BHUTAN'S DEVELOPMENT CONCEPTION: AN UNCOMMON APPLICATION OF THE PRINCIPLES OF ECOLOGICAL ECONOMICS

Clóvis Cavalcanti
Honorary President, Brazilian Society for Ecological Economics (EcoEco); professor Federal University of Pernambuco; senior researcher, Fundação Joaquim Nabuco
Recife, Brazil.
clovati@fundaj.gov.br

Without copying any system elsewhere in the world, Bhutan's development ideas constitute an uncommon application of Ecological Economics. They also show original features, proper to a non-westernized society. The purpose of Bhutan's model, which refuses to bow down to the worldwide importance given GDP, is to promote human happiness and the wellbeing of all life forms. It aims at doing that within the limits of the planet, without degrading nature or depleting the world's valuable resources, and with a view to a fair distribution and efficient use of resources. Bhutan's development conception came about in 1972. It was proposed by the Fourth King when he ascended the throne. The Bhutanese prime minister laid it bare in a talk he gave in Rio on June 19th 2012. It is well explained in the rich bibliography available on the web, as well as in the document from Bhutan's government setting up a working group (in which I am included), requested by the UN, to elaborate the details of its proposal. Bhutan's is a very interesting case of Ecological Economics in practice. It represents a basis for the country's national project, which is also framed by the spiritual dimension of Buddhism, an aspect that has been decisive in shaping its unique characteristics.

Introduction

As I was becoming acquainted with the ideas of national development that guide the Kingdom of Bhutan, I realized that they constitute an uncommon application of the principles and methods of Ecological Economics (EE, henceforth) with which I have been involved for over three decades. It must be stressed that this application does not copy any "model", having original features, proper to a non-western, non-westernized society. To try to promote human happiness and the wellbeing of all life on earth, based on a healthy balance among thriving natural, human, social, cultural, and built assets, and recognizing ecological sustainability and the fair distribution and efficient use of resources as key conditions for the new model, is all that the ecological vision of the economy aims at, as I seek to demonstrate in this paper.

My contact with Bhutan started long ago. In 1994, in San José, Costa Rica, during the III Biennial Meeting of the International Society for Ecological Economics (ISEE), I met three authentic Bhutanese participants (I say authentic since in San José they were wearing typical clothes) with whom I talked a few times. I had already read about the rare economic worldview that drives this Himalayan kingdom. The pursuit of happiness, a basic ingredient of the paradigm that was being proposed for its inhabitants, seemed to me an extraordinary idea. At the same time, the happiness topic had always been an object of inquiry running parallel to my work as an economist. So much so that, on December 9th 1968, as the keynote speaker of the graduating ceremony of the students of economics of the Federal University of Pernambuco, in Recife, I titled the speech I gave "Economics and Human Happiness: A Quasi-

Philosophical Essay"[1]. On the other hand, I had already heard Nicholas Georgescu-Roegen (G-R, from now on for short) speaking on the entropy law and the economic process. It was in two lectures he proffered to my class of students of the Graduate Center for Economics at the Getúlio Vargas Foundation in Rio, in July 1964, where we were studying neoclassical theory with a brilliant mathematical economist, the late Mário Henrique Simonsen (1935-1997). Afterwards, in July 1966, I again saw G-R speaking, during a course on regional economics I was taking at the School of Economics of the University of São Paulo, conducted by Walter Isard (1919-2010) and his group from the University of Pennsylvania (G-R came to give a talk). In São Paulo as in Rio, G-R's core subject was the thermodynamic view of the economic process – with emphasis on the Entropy Law –, something entirely new to me. Neither had I learned anything about it at Vargas Foundation nor, later, at Yale, where I got my master's degree in economics in 1965[2].

My perception of the perfect correspondence of Bhutan's development paradigm with the framework of EE was wholly confirmed by the admirable speech of Jigmi Thinley, the country's prime minister, in Rio de Janeiro at the closure of the 12th Biennial Meeting of ISEE, on June 19th 2012[3]. It became even more evident in the document from Bhutan's government *Wellbeing and Happiness: A New Development Paradigm. Proposal to Convene a Two-Year International Expert Working Group to Elaborate the Details of the New Paradigm, 2012-2014*, convening a working group in which I had the honor to be included[4] (a condition which made it possible for me to spend ten extremely profitable days in Bhutan in Jan.-Feb. 2013). The working group's task, according to a request from the UN, is to elaborate the details of the new development paradigm, so that it can be appreciated by the UN's member states. And what paradigm is this? As the document says, "In sharp contrast to the present GDP-based system, the new paradigm will enhance human happiness and the wellbeing of all life". It must do this "within planetary boundaries, without degrading nature or depleting the world's precious resources". And, at the same time, taking care that natural resources "be distributed fairly and used efficiently".

Bhutan' paradigm of development

The premise of the model is that it is absurd to isolate economic systems from the encompassing ecosystem that provides the life support and resources the economy needs to survive and function, and which absorbs its wastes. The purpose of the model is to promote what is called in Bhutan "Gross National Happiness" (GNH). Following the rules of Buddhism, the wellbeing of all sentient beings is also to be nurtured. The model envisages that all this is to be done within the scope of economics' full-cost

[1] The speech has never been published. But, two former students of mine and I have original, old-fashioned typed copies of it (in Portuguese).

[2] As a *visiting scholar*, I lived together with G-R at Vanderbilt University (Jan.-Mar. 1970), where I had a room next to his in the Department of Economics. We talked almost on a daily basis. Once he invited my wife and I to his house for dinner and intelligent conversation. In July 1973, I translated a lecture he gave at the Development Council of Pernambuco State (Condepe), in Recife, in the presence of its directors, Everardo Maciel and Olímpio Galvão.

[3] THINLEY, Jigmi Y. Statement at the Closing Session of the 2012 Conference of the International Society for Ecological Economics. Rio: Hotel Guanabara Palace, June 19th 2012. Available in: http://www.footprintnetwork.org/images/article_uploads/Bhutan_Prime_Minister_Congratulates.pdf.

[4] Available in: http://www.sustainable.unimelb.edu.au/files/mssi/Bhutan_Proposal-International-Expert-Working-Group_2012-14.pdf. My name appears on p. 34.

principle, taking into account explicitly the complete set of benefits and costs resulting from economic activity.

Much before Ecological Economics had formally appeared, the Fourth King of Bhutan, a 17-year old youth at the time (1972), proclaimed as he ascended the throne upon the death of his father, "Gross National Happiness to be more important than Gross National Product"[5]. With such words, he set his country upon a unique and holistic development path seeking, in a truly revolutionary way, to integrate sustainable and equitable socioeconomic development with environmental conservation. This implied that little by little all substantial policy was to be implemented only if it could satisfy the GNH-indicator requisite. Such was the case when Bhutan decided not to enter the World Trade Organization (WTO): this possibility did not pass the test of the country's model, as was discovered in the process.

Bhutan's New Development Paradigm (NDP) is committed to the understanding of the relationships between the economic system and nature as an instrument to attain human happiness[6] within the limits of available matter and energy. This is what Herman Daly had already explained in 1973[7]. After three decades of the adoption of the paradigm, Bhutan offers already some visible results. Health and education are free for all the Bhutanese, with 99% of primary-aged children now in school. Perhaps as proof of the quality of the education offered young people in general – in a nation of 19 languages and dialects, with Dzongkha as the official idiom – young people speak good English (characteristically, older Bhutanese do not show the same ability). Life expectancy has doubled in the space of two generations. There are no billboards in Bhutan promoting unintelligent forms of consumption. Advertising junk food and alcoholic beverages is forbidden, as well as the sale of cigarettes. People in general are amiable, soft-spoken, helpful. Cars do not blow horns. Silence is a common feature. And great extremes of income and wealth are not obvious – so far as I could notice.

The country is on the road to establish green accounts – national accounts considering all positive and negative dimensions of economic activity. This system will make policy-making much more informed than it can possibly be when narrow, myopic market measures alone are employed. Bhutan is expecting also to be 100% organic in 2020 – the first country in the world to attain this condition. Its Constitution approved in 2008 requires that forests cover at least 60% of the national territory – an area that presently represents, in reality, 80%, with 52% of the country's total area being destined to natural reserves[8].

The Ecological Economics frame of reference

[5] *Apud* URA, Karma, ALKIRE, Sabina, Zangmo, Tshoki, and WANGI, Karma. *A Short Guide to Gross National Happiness Index*. Thimphu: The Centre for Bhutan Studies, 2012, p.6. Available in: http://www.ophi.org.uk/wp-content/uploads/Ura-et-al-Bhutan-Happiness-Chapter.pdf.

[6] According to Jigmi Thinley, *cit.*, "the happiness of which our King spoke has nothing to do with the common use of that word to denote an ephemeral, passing mood — happy today or unhappy tomorrow due to some temporary external condition like praise or blame, gain or loss. Rather, he referred to the deep, abiding happiness that comes from living life in full harmony with the natural world, with our communities and fellow beings, and with our culture and spiritual heritage —, in short from feeling totally connected with our world".

[7] DALY, Herman. Introductory Essay. In DALY, Herman (ed.), *Toward a Steady-State Economy*. San Francisco, W. H. Freeman Co., 1973, p.8.

[8] Complete data on the reality of Bhutan can be found on: http://www.bhutanstudies.org.bt/.

That Bhutan employs Ecological Economics to give substance to its understanding of the economic process and to propose a wholly new and bold development paradigm is obvious from a contact with the literature that its government has produced on the subject. However, the evidence becomes eloquent, without margin to any doubt, when the text of the thoughtful statement made by the Bhutanese prime minister, Jigmi Thinley, in Rio on June 19th 2012, at the closing session of the ISEE 2012 Conference – at which I was present – is read[9]. It opens praising the concession by ISEE of its top honor, the Kenneth E. Boulding Award, to William Rees and Global Footprint Network President Mathis Wackernagel — co-creators of the important tool of the ecological footprint, and members of ISEE. Quoting the ISEE release on the prize, Thinley remarks that the award is given to "outstanding individuals who have contributed original and seminal approaches that have furthered our understanding of the interfaces between the social, ecological, ethical, economic and political dimensions of our world." For Thinley, fully in accordance with primordial ecological-economic thinking, the ecological footprint "is certainly one of the most important and influential measurement and communication tools of the century". In terms of a rupture with the GDP-based paradigm, this is unusual in the discourse of a head of government. Even more so when he stresses the fact that he relies "on that information to understand and communicate the devastating impact of current consumption patterns on the world's limited resource base, and to urge more sustainable policies".

The prime minister went further in Rio, underlining that the work of ecological economists should actually be the primary reference point for the Summit – the Rio+20 – that was starting the day after his talk. For him, in front of the planetary crisis and the unease provoked by a moment of threat to human survival on the Earth as now[10], it is necessary to understand that the economy is nothing more than an open subsystem of the global ecosystem, thus submitted to the limits that nature imposes. This certainly is what EE postulates, as the convincing demonstration made by Georgescu-Roegen (1906-1994) in 1971 set up[11]. Thinley said more:

> Indeed, I can think of no field of study that has greater capability of persuading and cajoling governments to act responsibly than your own, and that's why I am so honoured to be with you today. I would go so far as to say that we politicians can't act without you! Your work is literally the ground and credibility on which we need to stand to make the economic case for environmental protection, to demonstrate the inestimable value of our scarce resources, and to highlight the true benefits ***and*** costs of economic activity

At the end of his statement, once more, Thinley was peremptory: "it is clear that ecological economics is a core foundation of the new global development paradigm that the world so urgently needs and that my country is now actively promoting".

This way, the model rejects without any hesitation the conventional GDP-based paradigm and its proposal of endless growth of the economic system. No doubt should be nurtured concerning Bhutan's position on this issue. Thinley again could not have employed more appropriate terms to affirm his country's perspective than those he chose in New York on April 2nd 2012 at the meeting convened by Bhutan in the United Nations to present the NDP. His words: "The GDP led development model that compels

---

[9] THINLEY, Jigmi Y., *op. cit*.

[10] On the suject, see EHRLICH, Paul and Anne. Can a Collapse of Global Civilization Be Avoided? *Proc. R. Soc. B (Biological Sciences)*, 2013, 280, 20122845. Available in: rspb.royalsocietypublishing.org.

[11] GEORGESCU-ROEGEN, Nicholas. *The Entropy Law and the Economic Process*. Cambridge, Mass., Harvard University Press, 1971.

boundless growth on a planet with limited resources no longer makes economic sense. It is the cause of our irresponsible, immoral and self-destructive actions"[12].

It is worth considering the arguments Thinley mentioned to justify his unmerciful classification of the paradigm of GDP worship. It is *irresponsible*, according to him, "because we extract, produce, consume and waste ever more, even as natural resources are rapidly depleting" – a situation that can be grasped in Fig 1. The graph shows the movement from extraction to production to discarding. That is, a hole is dug, on one side, and, after resources are used, a scrap heap is accumulated, on the other. The hole and the heap, in some cases, are eternal, irreversible, and do not stop growing. The system is *immoral* and *unethical*, in Thinley's view, "because having consumed far beyond our share of natural wealth, our reckless profligacy amid unconscionable inequities comes at the cost of what belongs to generations unborn". Finally, the GDP led paradigm is *self- destructive*, "because, aided by technology, we are bringing about the collapse of our ecological life support systems". Such has been precisely EE's perspective since its inception. It is what Georgescu-Roegen, the pioneer and inspirer of the discipline, always talked about, The same is contained in the work of G-R's Ph.D student, my good friend Herman Daly, Martínez Alier, Malte Faber, Robert Costanza, Cutler Cleveland, John Proops[13] – the list is big. No matter, it is necessary to observe that some of my fellow members of ISEE give importance, perhaps too much, to traditional economic growth.

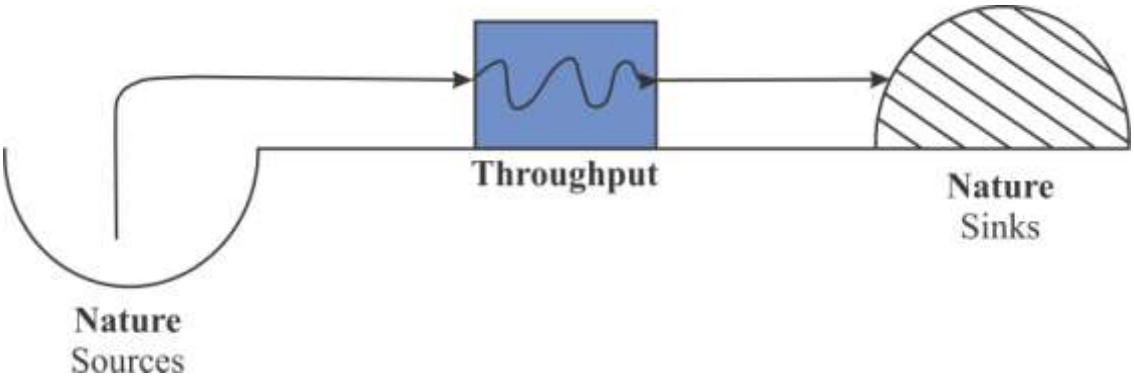

Figure 1 – The extraction-production-discarding model

When expressing on an emphatic tone in his statement in Rio that he is indebted to EE, Thinley does not mention G-R. But certainly he is supported by Georgescu-Roegen and, of course, by Daly as well, as can be perceived in the book he edited in

[12] THINLEY, Jigmi Y. Opening address at the High-Level Meeting on Wellbeing and Happiness: "Defining a New Economic Paradigm", UN Head Quarters, New York, 2nd April, 2012. Available in: http://www.cabinet.gov.bt/?p=737.

[13] See: G-R, *cit*. DALY, *cit*. MARTÍNEZ ALIER, Joan and SCHLUEPMANN, Klaus, *La Ecología y la Economía*. México: Fondo de Cultura Económica, 1991. FABER, Malte, MANSTETTEN, Reiner and PROOPS, John. *Ecological Economics: Concepts and Methods*. Cheltenham, UK, Elgar. COSTANZA, Robert (ed.), *Ecological Economics: The Science and Management of Sustainability*. New York, Columbia U. Press, 1991. CLEVELAND, Cutler J. AND Ruth, Matthias. When, Where, and by How Much Do Biophysical Limits Constrain the Economic Process?: A Survey of Nicholas Georgescu-Roegen's Contribution to Ecological Economics. *Ecological Economics*, Elsevier, v. 22(3), September 1997, p. 203-223. Also In CAVALCANTI, Clóvis. (ed.), *Meio Ambiente, Desenvolvimento Sustentável e Políticas Públicas*. São Paulo, Cortez Editora, 1996, p. 131-164.

1980[14] (which elaborates his previous book, *Toward a Steady-State Economy*[15]). In the introduction to the steady-state economy, Daly explains that "In the largest sense, humanity's ultimate economic problem is to use ultimate means wisely in the service of the Ultimate End"[16]. He overcomes the limitations of the standard economic model that defines economics as the science of allocation of (intermediate[17]) scarce means among (instrumental[18]) competing ends, bringing into consideration the dimension, neglected by GDP worshippers, of ultimate ends (the meaning and enjoyment of life) and fundamental means (matter and energy, the universe's building blocks). Daly's model of the ends-means spectrum, with some adaptations I made, is exhibited in Fig. 2.

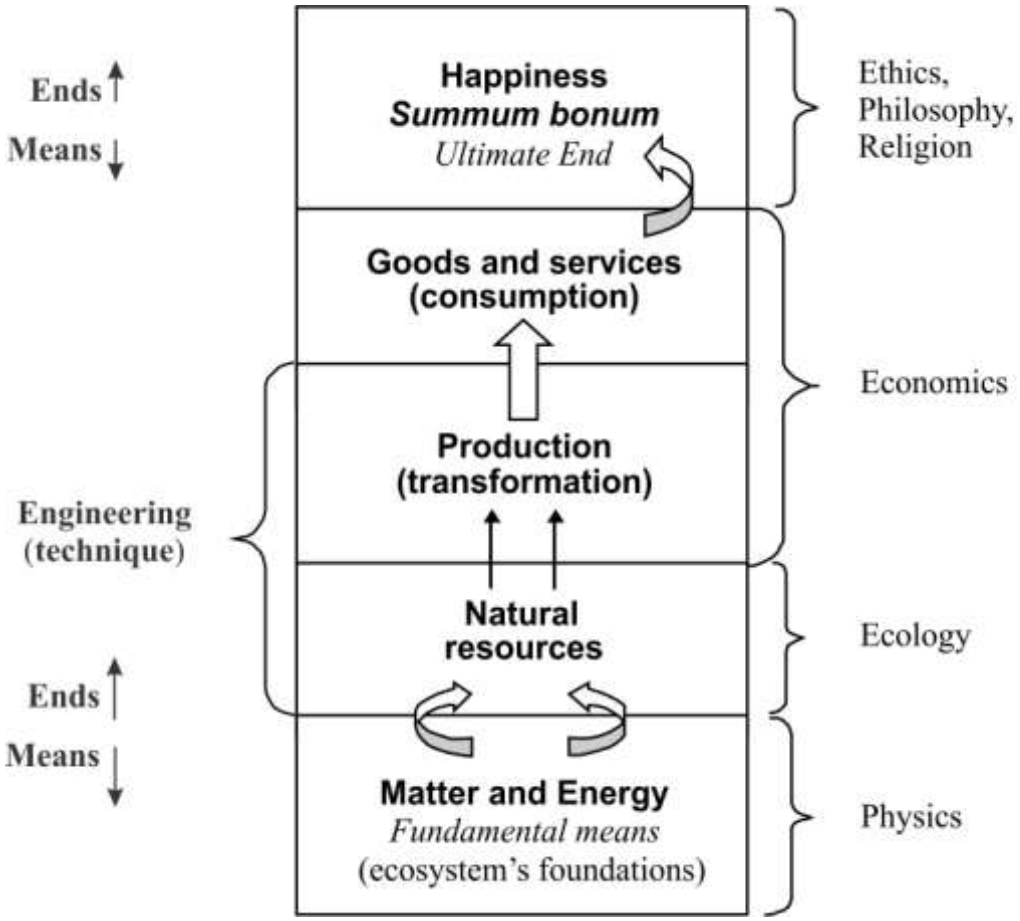

Figure 2 – Ends-means spectrum (Daly, 1980)

The top (small rectangle) of the graph's bigger rectangle is occupied by the Ultimate End: happiness, the supreme good (St. Tomas Aquinas's *summum bonum*, G-

[14] DALY, Herman, Introduction to the Steady-State Economy. In DALY, Herman (ed.), *Economics, Ecology, Ethics: Essays Toward a Steady-State Economy.* New York and San Francisco, W.H. Freeman and Company, 1980, p. 1-37.
[15] DALY, *Toward a Steady-State*, *cit.*
[16] DALY, Introduction, *cit.*, p. 8.
[17] Capital, land, labor.
[18] Food, housing, clothes.

R's the enjoyment of life) as Daly explains[19]. It is that which is above everything, not deriving its goodness from any instrumental relation to some higher end (Heaven, the Tao, maybe, if one can conceive of). The smaller rectangle at the bottom is the space of the most basic things, the foundation of the ecosystem: the useful stuff of the world, low-entropy matter and energy. Along the bigger rectangle, the intermediate categories of the spectrum represent a hierarchy of both intermediate ends and means. Each one can be an end with respect to lower categories and a means in relation to higher ones. All converge to the service of the Ultimate End, and depend on the availability of low-entropy matter-energy. Going up in the bigger rectangle we march toward the Ultimate End; going down, toward the fundamental, ultimate means. The intermediate ends are ranked in terms of the Ultimate End. Above fundamental means are intermediate means (arrangements of matter and energy, physical stocks) which can be thought of as the result of the throughput, a metabolic flow of matter and energy that transforms basic stuff (low entropy) in useful elements (higher entropy) – something Fig. 1 portrays.

On the right of the great rectangle are listed the traditional disciplines of study that correspond to each stage of the spectrum – engineering, a technical discipline, appears on the left of the great rectangle. In this constellation, standard economics occupies a central position. This enables us to realize that the intermediate place economics occupies indicates that it does not deal with ultimates or absolutes, only with those things in the middle range. The economy is shown as having connections only with intermediate ends and means, a situation that has led to the false supposition "that the middle-range pluralities, relativities, and substitutabilities among competing ends and scarce means were representative of the whole spectrum"[20]. In accordance with Daly, absolute limits do not show up in the economists' paradigm because absolutes are found only in confrontation with the extreme poles of the spectrum. Besides, economics does not inquiry into the nature of ends and means, thus not caring to verify the limits of both the *possible* (something that Physics explains) and the *desirable* (dealt with by Ethics, Religion, Metaphysics). No matter then that for the growth economists, "continuous growth in intermediate means (unconstrained by any scarcity of ultimate means) in order to satisfy ever more intermediate ends (unsconstrained by any impositions from the Ultimate End)" constitutes the rule[21]. "Infinite means plus infinite ends equals growth forever": a modern illusion that ends up violating the limits both of the possible and the desirable.

Thermodynamics, happiness and the enjoyment of life

By affirming that the economy is subjected to the limits set up by nature, since it is nothing more than an open subsystem of the global ecosystem (which, in turn, is thermodynamically closed), the Bhutanese prime minister, in his Rio speech, echoed the thought of both the father of Ecological Economics, G-R, and those who like me follow his lead. Indeed, as G-R explains in a rigorous fashion, what standard economists imagine is that the economic system is an isolated, self-contained and a-historical process – a circular flow between production and consumption with no outlets and no inlets. The elementary textbooks depict it this way, using a graph baptized as "the circular flow of wealth" to represent the economic system[22]. Economics, says G-R,

[19] DALY, Introduction, *cit.*, p. 8.
[20] *Id.*, p. 10.
[21] *Id.*, *ib.*
[22] GEORGESCU-ROEGEN, *cit.*, p. 2.

gives no signs of acknowledging the role of natural resources in the economic process. His conclusion:

> Had economics recognized the entropic nature of the economic process, it might have been able to warn its co-workers for the betterment of mankind – the technological sciences – that "bigger and better" washing machines, automobiles, and superjets must lead to "bigger and better" pollution.[23]

In this sense, the NDP (GNH) model on the one hand, and EE, on the other, converge in the same severe criticism of standard economics. Such criticism is accentuated by G-R in terms of the fact that the conventional model of economic theory ignores the Laws of Thermodynamics that characterize all processes of energy transformation in the universe. Materially, the economic process consists in essence of a transformation of low entropy into high entropy, i.e., into waste: natural wealth eventually becomes degraded energy-matter[24]. Therefore, the faster the economic process goes, the faster the scrap heap accumulates[25]. G-R – who Martínez Alier classifies as the principal exponent of the ecological critique of economics[26] –, however, remarks that "it would be utterly absurd to think that the economic process exists only for producing waste". The irrefutable conclusion would then be "that the true product of that process is an immaterial flux, the enjoyment of life"[27] – happiness, for that matter. Without introducing the concept of the enjoyment of life into our "analytical armamentarium" – G-R's expression – we are not in the economic world. Life enjoyment, which does not have physical dimensions, is something that can grow limitlessly – thus sustainably. It is here that G-R closes his reasoning. Writes he: "I now wish to submit that everything that supports life enjoyment directly or indirectly belongs to the category of economic value. And, to recall, this category does not have a measure in the strict sense of the term"[28]. It represents the difference between the economic process "and the entropic march of the material environment"[29].

Georgescu-Roegen was originally a mathematician with a doctorate in mathematical statistics. It is important to have in mind that background in order to grasp the emphatic conclusion he reaches about the impossibility of measurement of a qualitative concept such as the enjoyment of life. For him, what he calls "the true 'product' of the economic process" is not a material *flow*, but a psychic *flux* – the enjoyment of life by every member of the population – with the addendum that "the intensity of this flux at an instant of time does not seem to be a measurable entity, not even in the ordinal sense"[30]. Such a qualification is equivalent to a refusal of the principle of maximization of the enjoyment of life: there would always be the possibility to go beyond the last attained tread. Perpetual growth of the enjoyment of life – because of the latter's immateriality – is not an oxymoron. A point that deserves to be stressed here in relation to framing GNH within the landscape of EE relates to what G-R coined as "arithmomania": the complex notion of economic development reduced to a number, the income per capita. The result is that "for the last two hundred

---

[23] *Id*., p. 19.
[24] *Id*., p. 18.
[25] *Id*., p. 318.
[26] MARTÍNEZ ALIER, Joan. *De la Economía Ecológica al Ecologismo Popular*. Barcelona, Icaria Editorial, 1995, 3rd ed. (the 1st ed. is from 1992), p. 27.
[27] GEORGESCU-ROEGEN, *cit*., p. 18. *Id*., p. 282.
[28] *Id*., p. 287.
[29] *Id*, p. 282.
[30] *Id*, p. 284.

years we have bent all our efforts to enthrone a superstition as dangerous as the animism of old: that of the Almighty Arithmomorphic Concept"[31]. No small sin.

On some specificities of the Bhutanese paradigm

Understandably, there has been a recent tendency in EE to emphasize the differences between the present full-world global condition and the old – let us say 1900's – empty-world global reality: a planet with 7.1 billion people and a GDP of 72 trillion dollars today against 1.5 billion inhabitants and 1.5-2.0 billion dollars of global output in 1900. This intense contrast would be enough to justify the relevance of the proposed EE worldview which takes into account the inflexible boundaries laid down by nature, thus denying as a consequence the paradigm of standard economics which ignores them outright. For the prevailing concept of development, which puts continuous, limitless economic growth – a biophysical impossibility in the first place – before anything else, should be strongly challenged. In truth, it now makes more sense to reason about the economy in terms of the spaceman economy of the cowboy-spaceman duality in the picturesque suggestion of another great exponent of EE, Kenneth Boulding (1910-1993)[32]. The open, "cowboy economy" of the past no longer makes sense. It has to be replaced by the closed, "spaceman economy" in which "the earth has become a single spaceship, without unlimited reservoirs of anything, either for extraction or for pollution, and in which, therefore, man must find his place in a cyclical ecological system"[33].

What is at stake is the issue concerning the scale of the economy that can be contained in the encompassing ecosystem – something like calculating how many passengers can safely fly in an A320 airplane: 200, 1,200? Certainly, it is not any number. Using the full-world picture, Robert Costanza and collaborators wrote a precise report for the UN in the running to the Rio+20 summit which they adapted to the Worldwatch Institute's *State of the World 2013* report[34]. In it they explain the reality of development within the frame of what they call "Economy-in-Society-in-Nature". A paper given in ISEE 2012, in Rio ("Human Behavior, Economic Institutions and the Challenges of a Full World"), by a member of Costanza's team, my friend Joshua Farley, falls within the same coordinates

However, it does not seem that this is what one finds in the origins of EE. G-R simply explained that the economy is governed, like everything else in the physical environment, without exception, by the Laws of Thermodynamics – period. Bhutan's conception of its paradigm fits this comprehension. About NDP, from what it contains, one is bound to say that it is much more inspired by the full-world category, in spite of the fact that the country's real conditions place it better in an empty-world configuration (it has, for instance, 19 inhabitants per sq km – against 142 in China and 21 in Brazil). It is so empty that does not have a single traffic light (something one normally finds in

---

[31] *Id.*, p. 79.

[32] BOULDING, Kenneth. The Economics of the Coming Spaceship Earth. *In*: JARRETT, H. (ed.), *Environmental Quality in a Growing Economy*. Baltimore, Resources for the Future/Johns Hopkins University Press, 1966, pp. 3-14.

[33] *Id.*, p. 9.

[34] COSTANZA, Robert, ALPEROVITZ, Gar, DALY, Herman, FARLEY, Joshua, FRANCO, Carol, JACKSON, Tim, KUBISZEWSKI, Ida, SCHOR, Juliet e VICTOR, Peter. Building a Sustainable and Desirable Economy-in-Society-in-Nature. Worldwatch Institute, *State of the World 2013. Is Sustainability Still Possible?*. Washington, D.C.: ch. 11, forthcoming.

small Brazilian towns) – and no traffic jams for that matter. Prime minister Thinley's speech in Rio tends to confirm the NDP's adherence to the full-world situation:

> I regularly use the [Ecological] Footprint results in my own statements, and indeed rely on that information to understand and communicate the devastating impact of current consumption patterns on the world's limited resource base and to urge more sustainable policies. It is without question one of the most powerful ways to put the responsibility for sustainability firmly on ***all*** our shoulders through awareness of every resource we consume and every nuance of our behaviours and lifestyles.

Such awareness of limits, *à la* G-R, is common to the whole statement. In it the Bhutanese ruler reinforces the need to dismantle mindless consumerism which has depleted resources, degraded ecosystem services, accelerated greenhouse gas emissions, diminished biodiversity, and now threatens the survival of humans and other species on the planet (an unbearable scrap heap). A ban in advertising to children is proposed, as well as the elimination of perverse tax deductions by businesses for advertising. The ecological tax reforms that EE has so strongly proposed are considered as a means to penalize unsustainable behaviors, via the taxation of pollution, carbon, and the depletion of natural capital. In other words, as Daly has always advocated, a shift of the tax base from value added, and on to that to which value is added, namely the throughput flow, which is to be minimized[35]. G-R would endorse it. This is the primordial EE orthodoxy, which is independent of empty- or full-world assumptions.

Bhutan's NDP thus is all about G-R's vision. It is not the case as suggested by Zencey that "There ought not to be any conflict between Ecological Economics and GNH" [36]. Or that an EE-NDP partnership is conceivable, with GNH adopting EE, and vice versa, "the two [being] compatible and the adoption of both together [being] not only possible but [making] for a strong union" – in Zencey's words. The question is that Ecological Economics seems to have always been in the heart of Bhutan's New Development Paradigm, an intrinsic part of it. Consciously or not, the partnership has ever existed. It is only becoming more declared now. Nevertheless – and this is to be noticed –, the Kingdom of Bhutan, following the traditions of Buddhism that give shape to it, offers in natural fashion a development paradigm that does not make any effort to represent adherence to a westernized version of the ecological critique of economics that EE elaborates. As a matter of fact, it has its specificities – which are not banal.

On the specificity of Buddhism, to begin with, it is to be recalled that Buddhism sees the essence of civilization not in a multiplication of wants but in the purification of human character, as remembered by Schumacher (1911-1977)[37]. And Bhutan is officially a Buddhist country, in accordance with the Kingdom's Constitution (3rd article) of 2008 (other religions are admitted, too). Buddhism does not accept the fundamental criterion of success of the modern economy – size of GDP or simply the total quantity of final goods produced during a given period of time. A.N. Whitehead aptly put the issue on a broader context in terms of the fact that to live we attack the environment under "a three-fold urge: (i) to live, (ii) to live well, (iii) to live better"[38].

---

[35] DALY, Herman, and FARLEY, Joshua. *Ecological Economics: Principles and Application*. Washinton, D.C., Island Press, 2004, p. 145.

[36] ZENCEY, Eric. The Partnership of GNH and Ecological Economics. Thimphu, Bhutan, Feb. 2nd 2013, communication to the members of Bhutan's International Expert Working Group.

[37] SCHUMACHER, E.F. Budhist Economics. *Resurgence*, v. 1, n. 11, jan.-fev. 1968. In DALY, Herman (ed.), *Economics, Ecology, Ethics: Essays Toward a Steady-State Economy.* New York and San Francisco: W.H. Freeman and Company, 1980, p. 140.

[38] WHITEHEAD, A.N. *The Function of Reason*. Princeton, Princeton University Press, 1929, p. 5. Available in: http://archive.org/stream/functionofreason031865mbp#page/n7/mode/2up.

We are not here to own more and more gadgets – some plainly stupid – but to promote the art of life, according to Whitehead. To live better, for him, we need reason – thus its function. From Buddhism's viewpoint, to single out GDP means to consider goods as something more important than people and all other sentient beings. The purpose of economics in a Buddhist context is then the systematic study "of how to attain given ends with the minimum means"[39]. In other words, "since consumption is simply a means to human well-being, the aim should be to obtain the maximum of well-being with the minimum of consumption"[40]. Using Fig 2 as a reference, it corresponds to attaining the Ultimate End with a minimum of matter and energy, the fundamental means – or minimizing throughput. G-R's approach would put it in terms of the value of consumption making sense only if it leads to the enjoyment of life[41]

All this, in essence, has to do with happiness, i.e., with the basic meaning of the New Development Paradigm. In the perspective of Ecological Economics, according to Costanza *et al.*, "When GDP rises faster than life satisfaction, efficiency declines. The goal [in EE] should be to minimize GDP, subject to maintaining a high and sustainable quality of life"[42]. To Buddhism's non-western lens, the problem is not avoiding a fall in efficiency in itself, but of promoting an intense spiritual awakening, assuring the purification of human character. There is scope for much discussion here. But the subject permits to think on the nature of the Ultimate End. After all, what is it precisely? St. Thomas Aquinas (1225-1274) called it *summum bonum* – the supreme good. In Hinduism, to express it, the concept of nirvana is formulated; the Zen-Buddhist correspondent to it is satori. Maybe jokingly, maybe mixing joke with a sudden and profound inspiration, the Fourth King of Bhutan came out with the expression Gross National Happiness. He had already spoken of happiness as an objective instead of GDP when he ascended the throne upon the death of his father in 1972. It was in Mumbai, though, in 1979, when returning from a conference of non-aligned countries in Havana, that he was asked, perhaps wickedly, by a reporter to indicate the importance of Bhutan's GDP. The answer of a then 24-year old monarch was that "We do not believe in the gross national product because the gross national happiness is more important"[43]. How many heads of state – not to speak of the business sector, the media, the economics profession – would easily propose a reversal or abandonment of the growth project implied in GDP considerations? Or a reconsideration of growth in things that are not worth pursuing – such as junk food, fizzy drinks, big automobiles, oil refineries?

Well, G-R had already sustained that "it is as absurd to think of an individual who prefers being less happy as to imagine a quadrangle with five sides"[44]. Happiness guides humanity – so it seems. Even China's new president Xi Jinping declared in November 2012 that "To meet [our people's] desire for a happy life is our mission"[45]. Despite all that, as G-R remarks, conventional economics is not preoccupied with human beings and "takes special pride in operating with a man-less picture"[46]. It does not contain the qualitative dimension of the supreme good. Happiness is an absent word in the standard economist's lexicon. In his universe all meaning rests upon what G-R

[39] *Id.*, p. 143.
[40] *Id.*, p. 141.
[41] GEORGESCU-ROEGEN, *cit*., p. 35.
[42] COSTANZA *et al., op. cit.*, p. 14.
[43] See: http://asiancorrespondent.com/107269/bhutan-becomes-happiness-lab-for-western-economists/. See also URA *et al., op. cit.*, p. 6.
[44] GEORGESCU-ROEGEN, *cit*., p. 323.
[45] *The Economist*, Xi Jinping and the Chinese Dream, May 4th 2013, p. 11.
[46] GEORGESCU-ROEGEN, *cit*., p. 343.

calls "the colorless numerical concept of 'utility'"[47]. For G-R and ecological economists in general the principle that holds is the one proposed by Daly: "Biophysically based conclusions about economic growth, or any other subject, should be in accord with morally based conclusions"[48]. The argument is strengthened by Schumacher who explains that "What is being called into question...is not our *technical* competence but our value system and the very aims and objects we are pursuing"[49]. To seek happiness, not a misleading concept as GDP, is part of human nature[50]. St. Augustine (354-430) who did not know GDP, of course, proposed: "*Nulla est homini causa philosophandi, nisi ut beatus sit*" ("Man has no reason to philosophize except with a view to happiness"). He was preoccupied with a senseless philosophy – and science as a consequence. Aristotle (384 a.C.-322 a.C.) with *eudaimonia*, and authentic Christian teachings (St. Thomas's *summum bonum*, e.g.), who were more specific as to humans, are proof that what is sought in life by people is a notion "of wealth as a means to an end"[51]. Among indigenous and traditional peoples it does not seem to be different[52]. EE has always marched toward assuming this perspective – which is the essence of Bhutan's, as well.

It thus makes sense entirely to accept the ultimate goal that guides political and social change in Bhutan: Gross National (or Domestic) Happiness. This is what asserted Bhutan's Fourth King when he commented that the creation of an enlightened *society* in which the *happiness* and *well-being* of all people and sentient beings is the ultimate purpose of governance.[53] Those words reveal the strong dimension of spirituality in the paradigm that governs Bhutan. Such a dimension shapes GNH and the related notion of development it contains. It is as Karma Ura and collaborators have underlined: "If material growth undermines the spiritual framework of society and its values of compassion and integrity, then development has not occurred"[54]. The whole set of things coming out of Bhutan's paradigm, in sum, have to do with the fact that life's purpose goes much beyond the material – and even more beyond disgraceful forms of consumption and wealth accumulation. Progress and all human choices, therefore, in line with NDP, should be addressed through the language of spiritual wisdom, together with ecological, social, and cultural perspectives. As Ura and collaborators put it on a clear dimension: "The language of spiritual wisdom can…be understood as the language of practical sanity"[55]. Happiness, an enlightened society, all sentient beings (in the Buddhist view, all sentient beings are incipient buddhas and must be treated as

---

[47] *Id*,, p. 52.
[48] DALY, Introduction, *cit.*, p. 11.
[49] SCHUMACHER, E.F. *The Age of Plenty: A Christian View*. Pamphlet. Edinburgh, Saint Andrew Press, 1974. In DALY, Herman (ed.), *Economics, Ecology, Ethics: Essays Toward a Steady-State Economy.* New York and San Francisco: W.H. Freeman and Company, 1980, p. 131.
[50] The late Brazilian biologist Samuel Murgel Branco (1930-2003) wrote about it in an excellent book (a pity it is available only in Portuguese): BRANCO, Samuel Murgel. *Ecossistêmica: Uma Visão Integrada dos Problemas do Meio Ambiente*. São Paulo, Edgar Blücher, 1989, p. 119. The book can be considered, in fact, a relevant text of Ecological Economics, without any by the author to that end.
[51] SKIDELSKI, Robert and SKIDELSKI, Edward. *How Much is Enough? The Love of Money, and the Case for the Good Life*. London, Penguin Books, 2012, p. 12.
[52]CAVALCANTI, Clóvis. Economic Thinking, Traditional Ecological Knowledge and Ethnoeconomics. *Current Sociology*, v. 50, n. 1, Jan. 2002, p. 39-55.
[53] URA, Karma. Gross National Happiness and Buddhism. Availabel in http://www.kosei-shuppan.co.jp/english/text/mag/2007/07_101112_10.html
[54] URA, Karma, ALKIRE, Sabina, ZANGMO, Tshoki, and WANGI, Karma. *An Extensive Analysis of GNH Index*. Thimphu: The Centre for Bhutan Studies, 2012, p. 132. Available in: http://www.grossnationalhappiness. com/wp-content/uploads/2012/10/An%20Extensive%20Analysis%20of%20GNH%20Index.pdf
[55] *Id.*, p. 137.

such), spiritual wisdom, and other elements of Bhutan's NDP render it a version of EE's model that goes over the biophysical component of the economy-in-society-in-nature edifice. In short, it is truly Ecological Economics – and something more.

Olinda, Brazil, May 2013.