those who have debated with so-called scientific sceptics know that ‘what cannot be must not be’. George Vithoulkas has revived classical homeopathy and teaches packed courses to medical doctors from many countries on the Greek island where he lives. A few years ago he told me excitedly about looking for evidence for the medical efficacy of homeopathy. It looked promising, but soon after the participating doctors resigned. I suggested to one of them that he was afraid of what would happen to his reputation if the study confirmed the effectiveness of homeopathy. He readily admitted that this was the case.

Of course, homeopathy is not spirituality. Nor is it telepathy. But both are evidence of non-material realities. The subservience of science to the creed of scientific materialism explains the difficulties of finding common ground between it and the vast experiences of human spirituality. The failure to pursue open-minded spiritual research has made us less knowledgeable about key issues of our existence than many of our ancestors. We have exchanged their often harmless superstitions for a dangerous belief in the paramount powers of markets, “growth” and technological fixes, which now threaten our common future. It is symptomatic that the only new Nobel Prize introduced by the Nobel Foundation is for economics! Religious fundamentalism made the crusades, pogroms and 9/11 possible. But modern science made Hiroshima and Nagasaki possible. And the scientists responsible did

not even know if the nuclear chain reaction would get out of control and set the Earth's atmosphere on fire...

The findings of Quantum Physics limit the validity of the scientific materialism still dominating our social sciences. While this materialism and its 'science' of economics destroy the concept of community, leaving us both alone and meaningless, quantum physics re-asserts the primacy of consciousness and re-creates community by re-connecting us (religare!) with the world around us. It also warns us that, as integral parts of this whole, it is very unlikely that we will ever be able to understand it fully. It certainly makes it doubtful if we can do it from the outside. If we want to understand more, we have to develop our inner self-knowledge and creative intelligence. Serious spiritual students have documented many experiences which are intra- and inter-personally replicable.

I had long wondered if the proponents of the dismal creed of modern science really believe what they say, or are just following fashion. For, if they really thought their life and existence meaningless, why would their discoveries have any objective validity? And would someone as brilliant as Bertrand Russell really not have spotted this contradiction? Well, it appears that he did, but did not want to admit this, preferring to keep up his image as the 'courageous' atheist, facing down despair.

Some years ago I came across Kyros Markides' biography of Daskalos, *The Magnus of Strovolos*, the remarkable Cypriot spiritual teacher, healer and mystic. Markides quotes from the respectful, inquiring letters to Daskalos from a "famous philosopher". Recognising their style, I asked the author if they were from Russell, which he confirmed.

Nor is this an isolated example. David Loye's "Darwin's Hidden Theory of Love" reveals a Darwin seeing human evolution as a struggle for moral growth, opposed to the mechanistic evolutionism of his followers but unwilling to distance himself from them publicly. And 'The Origin of Species' closes with his conviction that life "having been originally breathed into a few forms or into one..."

But who breathed? And how can inter-active and dynamic structures and functions of living organisms come into existence by chance? The tadpole and the frog belong to different species – so do the caterpillar and the butterfly. Yet they are different stages of the same animal. How is this possible without a plan? As my grandfather biologist (and 'father' of bio-semiotics) remarked, Darwinists have "turned nature into an idiot who feels around blindly and starts all sorts of experiments of which most are failures..."

No wonder spirituality is back in fashion. The pilgrimage route to Santiago de Compostela (Spain) has regained so much popularity that the facilities along the path – almost empty a decade or two ago – are struggling to cope. The recently deserted monasteries on Mount Athos are rapidly filling up with new monks from many countries.

The issue is no longer the role of spirituality in a scientific world. We face a tabula rasa where no method or authority is trusted to interpret reality. Science has lost that authority by identifying and allying itself with a specific world-view, which is losing credibility because of the problems it has caused or failed to solve. Can we really do no better? Its protestations of non-responsibility are no longer believed, as too many scientists have become propagandists "in the name of science" for many of the mega-projects which are now seen as dangerous monuments of a false "progress".

When she learnt that her boss Enrico Fermi had become sick worrying about testing the new bomb they had developed, Manhattan Project nuclear scientist Leonora Libby describes in her autobiography how she burst into his bedroom and asked how he as a scientist could justify not finding out if the H-Bomb would work? German Chancellor Angela Merkel has stated that she is in favour of nuclear energy because she is a physicist...

Science risks becoming another á la carte belief system, quoted when convenient but regarded as capable of massive fraud. A few years ago my brother-in-law gave the Kindergarten teachers he was training a book by Rupert Sheldrake to encourage their critical thinking vis-à-vis ruling dogmas, but the results were not what he expected.

The young women told him that Sheldrake's heretical thinking was interesting "and of course the moon landings did not really happen either"...

Even the mainstream media now accept the reality of events which "defy medical science", as the 'Financial Times' recently reported from the Malaysian Thaipusam festival, where pilgrims pierce their cheeks and tongues with spears, and backs with hooks, without any bleeding. My friend Prince Alfred von Liechtenstein recently described bringing a Philippine 'spiritual surgeon' – whose methods also defy medical and scientific explanation – to operate in a Vienna hospital. After their initial shock and amazement, the assembled doctors decided not to investigate what they could not understand – but concluded that they must have been hypnotised, and that their colleague who had extended the invitation must be fined for allowing an operation by an un-licensed individual...

At this time of accelerating global crises, threatening simultaneous "peak-everything", we can afford neither superstition, nor a science corrupted by money, power and arrogance. We need a new beginning based on humility and circumspection – grounded but open-minded – where science and spirituality cooperate to help us develop the life-styles of modest sufficiency which our planet now demands.

The US bio-semiotics pioneer Prof. Thomas Sebeok was asked by the US Government to develop danger signs for nuclear waste installations which could still be understood in 10,000 years. He replied that he regarded this as impossible and instead recommended the establishment of a self-perpetuating "nuclear priesthood" to guard these wastes. Thus, when science does not know how to deal with the consequences of its creations, it calls for priests...

The physicist and World Future Councillor Hans-Peter Dürr believes that "science and religion are not just called to reconciliation, but also to always remain aware of their mutually dependent complementary roles." And his countryman, the philosopher Jürgen Habermas asks "if modernity committed to market radicalism can regenerate itself by its own resources, i.e. without religious content."

But a serious reconciliation requires the understanding that spirituality is not just a belief system but a science in its own right, another path to profound truths. Even my Baltic-Ger-

"A serious reconciliation requires the understanding that spirituality is not just a belief system but a science in its own right, another path to profound truths."

man biologist grandfather expected the major discoveries of the next generations to be “diesseits”, i.e. inside ourselves. Only thus can the calls of Dürr and Habermas become more than exhortations in a moral void. As Plato noted, we understand at the level at which we are and perceive. Scientific materialism has deepened our knowledge but narrowed our consciousness. As Aldous Huxley wrote in ‘Heaven and Hell’ (1953), “Like the earth of a hundred years ago, our mind still has its darkest Africas, its unmapped Borneos and Amazonian basins.”

The spiritual explorer is also on a quest for knowledge. To quote William James, “mystical states... are states of insight into depths of knowledge... illuminations, revelations, full of significance...” (‘The Varieties of Religious Experience’, N.Y. 1902, p.371).

The remarkable Swedish scientist and spiritualist Emanuel Swedenborg saw his investigations of spiritual realities as a logical continuation of his other scientific experiments. Indeed, to quote his biographer Lars Bergqvist, “his knowledge of nature had been a prerequisite for his insights into spiritual things,” (‘Swedenborg’s Secret’, p.382) His findings were open to empirical confirmation, by using his methods of investigation, which were open to anyone and did not require a lifetime of asceticism, which he rejected.

I entitled this paper “Observations From the Battlefield” as I do not believe it is helpful to re-define modern science and spirituality until they can be nicely reconciled. As they currently stand, they represent contradictory realities, paths and worldviews. Only by accepting that the scientific methodology must be re-thought and expanded to include a broader range of human experiences can we move to the new synthesis we now urgently need.

Author Contact Information

Email: jvu@worldfuturecouncil.org

“Only by accepting that the scientific methodology must be re-thought and expanded to include a broader range of human experiences can we move to the new synthesis we now urgently need.”

The Future of the Pacific and its Relevance for Geo-economic Interests

Francesco Stipo, Fellow, World Academy of Art & Science;
Chair, Legal Political Committee, US Association, Club of Rome

Anitra Thorhaug, Chair, Energy & Resources Committee;
US Association, Club of Rome

Marian Simion, Chair, Health and Religion Committee;
US Association, Club of Rome

**Keith Butler, Roberta Gibbs, Ryan Jackson,
Andrew Oerke, Lockey White***

Abstract

The Report forecasts that free trade initiatives in the Pacific will become polarized between the Trans-Pacific Partnership and the Regional Comprehensive Economic Partnership.

The Report identifies two factors that will slow Chinese economic growth and reduce U.S.-China bilateral trade in the next 30 years: the development of additive manufacturing and the increase of Chinese cost of labor.

In the next 30 years there will be a redistribution of global energy demand that will change the global political scenario: the discovery of large quantities of oil and natural gas in North America will reduce foreign energy demand in the United States and increase the availability of energy to cover Chinese demand. The short-term consequences will be reduction of competition between the US and China for sources of energy, increase of Chinese reliance on Middle Eastern and Latin American oil and growing Japanese imports of liquefied natural gas from the United States. This scenario will change when renewable energy will become more cost effective and will replace oil and natural gas as the main source of energy.

The Report laments that large nations and international organizations have been mostly concerned with security and trade in the Pacific while disregarding the protection of natural resources. It recommends massive restoration and anticipatory planning to make the resources sustainable. The Report finds that poor environmental conditions will affect the health of the population of Asian Pacific countries. It recommends mandatory vaccinations and stricter environmental protection laws to improve the health of the populations in the region.

1. Legal and Political Issues

1.1. The Development of Free Trade Agreements in the Pacific Region

Over the past decade, the center of world's economic growth has moved away from the Atlantic to the Pacific region. The development of international trade between America and

* The biographies of co-authors can be found at www.usacoor.org

Asia has made the countries in the Pacific region open their economic borders and create a free trade area in the region.

The first step has been the creation of APEC in 1986 (Asia-Pacific Economic Cooperation), which is a forum to promote free trade and economic cooperation in the Pacific region. When APEC was established in 1989, average trade barriers in the region stood at 16.9 percent, but had been reduced to 5.5% in 2004.¹ However, the Bogor Goals that called for complete trade liberalization by the year 2010 have not been achieved.

More recently, in 2005, the Trans-Pacific Strategic Economic Partnership was formed between Brunei, Chile, New Zealand and Singapore. In 2012, negotiations started to expand the TPSEP and create a Trans Pacific Partnership (TPP), a free trade agreement involving the members of the TPSEP, the United States, Australia, Canada, Peru, Malaysia, Mexico, Japan and Vietnam, which would eventually be the forerunner of a Free Trade Area of the Pacific (FTAAP).[†]

The US-sponsored TPP overlaps part of its membership with APEC and represents the beginning of a polarization of free trade initiatives in the Pacific between China and the USA. China's response to the TPP is the creation of the Regional Comprehensive Economic Partnership, which promotes free trade between China and its main trade partners.²

Many of these partners are members of the ASEAN bloc, the Association of South-East Asian Nations, which is planning to complete its import duty integration by 2015.³ The RCEP would strategically benefit China and economically benefit ASEAN countries.

The first element that emerges by the historical analysis of free trade agreements in the Pacific is the fragmentation of trade liberalization among different organizations. These organizations work for the same goals but cover separate geographic areas.

Initially, the outcome will be a polarization of free trade among 2 areas: the US-sponsored TPP, which could merge with the Pacific Islands Forum, and the Chinese-sponsored Regional Comprehensive Economic Partnership with the ASEAN bloc.

“Free trade agreements can boost economic growth and prosperity but, if not supported by the guarantee of minimum wages, they can cause an uneven wealth distribution with long term adverse effects.”

However, in the next 30 years, once the cost of labor becomes more uniform, these areas will eventually merge into one single Free Trade Area of the Asia-Pacific that will eliminate custom duties and guarantee equality of treatment among goods originating in different Pacific countries.

Free trade agreements can boost economic growth and prosperity but, if not supported by the guarantee of minimum wages, labor laws that protect worker and human rights, and a common environmental policy, they can cause an uneven wealth distribution with long term

[†] See http://sice.oas.org/Trade/CHL_Asia_e/mainAgreemt_e.pdf

adverse effects. It is our recommendation that free trade agreements in the Pacific be carefully planned to include these provisions.

1.2. The Future of US-China Relations

The new leadership within People's Republic of China (PRC), under the General Secretary Xi Jinping, seeks to continue economic growth and the limited domestic reforms that began under General Secretary Deng Xiaoping in the 1970s. Relations between China and the U.S. have remained stable since Xi assumed office, and he has continued the policies of his predecessor, Hu Jintao.

1.3. Potential Game Changing Scenarios

A major source of rivalry between the US and China is the demand for energy, in particular oil and natural gas. The economic growth of China, which started when the country entered the WTO and increased the manufacturing and export of consumer products, has dramatically increased the country's demand for energy. Since China is not a major oil and natural gas producer, it has turned to foreign countries to import energy. At the same time, the United States' demand for energy has also increased, as its national production has not been able to cover the internal demand. The result is an economic rivalry between the two world's largest economies, which is evident in different regions of the world, such as in the US support of South Sudan's independence as opposed to China's support of the government of Sudan, Chinese rapprochement with Brazil and Russia with the formation of the BRICS alliance, and Chinese opposition to sanctions on Iran in the United Nations.

One game changer will be the redistribution of global energy demand. Currently the United States is importing energy, in particular oil, from Saudi Arabia, Venezuela, Mexico and other countries in the Middle-East. The discovery of large quantities of oil and natural gas in different regions of the United States will reduce the foreign energy demand in the United States and increase the availability of energy for China, India and Japan. The short term consequence will be a reduction of the competition between the US and China for sources of energy and the increase of Chinese reliance on Middle Eastern and Latin American oil and natural gas. However, this scenario will change in the long term when renewable energy will become cost effective and replace oil as the main energy source.

Another important consideration is the trade balance between China and the United States. China has a net current account surplus in relation to the US and the rest of the world. The two elements of Chinese success in their export strategy are low labor costs and a devaluated currency. However, at least two factors may change this position in the short term:

- The development of additive manufacturing, a process of making a three-dimensional solid object of virtually any shape from a digital model. This process is conducted by machines and requires minimal human labor. The development of 3d manufacturing will obliterate Chinese cost of labor advantage and reduce US imports from China while increase US export to other countries, in particular Latin American countries because these countries do not possess the technical advancement of the United States and the main factor to determine the cost of an exported product will be the cost of transportation and the U.S. is less distant than China from Latin America. The devel-

opment of free trade areas in the Americas will increase US competitiveness in South America.

- Changes in the Chinese cost of labor: The cost of labor has been increasing in China and a recent study showed that China has currently the third highest labor cost in emerging Asia, with an average of US\$ 2,250/year versus \$1,152 in Vietnam, \$943 in India and \$401 in Myanmar.⁴

The combination of these two factors will slow down Chinese economic growth in the next 50 years and reduce US-China bilateral trade.

1.4. Revolution or Coup D'état

If the interests of the People's Liberation Army and of the raising middle class conflict with the Chinese Communist Party at some point in the future, there may exist a moment where a coup would be seriously considered by the military, in the interest of maintaining stability. Any shift in China away from a civilian to a military-led form of government would be disastrous for the region and the world. The installation of a military-led government would increase the likelihood of war in the Asia-Pacific region, as well as significantly reverse progress in Chinese economic growth since the 1970s.

The Future of U.S.-Japan Relations and the Role of Pacific Islands

The security of the Pacific Ocean generally rests on the shoulders of the US military.[‡] In cooperation with 22 Pacific Island Countries and Territories (PICTs) and 30 Pacific Rim countries, the US generally provides support for maritime trade.[§] Instead of one large multilateral security treaty like NATO, the US has bilateral mutual defense treaties with Japan, Philippines, Australia, New Zealand, and South Korea, defends several current and former US territories in the region, and cooperates closely with regional law enforcement.[§] NATO expansion in the Pacific region would strengthen cooperation among democratic countries which are not located in the North Atlantic and incorporate bilateral mutual defense treaties with the United States into a multilateral defense organization. China would respond with another defense military organization which could stem from the Shanghai Cooperation Organization polarizing military alliances in the Pacific.

Japan is a major foreign source of financing for the U.S. national debt and will likely remain so for the foreseeable future. Japan is also a significant source of direct investment in the United States, and the United States is the origin of much of the foreign investment in Japan. In other words, if the US does well, Japan will likely do well, and vice versa. However, with China's increased economic influence in both countries, the relative significance of Japan and the United States as each other's economic partner has diminished. By specifically adding the PICTs to Japanese and US trade and development priorities, the Japan-US alliance can be further strengthened.[¶] The key element to strengthen the political relationship between the two countries relies upon two factors:

[‡] US Pacific Command (USPACOM), headquartered in Honolulu, Hawaii, is generally responsible for peace and stability (i.e. defense) of the Pacific.

[§] For example, Samoa has signed a bilateral Shiprider Agreement with the US that allows Samoan law enforcement officials access to US Coast Guard vessels; the Japan-U.S. relationship in the field of security is based upon the Japan-U.S. Security Treaty originally signed in 1951. See: <http://www.us.emb-japan.go.jp/english/html/japanus/japanusoverview2009.htm>.

[¶] Source: U.S. Department of the Treasury, "Japanese holdings of U.S. Treasury securities underscore the debtor/creditor link between the United States and Japan," p.8, found at: <http://www.ustreas.gov/tic/>

- The future production of nuclear energy in Japan;
- US' ability to supply Japan with Liquefied Natural Gas.

After a tsunami hit Japan in 2011 severely damaging Japan's nuclear reactors, nuclear energy production was halted in the country. However, Japanese authorities have consistently declared their intention to continue production of nuclear energy.⁶ Nuclear energy in Japan has a dual importance: economic, since Japan does not extract oil and natural gas, and strategic, because Japan, a signer of the nuclear nonproliferation treaty, with at least 4.7 tons of reactor-grade plutonium reserves, is a quasi-nuclear armament country, which means that it would be able to build 700 nuclear warheads in less than one year.⁷

Japanese demand for energy could be covered in part by U.S. export of natural gas. However, natural gas trading remains primarily isolated within the producing regions and lacks the infrastructure to be a true global commodity. Natural gas maritime shipping takes place in liquid form, because Liquefied Natural Gas has volume that is much smaller than its original volume in compressed form. Liquefaction and transport require special treatments and are highly capital intensive.⁸ Morgan Stanley has estimated that North American Liquefied Natural Gas (LNG) export capacity may exceed 10% of the current US daily production by 2015.⁹ The increased supply of LNG would reduce the prices of both LNG and oil in the global markets, but increase them in the domestic U.S. market. On one side, it would improve U.S. balance of payments, on the other it would risk to create inflation.¹⁰ The U.S. administration shall carefully consider these implications in formulating its energy policy. For Japan, which is an energy importing country, natural gas would constitute cleaner energy than coal, oil and nuclear energy. Furthermore, the increasing role of China in geo-economic interests will strengthen strategic cooperation between US and Japan.

1.5. The Strategic Role of Indonesia in the Asia Pacific Region

The relationship between Indonesia and China is centuries old, however the present Chinese regime was not officially recognized until 1957. In 1967, after the replacement of the Sukarno administration by the Suharto government, diplomatic relations were suspended and not resumed until 1990. China is currently one of Indonesia's main trading partners. The Association of South East Asian Nations is China's fourth largest trading partner. Indonesians, however, are hostile to the flood of expensive products entering Indonesia from China.

Increasing concern over conflict over the South China Sea is now exacerbating tensions between the two nations, however. Although Indonesia is not one of the six claimants to the rights in the islands, sea and seabed resources, hostile conflict in the area poses a threat to Indonesia and potentially to its shipping routes. The six claimants to the Sea are China, Malaysia, Brunei, Philippines, Vietnam and Taiwan. In an attempt to ameliorate relations, Indonesia has hosted forums for discussion in which the Chinese delegation has participated, but not formalized any solutions to conflict. China has also indicated its potential claims to regions close to the Natuna Islands, which are in the Indonesian territory and hold potential oil deposits.

Despite these potential conflicts, China and Indonesia have strengthened their military ties, expanding their joint military exercises. In January 2013, the Indonesian Deputy Defense Minister, Sjafrie Sjamsoeddin met with the Chinese Defense Minister in Beijing and

agreed to closer ties that will expand exercises and training relevant to the Sukhoi Su-27 jet fighter and other technological and educational exchanges. This is seen as a counter-balance to increased presence of the United States in the area. Notwithstanding the improvement in the relations between Indonesia and China, Indonesia remains a close ally of the United States in South East Asia and its strategic importance is destined to increase. In fact, its competitive cost of labor, abundance of natural resources and proximity to both India and China give Indonesia a geo strategic advantage that will benefit the country in the near future. It is in the interests of the United States to nurture its relationship with Indonesia through direct aid and a bilateral or multilateral free trade agreement (such as Indonesia joining the TPP).

1.6. The Role of Australia

Given the fact that Japan and Australia were enemies in World War II and that combatant casualties on both sides were high, it is to the credit of both nations that since the close of the War in 1945, relations between the two nations have dramatically improved. The Commerce Treaty of 1957 laid the groundwork for this reorientation of the two nations. Japan is a purchaser of Australian resources and a provider of well-made manufactured goods. Japanese and Australians have invested in each other's economies and financial markets.

The goal of the two nations is to liberalize trade between them, lowering trade barriers and tariffs.

In contrast to the Australia-Japan Joint Business Conferences mentioned above, the Australia-China Business Conference is disjoined, with the conferences held in Australia being compromised by the Chinese counterparts in China who organize independent conferences and have the effect of discouraging businesses in China that might be interested in doing business in Australia.

2. Energy and Resources

2.1. The Future of the Pacific Rim's Natural Resources

A sustainable future for the natural resources of the 42 Pacific rim nations depends heavily on how these nations choose to steward their resources. The Asian nations historically drew copiously on their resources, but now are clearly dwindling non-sustainably. Development activity of the last two centuries built industrialization in Pacific temperate-zone nations, while large portions of their populations remained agricultural. The Pacific Ocean, Earth's largest feature, appeared infinite to the Pacific-rim peoples for millennia. Surprisingly, at the Second Millennium's end, resources have limits. Rapid Pacific fisheries' depletion due to factory ships form a "Canary in the Mine": lack of stewardship, lack of restoration, lack of judicious usage, and lack of national concern to marshal Pacific-commons fish resources.

2.2. Water

The Pacific contains 622 million cubic km water, a major portion of the earth's water.¹¹ Water cycling from evaporation of the Pacific Ocean is critical not only for the nations rimming the Pacific, but the Pacific Ocean water oscillates weather patterns creating precipitation in the Atlantic and Indian Ocean also. Water cycling from Pacific evaporation is critical not only for the Pacific-rim nations but for the Atlantic and Indian Oceans. The Central

Pacific ocean temperature oscillations “El Nino and La Nina” control Atlantic rainfall and storms.¹² Brazil’s weather patterns vary with these oscillations.¹³ Evaporation from the Central Pacific affects the storms and snowfall in the central Indian Ocean’s Himalayas. Since water was formed prior to the origin of the earth in outer space and is a conservative factor for the planet, this Pacific water is a highly important component of life on earth.

The accelerating usage of water in the next 50 years is far more serious a matter which in Central America will double, in South and North America increase by 165% (157 to 258 and from 560 to 903); in China and S. Korea is accelerating greatly.¹⁴ Water deficit may prove to be of extreme difficulty for China, which is facing rapid desertification. Throughout the Pacific Rim, water must be marshaled in industry and sewage so that precipitation is recycled rather than pollutants inserted into rain. The dumping of polluting materials into surface water is a highly unwise use of rivers.

2.3. Marine Ecosystems and Fish

The largest global ecosystems are found in the Pacific marine ecosystems covering 33% of earth’s surface (165.2 million km²). Unfortunately, degradation is acute of all Pacific northern hemisphere and south-western sub-basins. FAO indicates that there are only two sustainable fisheries in the world primarily in the south east Pacific–Chile/Peru and around the corner where Antarctic-Pacific waters flow to Argentina/Uruguay.¹⁵ Prof. Daniel Pauley reaffirms this with detailed catch statistics of artisan fishing asserting that the Pacific Ocean fish stock will be depleted in 50 years as we fish “down the food chain”.¹⁶ At the interface of the Pacific and terrestrial rim are its estuaries, the earth’s most productive and biodiverse area which systematically stripped of natural resources over the last century by developments. The policy decisions to be made and solutions including restoration of the services of wetlands, seagrasses, coral reefs, and fisheries need rethinking to renew oceanic vitality. Economics of eco-services lost by degradation and the cost-effectiveness of ROI restoring the nearshore resources are central to present societal decisions. The new biological restoration technologies need distribution throughout newly industrializing nations so each nation can choose policies to restore their valuable resources including large amounts of carbon sequestered in estuarine plants, the fisheries habitat, sediment stabilization and enhanced biodiversity.

2.4. Forests and Soils

Forests originally covered most of the nations of the Pacific, adding oxygen, soil stabilization, habitat, energy sources, and biodiversity throughout the Pacific region.¹⁷ Due to massive logging for development and traditionally for fuel, plus clearing for agriculture, forests have been removed and large-scale soil erosion is accelerating throughout the Pacific basin to pollute estuaries by cutting light to fish nurseries. Southeast Asia and China are prime examples.

2.5. Estuaries

The estuaries are the most productive point of earth. The more ancient and more biodiverse Pacific flora and fauna contain two to six times the number of Atlantic species. We are reaching limits of sustainability on the Pacific estuaries including the estuaries most recently developed in the Western Hemisphere. The estuaries of many Asian areas have been highly

modified and no longer provide the eco-services that even a half century ago they were able to provide such as fish nurseries, near-shore fishing for impoverished villagers.

2.6. Arctic and Antarctic

Arctic and Antarctic are the least polluted areas of the Pacific, due partly to the large volume of the slow deep circulation of the Pacific (which up-wells water from pre-industrial times to form surface waters of the Antarctic and the Arctic).¹⁸ Due to glacial melt in the Arctic passages are opening.**

2.7. Energy

The regions' conventional fossil fuels (wood, charcoal, oil, gas and coal) are in decline in Asia while needs must adapt to the abundant ocean and wind energies plus methane hydrates. Resources of fossil energy lies as presently explored in the North Pacific, especially near the Arctic, and beneath the sea in the East and South China Seas, and Indonesia. Energy demand will increase in North America from 16 billion barrels of fossil fuel to 22 billion barrels; in S. America from 1.5 to 6 and in Central America from 0.1 billion barrels to 0.4 billion. In China, in Japan, S. Korea, and in Indonesia energy demand will minimally double.

2.8. Minerals

Mineral expanses are found in the Pacific nations due to the "Ring of Fire"; volcanic activity has geologically brought minerals to the surface, cooling into mineable ore. Manganese nodules, sand, gravel, rare earth metals, and placer form the chief present minerals found plus iron, copper, nickel, titanium, cobalt, and trace metals.¹⁹

2.9. Solutions

The public policies of resource conservation put into place post World War II are not sustaining the Pacific Rim natural resources. The United Nations and regional agreements have been inadequate to keep harmful effluents, overfishing, and extractive operations functioning for the common good in the Pacific global commons. What progress is being made by the Law of the Sea in terms of enforcement of its specific agreements? What stewardship is the UN demanding of those nations whose fair share is not of concern to their commercial entities operating in the Pacific water such as factory fishing ships?²⁰ Is China simply one of the 200 nations and should it be able to maximally extract one-two hundredth of the fish?²¹ Is the IMO operating according to its agreements in the Pacific? Indeed who is policing the UN regulations and treaties in the middle Pacific? Who is enforcing the treaties in the 200 mile limits of the small island nations? Who stands to lose the most resources?

Pacific resources exploitation for short-term economic and political gains appears to overshadow the longer-term sustainable stewardship of the Pacific's resources. Many nations watch the resources dwindle and become non-sustainable, while creating no replacement activity for soil, fish, forests, and fresh water. Massive restoration and anticipatory planning throughout all nations including the southern hemispheric nations aimed at keeping specific Pacific resources sustainable should occur everywhere as a beginning to the solutions for this region. Since small nations to massive Russia are at a turning point perhaps a new operational

** Arctic Council Report 2012

model for resources can occur. The model should include not only micro-credit but definitely microenterprise.²²

Helping lift people from poverty will help sustain resources, since extreme poverty around the Pacific is creating large resource losses in the region. Solutions can be and are available to those nations acting rapidly and expertly to sustain critical resources that range from soil and clean water to fisheries and minerals. Biodiversity and richness of the Pacific commons along with the eco-services the commons provide are to be stewarded rather than squandered in the next several decades.

3. Religion and Health

3.1. Religion

As the contemporary world subscribes to an increased prominence of religion in public life, the Pacific area will also be affected by religion on issues of identity and economics. The public role of religion in the future of the Pacific area will become visible in social relations and government policies.

3.2. Religious Makeup of the Pacific: Restrictions, Hostilities and Migration

In general, hostilities against religion are triggered by the competition for resources and identity clashes, which take place at the intra- and/or interstate level. For example, according to Human Rights Watch in China, despite a constitutional guarantee of freedom of religion, the Chinese government restricts religious practices to officially approved mosques, churches, temples, and monasteries. The government also audits the activities, employee details, and financial records of religious bodies. Religious personnel appointments, religious publications, and seminary applications are subject to government review. Unregistered spiritual groups such as Protestant 'house churches' are deemed unlawful and the government subjects its members to fines and prosecution. The government classifies Falun Gong—a meditation-focused spiritual group banned since July 1999—as an 'an evil cult' and arrests, harasses, and intimidates its members."²³ *The Global Restrictions on Religion* study published in 2009 reported that at the global level, restrictions on religion are placed by governments and by private actors.

Economic migration affects also the religious landscape of the Pacific not only due to the religious identity of the immigrant, but more so because religious organizations are often established in the destination country through an internal mission developed by each organized religion. The Asia-Pacific region is the largest source of migrants in the world (214 million), while North America, Europe, Australia, are the largest destinations. Counting all the persons who had been living for one year or longer in a country other than the one in which he or she was born, the largest single share of international migrants (214 million) has come from the Asia-Pacific region. China is also the fourth largest source of migrants (8.4 million), with over one million Buddhists, about two million belonging to other religions, and over four million who are religiously unaffiliated.²⁴ According to a Pew-Templeton Global Religious Future Project, the United States has been a leading destination for immigration. The United States is the world's top destination for Christians (74% of all foreign-born people living in the United States); of Buddhists (coming mainly from Vietnam), and for people with no

religious affiliation (including many from China). The United States is also the world's second-leading destination for Hindu migrants, after India, and for Jewish migrants, after Israel. As for Muslim migrants, the United States²⁵ ranks just seventh as a destination, behind Saudi Arabia, Russia, Germany, France, Jordan and Pakistan.²⁶ For example, while about half of the Buddhists usually move into countries in the same region, large numbers have moved to North America, as well as to Europe. In the Pacific region, the top sources of Buddhist migrants are China (1,270,000), Japan (390,000) and South Korea (210,000); moving into the United States (1,730,00), Hong Kong (370,000), Australia (340,000), Canada (290,000) and Japan (240,000).²⁷ Therefore, considering the outlook on religious freedom along with the forecasted birth rate, and growth of religion's influence in the public life for the next 40 years, religion becomes even more relevant to public policy.

3.3. Health

Health spending in the Pacific region as a percent of GDP ranges from a low of around 2.5% for Indonesia to a high of 18.9% for the Marshall Islands, the actual dollar amounts per capita can be as low as \$85, which may as well be \$0 for all the benefit it provides for the people. Access to medical care varies significantly in the region with the wealthy countries like Japan having around 2.1 doctors per 1,000 people while Papua New Guinea has fewer than 0.05 physicians per 1,000 people, compared to the 1.8 per 1,000 in China, 2.4 per 1,000 people in the United States (considered a "doctor shortage") or as many as 4 per 1,000 in some of the European countries.²⁸ Unfortunately, the countries with the fewest physicians also have the fewest nurses and hospitals and hospital beds per 1,000 people with only 0.6 hospital beds per 1,000 people in Indonesia and 1.3 per 1,000 people in Kiribati, compared to 3.0 per 1,000 in the US (behind China's 3.8 per 1,000) and 13.7 hospital beds per 1,000 people in Japan.

The developing nations of the Pacific have higher than average rates of tuberculosis, malaria, dengue, sexually transmitted infections (including HIV) and other infectious diseases.²⁹

Access to clean drinking water will continue to be a problem in some areas and should be given a higher priority as it is a significant factor in reducing infection and improving quality of life. When we discuss drinking water, many fail to recognize the fact that 45% of the world's population still does not have the luxury of piped water in their homes and 11% have no access to treated water at all.³⁰

As some of the less-developed countries in the Pacific become more industrialized, we may see a shift from indoor air pollution to more outdoor air pollution due to the decreased use of solid fuels for cooking and increasing numbers of factories and cars. Air pollution is closely linked to chronic obstructive pulmonary disease (COPD- including chronic bronchitis), pneumonia, lung cancer and other cancers.^{††} Currently, there are an estimated 360,000 deaths each year in the Western Pacific due to outdoor pollution and 500,000 deaths each year due to indoor pollution with a likely switch between the two in coming years.³¹ A recent report estimates that more than 1.2 million people die prematurely each year due to air pollution in China alone.³² The particulates in air pollution usually cause the most harm to health, so the use of more efficient burning technologies and particulate capture technologies should reduce the illness and deaths from pollution in the short term as we work toward cleaner future technologies.

†† Fast facts about particulate matter, Environmental Protection Agency <http://www.epa.gov/pm/fastfacts.html>

Increasing funding for and emphasis on education would be the single greatest benefit to the region as long as those educational programs include nutrition, hygiene, safe drinking water and other public health topics.

Some of the health problems could also be reduced by increasing access to healthier foods and more water purification. Vaccination programs can reduce some of the spread of infectious diseases and we may see vaccines developed for tuberculosis, dengue, malaria and even HIV in the coming years. Increased access to health education and medical professionals in the remote, underserved areas can be attained through video conferencing technologies.

We cannot see the future but the most likely problems are continuations of the current ones so we can have an idea of how we can act now to try to change our future.

Author Contact Information

Email: fstipo@hotmail.com

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