

## **Fusing the Sun, the Sword and the Academy for Human Independence from Gravity, the Bank, and the State**

**By Martin Schwab, PhD**

Seventeen thinkers are presented to help the reader consider a new abundance-based economic precept that is offered for consideration by the author. Knowledge accumulation through ambitious human space migration into the solar system replaces the scarcity-based social invention of capital itself. It is given in the article that the latter impedes the former. The thinkers, briefly introduced for reflection on the new precept, include Anderson, Bacon, Bataille, Biden, Boulding, Fuller, Hampshire, Hardin and the Meadows's, Hume, Jefferson, Marx, Smith, Spinoza, Umpleby, and Xenos.

Intellectually, we know that money is not a fixed force of nature but we address all of our problems as if it was. Money is merely a social invention that has been in a constant state of reinvention since the agricultural revolution. Money as we know and use it within the scarcity-based systems of present-day capitalism and socialism has always been a nagging obstacle in general, but particularly so in regard to enabling human space exploration. Only barter would be worse. What then might be better?

The human family needs a new abundance-based economic precept in which knowledge accumulation replaces the social invention of capital itself.[1] Such a transformation might be enabled by harnessing the abundant solar energy that can be collected in space and transmitted to Earth or anywhere humans plan to live in our solar system. Instead of trying to fit the abundant nature of space-based solar power into the status quo of scarcity-based economics, we could retrofit our economic systems to allow space-based solar power to change everything. In this way, technical solutions to global political dilemmas, such as energy for seawater desalination, could be expedited, resulting in greater global social cohesion and opportunities for continual social promotion. Government services, defined as entitlements within capitalism and socialism, become basic inputs into a wider process of human expansion into and management of solar system abundance for all.

What makes humans distinct from other animals is that we can change our social structures, economics in this case. If we so choose, we can go from exchanging units of scarcity to interchanging all human talent in true free enterprise, as distinct from global capitalism. Xenos shows that the root of the scarcity-based economic social invention that now governs the world is not ancient and certainly not a universal force of nature around which all economic thought must orbit. Xenos lays blame for this false "postulate of scarcity" squarely on Adam Smith and David Hume, who represent what he calls

“classical realism.”[2] By contrast, Hampshire shows that Spinoza saw that true freedom of the individual is not associated with accumulation of personal property, the value of which is determined by its scarcity, but by a reflective state of perceiving an abundant universe, requiring a cultivated desire for solitude.[3] Bataille offers a different perspective on abundance, but one that also does not assume material scarcity as the basis for human affairs. For Bataille, solar superabundance on Earth and its surplus energy are expended on the non-procreative sexual act, human-to-human killing, eating meat, and ostentatious consumption patterns.[4] Boulding was a notable figure in the field of evolutionary economics. His words below from his later years capture the essence of the field:

In its largest sense, evolutionary economics is simply an attempt to look at an economic system, whether of the whole world or of its parts, as a continuing process in space and time. Each economy is then seen as a segment of the larger evolutionary process of the universe in space and time.[5]

Boulding allowed for economic abundance based on knowledge abundance. That knowledge always increases and never decreases save for global catastrophe.[6] Boulding’s concept of knowledge as capital can be extrapolated to finding one’s individual purpose and identity within the human family. As global leaders and technocrats prepare to extend our reach further into the solar system, this family is configured as a dysfunctional community of nation-states and corporations. This reaching can become understood as a new currency – that which makes the world go around. Instead of defining success as how much money is in individual 401(k) accounts at times of death, in the paradigm that this introduction presents, measures of individual success might be quantified around such intrinsic metrics:

How much was done by an individual and/or team in a given time period to help track and when necessary use space sentinel satellites to divert Earth-crossing orbits of asteroids that would otherwise hit Earth in the long-term future?

Who showed up to help figure out the best way to direct solar power from space to a new settlement on Mars or a selected moon of Jupiter, Saturn, Uranus, Neptune, or Pluto?

Who was selected to settle a region of Mars or a Jovian moon?

Who helped a child who wants to stay on Earth find her purpose?

Recalling Bacon's reflection on the ideal relationship between the academy, foreign intelligence, and the state in *New Atlantis* (1624), our world's great universities, our Houses of Solomon, now have the unrealized potential through the Internet to collaborate systematically with each other and the rest of our world through community colleges in free thought, for free – a realization of Jefferson's vision for the University of Virginia to ensure an enlightened populace.[7] In this same regard, cross-enrollment among global public universities might also temper our military-derived hardware, software, and organizational structures for the duties that await us beyond low Earth orbit. *E Pluribus Unum for our vulnerable globe*, not just to unite nations without a sustaining cause that can lead to a binding culture.

The human family is capable of defending itself from the enveloping dynamics of a brutal universe, such as supervolcanoes originating within Earth, pandemics of disease spreading across Earth, and potentially hazardous asteroids crossing low Earth orbit. Hardin and the Meadows assumed a closed global environmental system, as did Marx and Smith in economics.[8] An open system assumes an energy source that for all practical human purposes is inexhaustible, the primary example being radiant energy from stars, including the sun. Umpleby defines an open system as "an entity with a boundary that is not closed. It receives inputs and produces outputs." [9] Prospects for collaborative power among all humans are considered here in the same spirit as Fuller, who charges, in agreement with Boulding's knowledge-based economic abundance, that "*know-what and know-how wealth' potential based on energy abundance of the universe [is] 'obscured from public knowledge' by 'money-makers and their economists.'*" [10]

This introductory article in the inaugural issue of this new journal has sought to outline and invite new modes of contemplation. As humans, we would do well to rethink scarcity, perception, and identity across space and time so that new realities can be better constructed through free thought.

### **Research Question**

What skills do bankers and bureaucrats have beyond their professions to advance human space migration?

### **Notes**

[1] See Chris Anderson, "The Tragically Neglected Economics of Abundance," *The Long Tail*, March 6, 2005, accessed August 16, 2012, [longtail.typepad.com/the\\_long\\_tail/2005/03/the\\_tragically\\_.html](http://longtail.typepad.com/the_long_tail/2005/03/the_tragically_.html).

- [2] Nicholas Xenos, "Liberalism and the Postulate of Scarcity," *Political Theory* 15, no. 2 (May 1987): 225, accessed August 16, 2012, [www.jstor.org/discover/10.2307/191676?uid=3739840&uid=2&uid=4&uid=3739256&sid=21101135144321](http://www.jstor.org/discover/10.2307/191676?uid=3739840&uid=2&uid=4&uid=3739256&sid=21101135144321). See also Xenos, *Scarcity and Modernity* (New York: Routledge, 1989), accessed August 16, 2012, [books.google.com/books?id=YBYoAQAAMAAJ&dq=Nicholas%20Xenos%2C%20Scarcity%20and%20Modernity%20%28New%20York%3A%20Routledge%2C%201989%29.&source=gbs\\_book\\_other\\_versions](http://books.google.com/books?id=YBYoAQAAMAAJ&dq=Nicholas%20Xenos%2C%20Scarcity%20and%20Modernity%20%28New%20York%3A%20Routledge%2C%201989%29.&source=gbs_book_other_versions).
- [3] Stuart Hampshire, *Spinoza and Spinozism* (Oxford: Oxford University Press, 2005), xv-xvii, liv-lv, lviii, 76-77, 168-173, accessed August 16, 2012, [books.google.com/books?id=ZGLF2m3MO\\_gC&printsec=frontcover&dq=Stuart+Hampshire,+Spinoza+and+Spinozism+%28Oxford:+Oxford+University+Press,+2005&source=bl&ots=hRHeZ-irhL&sig=BS6aQSwWS6t1FoZnC8hr5TZyj-o&hl=en&sa=X&ei=630sULnAAyjdyAHEx4GoCA&ved=0CDMQ6AEwAA#v=onepage&q=Stuart%20Hampshire%2C%20Spinoza%20and%20Spinozism%20%28Oxford%3A%20Oxford%20University%20Press%2C%202005&f=false](http://books.google.com/books?id=ZGLF2m3MO_gC&printsec=frontcover&dq=Stuart+Hampshire,+Spinoza+and+Spinozism+%28Oxford:+Oxford+University+Press,+2005&source=bl&ots=hRHeZ-irhL&sig=BS6aQSwWS6t1FoZnC8hr5TZyj-o&hl=en&sa=X&ei=630sULnAAyjdyAHEx4GoCA&ved=0CDMQ6AEwAA#v=onepage&q=Stuart%20Hampshire%2C%20Spinoza%20and%20Spinozism%20%28Oxford%3A%20Oxford%20University%20Press%2C%202005&f=false).
- [4] Georges Bataille, *The Accursed Share, vol. 1: Consumption*, trans. Robert Hurley (New York: Zone Books, 1988), 12, 23, 28, 32, 38, 63, accessed August 16, 2012, [books.google.com/books?id=DdTrAAAAMAAJ&dq=Nicholas%20Xenos%2C%20Scarcity%20and%20Modernity%20%28New%20York%3A%20Routledge%2C%201989%29.&source=gbs\\_similarbooks](http://books.google.com/books?id=DdTrAAAAMAAJ&dq=Nicholas%20Xenos%2C%20Scarcity%20and%20Modernity%20%28New%20York%3A%20Routledge%2C%201989%29.&source=gbs_similarbooks).
- [5] Kenneth E. Boulding, "What is Evolutionary Economics?" *Journal of Evolutionary Economics* 1, no. 1 (1991): 9-17, accessed August 16, 2012, [www.springerlink.com/content/x3r4q56465q0504v/?MUD=MP](http://www.springerlink.com/content/x3r4q56465q0504v/?MUD=MP).
- [6] See Kenneth E. Boulding, "The Economics of Knowledge and the Knowledge of Economics," *American Economic Review* 16 (May 1966): 1-13, accessed August 16, 2012, [seminaritaifa.org/descarregues/Institucionalistes/Boulding.pdf](http://seminaritaifa.org/descarregues/Institucionalistes/Boulding.pdf).
- [7] See Dr. Jill Biden, Op-Ed., "Harnessing Community Colleges," *Philadelphia Inquirer*, Monday, February 28, 2011, accessed August 16, 2012, [www.whitehouse.gov/the-press-office/2011/02/28/op-ed-dr-jill-biden-philadelphia-inquirer-harnessing-community-colleges](http://www.whitehouse.gov/the-press-office/2011/02/28/op-ed-dr-jill-biden-philadelphia-inquirer-harnessing-community-colleges).
- [8] See Garrett Hardin, "The Tragedy of the Commons," *Science* 162 (1968): 1243-1248, accessed August 16, 2012, [www.sciencemag.org/content/162/3859/1243.full](http://www.sciencemag.org/content/162/3859/1243.full).

[9] See S. Umpleby, "Open System," in F. Heylighen, C. Joslyn, and V. Turchin (eds.), *Principia Cybernetica Web* (Brussels: Principia Cybernetica, n.d.), accessed August 16, 2012, [pespmc1.vub.ac.be/Asc/OPEN\\_SYSTE.html](http://pespmc1.vub.ac.be/Asc/OPEN_SYSTE.html).

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[10] R. Buckminster Fuller, *Operating Manual for Spaceship Earth* (New York: E. P. Dutton, 1963), accessed August 16, 2012, [books.google.com/books?id=DCAhAQAAIAAJ&dq=R.%20Buckminster%20Fuller%2C%20Operating%20Manual%20for%20Spaceship%20Earth%20%28New%20York%3A%20E.P.%20Dutton%2C%201963&source=gbs\\_similarbooks](http://books.google.com/books?id=DCAhAQAAIAAJ&dq=R.%20Buckminster%20Fuller%2C%20Operating%20Manual%20for%20Spaceship%20Earth%20%28New%20York%3A%20E.P.%20Dutton%2C%201963&source=gbs_similarbooks). Retrieved August 16, 2012.

Self-cited in Fuller, *Critical Path* (New York: St. Martin's Press, 1981), 198-99, accessed August 16, 2012, [books.google.com/books?id=2rPqFvn3nocC&pg=PA392&lpg=PA392&dq=R.+Buckminster+Fuller,+Operating+Manual+for+Spaceship+Earth+%28New+York:+E.P.+Dutton,+1963&source=bl&ots=rfbryJ6Csl&sig=n2Bt1xo9gBJZ\\_e38IUmOY6lxWrg&hl=en&sa=X&ei=olsUOSEEqWtygH7uIDABA&ved=0CGMQ6wEwBw#v=onepage&q=R.%20Buckminster%20Fuller%2C%20Operating%20Manual%20for%20Spaceship%20Earth%20%28New%20York%3A%20E.P.%20Dutton%2C%201963&f=false](http://books.google.com/books?id=2rPqFvn3nocC&pg=PA392&lpg=PA392&dq=R.+Buckminster+Fuller,+Operating+Manual+for+Spaceship+Earth+%28New+York:+E.P.+Dutton,+1963&source=bl&ots=rfbryJ6Csl&sig=n2Bt1xo9gBJZ_e38IUmOY6lxWrg&hl=en&sa=X&ei=olsUOSEEqWtygH7uIDABA&ved=0CGMQ6wEwBw#v=onepage&q=R.%20Buckminster%20Fuller%2C%20Operating%20Manual%20for%20Spaceship%20Earth%20%28New%20York%3A%20E.P.%20Dutton%2C%201963&f=false).

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**Editor's Note:** Dr. Martin Schwab was an active member of the Aerospace Technology Working Group (ATWG), founded by Dr. Ken Cox. He was a contributor to those

meetings every six months and became an important co-author in ATWG's first book, *Beyond Earth: The Future of Humans in Space* (2006). His successful PhD Degree program at the University of Hawaii, graduating in 2012, propelled him into the younger ranks of the professional global Space Community. It's a pleasure to have him a contributor to our Issue #1; and to have him as a member of our Journal's Board of Editors. *Bob Krone, PhD.*

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