

World History as the synoptic narrative of a thermodynamic unfolding³⁰

excerpted from: "What's Wrong with the World? Rationality! A critique of economic anthropology in the Spirit of Jean Gebser" (Nov. 5, 2010)

Also published as Appendix B in the book "Havoc: Thy Name is Twenty First Century," published Oct. 2015. This paper is based mostly on the last edit printed in "Havoc," with some additions that come from the original 2010 paper...and various additional quotes at the end.

By Peter Pogany

Prologue, by David MacLeod

Peter Pogany (1936-2014) was born in Budapest, Hungary. As a trained Economist, he taught International Economics in Vietnam, worked as a Senior Economist and Statistician for Petroci in the Ivory Coast in Africa; worked as an Economist for the U.S. International Trade Commission (where he contributed to many high-profile U.S. government studies on foreign economic issues), and was an Adjunct Professor at George Washington University.

Pogany framed the stages of recent world history as Global System 0 (GS0), Global System 1 (GS1), Global System 2 (GS2), and Global System 3 (GS3). Each of these can be considered sub-epochs within modernity. Pogany saw each of these sub-epochs as self-organizing systems where the people embedded in them are so enmeshed socially, culturally, spiritually, economically, that it becomes their 'myth of the given.' They can't see other ways of being or organizing and the system itself reinforces what contributes to the system and squeezes out opposing forces and ideas. Therefore it's very difficult to change the system. Pogany's views were in line with those of cultural philosopher Jean Gebser, who argued that system change only happens when the existing system goes into decay, and through a chaotic transition the next oncoming system "overdetermines" the previous system.

A kind of progression or cultural evolution can be observed through these different stages, gradually becoming more like an evolved, mature, dynamic ecosystem where dominator species do not thrive, and collaborative species thrive more and more. However, it is not a gradual progression. Pogany framed it as a series of abrupt bifurcations, along the lines Gebser outlined, and consistent with the disequilibrium thermodynamics of Ilya Prigogine.

"As elaborated by Ilya Prigogine, the father of modern disequilibrium thermodynamics, a material entity that gains in size while becoming increasingly complex (where complexification is defined as growing volumes of information generated and transmitted among the entity's decision centers) must undergo an alternation between relative (dynamic) steady states and bifurcations (chaotic transitions)."

- Peter Pogany, " 'Fifth Structure' – emergence in economics: Observations through the thermodynamic lens of world history" (2009, p. 4).

Introduction, by Peter Pogany (borrowed from “*An Aperspectival Opinion on the Future of ‘Smart Money’*”, 2012)

“Let me start by briefly recapping the thermodynamic take on universal history.

In Gebser’s spirit of searching for transparency through the integral, my project -- “new historical materialism” -- uses “Global Population Plus Economy” as the central variable. GLOPPE (for short) is both a material entity and a flux or throughput of matter, which by the second law of thermodynamics increases the proportion of inaccessible energy in the terrestrial sphere. As all other self-organizing entities that complexify as they grow in size, GLOPPE must also go through alternating phases of relative steady states and chaotic transitions. World history is the human face of this thermodynamic phenomenon. Concentrating on the age of global systems (modernity in terms of macrohistory, the era since the breakthrough of time per Gebser) this necessary alteration may be summarized as follows...”

The thermodynamic process that characterizes the human story (cultural evolution, universal history) is ecologically dissipative, hence irreversible by the *second law of thermodynamics*. The requirement of growing degrees of self-organization renders it *pulsatile*.³¹ The dissipative expansion of self-organized physical entities must go through dynamic steady states (*global systems*) interrupted by bifurcations (*chaotic transitions*), episodes during which parameters for the next dynamic steady state are selected and introduced.

The *global system* is the planet’s broadest and most comprehensive framework for socioeconomic institutions and behavior. It is the result of implicit collaboration at the species’ level. In strictly physical terms, it may be viewed as a dynamic steady state of billions of interconnected neuroanatomical states.

During 1500-1789 (GS0), the world underwent sweeping changes as preparations for the age of *global systems* accelerated. European explorations and colonization nearly completed geographic globalization. Modern scientific thinking emerged and vital discoveries were made in physics, chemistry, biology, medicine, and astronomy. The ideas of all-embracing individual liberty and freedom of conscience, and the concept of “nation” as a form of sovereign territorial organization were born. The *Enlightenment* has gone a long way in prying the frozen fingers of dogmatic thinking from the human mind and identifying the project of social progress. The epoch produced unmatched achievements in the arts.

As the ensemble of particles (human biomass plus all human crafted objects) grew, its size had to reach the point where it required global-scale organization in order to grow further. ***Laissez faire/metal money/zero multilateralism -- by its full name, abbreviated as GS1-- was the first global system***, with Great Britain as its epicenter. It lasted from the 1830s (Polanyi, 1957) to the outbreak of World War I.

Despite its well-known success in raising per capita output for a growing population, GS1 became increasingly unable to accommodate further economic development. Its main

limitations may be summarized under four points.

(1) Dependence on gold limited the supply of money; (2) while industrialization reached the level at which national economies were prone to accelerate and decelerate if left on their own, system parameters did not include instruments (i.e., fiscal and monetary policies) to counter this phenomenon; (3) the system skewed distribution too much in favor of capital at the expense of labor, thereby constraining the development of mass consumption/mass production; and (4) it was unfit to accommodate institutions or schemes for international cooperation required by growing economic and financial interdependence among national economies.

By 1914, initial-condition sensitivity hid in the incongruity between system parameters and the state of the world. The “Guns of August” blew GS1 to smithereens.

The period 1914-1945 was the *chaotic transition* that led to the introduction of **the second and current global system, called (by its full name) mixed economy/flat money/weak multilateralism (GS2)**. As observed in thermodynamic processes via bifurcation, diverse and intensely conflicting approaches emerged to reestablish order; i.e., a dynamic steady state.

These were the alternatives: (1) Restoration of GS1 by attempting to bring back the gold standard; (2) Communism: A new form of socioeconomic self-organization; (3) Fascism: Territorial conquest through military aggression, winner takes all (semi-colonial or colonial status for the rest of the world); and (4) Mixed economy: A new relationship between public authority and the market as well as between labor and capital.

Mixed economy triumphed.

The critical transformation realized during the New Deal in the United States quickly spread to industrial democracies following World War II, becoming the backbone of GS2's domestic economic organization. It implies a private-ownership-based market economy with important roles assigned to the state in securing economic prosperity and social peace.

The United Nations and its charter organizations represent *weak multilateralism*. Its flagship agencies in the economic and financial sphere are The World Bank, the International Monetary Fund (IMF), and the General Agreement on Tariffs and Trade (GATT), which became the World Trade Organization (WTO) in 1995. The United States took the role of epicenter or “world leader” from Great Britain, upgraded with system administrator-like functions.

GS2's *multilateralism* is labeled “weak” for three reasons: 1) Compartmentalized nation states lack the ability and *multilateral* agencies lack the authority to prevent multinational giants, including banking houses, from engaging in international operations that the world at large may find underhanded and harmful; 2) in certain areas; e.g., health and environmental protection, there is no dependable (strongly goal-oriented, result-guaranteeing) multilateral oversight.

National governments can manipulate the representative agencies by feigning compliance; 3) in some other areas, most notably in financial affairs, *multilateral* organizations have become overbearing. With its stubbornly pursued neoliberal approach to globalization, the IMF is the poster child for strong action on weakly relevant (hence, potentially detrimental) principles. 32

Nonetheless, GS2 outshined and outperformed GS1. It brought material welfare within the reach of billions. During the threescore years from 1950 to 2010, despite an increase in world population from 2.5 billion to 6.9 billion, per capita global output (income) increased more than four- fold.³³

Thus, the proposed archeology of the current world order:

GS0 (1500-1789) →	GS1 (1834-1914) →	GS2 (1945-present)
Late feudalism/ early capitalism	Laissez faire/ metal money	Mixed economy / weak multilateralism

Communism: Less than a global system but more than a footnote

Recognition of the above-presented perspective had to wait for the collapse of communism. During the Cold War, global society accepted the notion that there were two parallel, competing *global systems* vying for domination. Planet-wide self-organization appeared to be bi-systemic. In retrospect, Communism was not and could not have become a *global system*:

- (1) To avoid isolation, communist-controlled countries had to deal with the rest of the world through GS2's multilateral institutions dominated by industrial democracies;
- (2) The Soviet Bloc, representing the “developed socialist world” during the Cold War, accounted for 5 percent or less of global trade;
- (3) The communistic social order appealed only to a small minority of the world population and this circumstance disqualified it from becoming the foundation of a new global order; (4) Socialist societies did not develop distinct socioeconomic personal traits. They only suppressed and deformed GS2-typical behavior. (Populations formerly under communist rule snapped out from socialist institutions and immediately adopted multiparty, private entrepreneurship-based economic organizations, roughly at their respective pre-communist level of social development.)

This is not to deny or even belittle the historic significance of Communism. Its early economic growth performance and proclaimed idealism presented the rest of the world with a major political challenge. As a balance wheel, the communist threat helped define the respective weights (“the mix”) of private and public expenditures in the mixed economy. It pushed the balance in favor of public expenditures (e.g., military spending in the United States, social programs in Western Europe and Japan). During its existence, the communist sphere provided the socio-psychological prop needed to prevent the real hegemonic world order (GS2) from acquiring ontological status; i.e., its attributes becoming confused with natural laws.

We can acknowledge this by observing that a restriction of public authority followed the catastrophic demise of socialist statehood. The era since 1991 has witnessed a forceful wave of deregulations and privatizations; only the environmental, conservation and anti-globalization movements demonstrate that GS2 is a historic form of self-organization.

Given that communism was not a *global system*, we may conclude that, thus far, the sequence “GS0→GS1→GS2→” best describes the thermodynamic process we regard as universal history. The following synaptic table summarizes the main characteristics of these organizational stages.

Stages of Evolving Global Self-Organization

	Distinguishing economic feature (1)	International trade (2)	Labor/Management relations (3)	International cooperation among governments (4)	Game-theoretical classification (5)	Organizational complexity (6)
GS0	Agrarian	Agrarian products, metals, and primitive manufactures; employment level does not depend on international trade	Feudalistic hierarchy; collective bargaining is not a known concept	Nonexistent	Zero-sum game	Absence of global self-organization
GS1	Large-scale industrial	Add inter-industry commodity exchange; employment moderately depends on trade	No framework for collective bargaining; legal system unequivocally favors capital	Implicit	Positive-sum game without cooperation	Low level of global self-organization
GS2	Mass production, consumption	Add intra-industry commodity exchange; employment strongly depends on trade	Framework for collective bargaining; legal system creates balance between labor and capital	Explicit	Positive-sum game with cooperation	Higher level of global self-organization

What is next?

The ticking of the evolutionary time machine heralds the onset of a new transition. The reason is not, as Marx thought, that capitalism (now in its modern or reformed version) could not provide prosperity for the masses, or that it suffered from incurable limitations in ensuring economic expansion. The reason is the exact opposite: GS2 cannot stop growing. Its existence is contingent on maximizing growth and, therefore, it is incompatible with a predominantly renewable-resource-based global society in agreement about the use of scarce, nonrenewable resources and the environment. The terrestrial sphere's ability to support economic growth is limited and the limits have begun to talk back.

Long-term world equilibrium -- GS3

The thermodynamic interpretation of global history predicts a halt to population and economic expansion for purely physical reasons. This general condition requires **a new global system: GS3 – two-level economy/strong multilateralism/mostly government money (maximum reserve banking).**

Legally binding international agreements on the use of nonrenewable energy and material resources, as well as on harmful emissions, would enlarge the government's role in economic affairs since administrative methods would be needed to ensure national compliance with globally determined goals. The implied strong multilateralism would split national economies (hence, the world economy) into a free-market and a public authority-dominated sector. While carrying on the best traditions of constructive entrepreneurship, businesses in the first domain would bid for resources and emission rights; joint private-public ownership would prevail in the second one. The state's substantial holding of private shares would eliminate most, if not all, income taxation.

The monetary system would be based on a global currency issued by the global central bank. The world currency would combine the discipline GS1's gold standard vouchsafed and the flexibility GS2's fiat money has provided (without the fractional reserve system, which, as will become obvious during the first half of the 21st century, is wholly incompatible with any consciously pursued economic steady state.) Much along the lines proposed by Keynes at the 1944 Bretton Woods conference, an international clearing house would keep cross-border trade in equilibrium.

Maximum bank reserves would restrict the ability of banks to extend loans. Just as under the prevailing minimum reserve system, some banks in some instances may keep no reserves at all; under the maximum reserve system some banks in some instances might be required to keep 100 percent reserves. While such an arrangement may not eliminate the creation of money through debt, it would certainly change its nature. The consent of depositors would be required to make loans, making financial intermediation once again the modest helper that draws together scattered household savings in order to place them into the hands of *bona fide* entrepreneurs. "Enterprise," in the Keynesian sense, would squeeze out "speculation."

The economic role of grass roots communities would increase significantly.

A remark about China is in order. It is a *sui generis*. Its socioeconomic organization is not GS2-typical. Its economy is not a mixed one in the sense that emerged during the American New Deal and was subsequently applied throughout the industrialized world (and then again in the wave of socioeconomic transformations following the collapse of communism in Europe). In an intriguing way, China points beyond GS2. The country's approach to "greening" its resource base is a clear example of its economy's two-leveled nature.

Comparing a world that can muster the will to cooperate at such an intense level with the one that lived through the past century and the first decade of the new one gives us pause. If it took "1914-1945" to move from GS1 to GS2, what will it take to accomplish the much more drastic transformation implied by GS2 → GS3?

While in different terms, Gebser awakens the same fears, the coming- to-the- fore of our latent, integral consciousness, which he considered inevitable, fills his readers with hope.

The unbreakable interdependence between the mutation of average consciousness to its integral structure and the transformation of the world from a biomass driven by spontaneous appetite to one capable of globally shared apperception has profound implications for man's biological evolution. The altered relationship between Life and Nature (technically between GLOPPE (global population plus its economy) and the *Terrestrial Sphere*) is equivalent to a major modification in humanity's hermeneutically isolated (biotic-abiotic) environment. It will demand adaptation on the genetic level. That being said, one must humbly return to silence. Not unlike Kant's *Ding an sich*, the species' evolutionary potential is beyond the realm of intelligible phenomena, beyond knowledge gained through rationally expandable objective experience. GS3 seems to be the optimal solution but it should not be considered a historical inevitability, a cosmic necessity. As David Hume taught us, "Nature is always too strong for principle."

The thermodynamic conceptualization of socioeconomic evolution is a form of physiocracy. Although it ought not to be considered a sequel to the like-named 18th century school of economics, there are some similarities, even beyond considering nature the underlying force of economic activity, which, abundant as it is, has a population-controlling fixed factor – agricultural land for Francois Quesnay et al. Simply financed strong central authority protecting economic liberalism is perhaps the most relevant, additional parallel, with qualifications, of course.

For the original physiocrats, the absolute monarch embodied the degree of central authority deemed vital for widely shared economic prosperity within a nation. From the thermodynamic perspective, strong multilateralism, implying a consciously self-regulative democratic world, is regarded as indispensable for the dignified future of all.

It is worth mentioning that Quesnay showed a remarkable interest in China, seeing a great promise in the fusion of central authority with Confucian philosophy. The focus gravitates toward China also in the thermodynamic framework of universal history. The most populous

country's two-level economic organization seems to anticipate what the planet will eventually need, but with Confucianism, not communism, in the background.

[editor's note: one might also consider a naturalistic, earth-centered Taoism in the background.]

³⁰ For full length exposition, see Pogany, "Rethinking the World" (2006).

³¹ Based on the work of Nobel Laureate chemist Ilya Prigogine (Prigogine, 1997), this theory had been applied to world history by Ervin Laszlo (Laszlo, 1991).

³² No other criticism in this area has yet matched the significance and convincing power of the analysis provided by Joseph Stiglitz, former vice-president and chief economist at The World Bank. See, for example, the April 17, 2000 issue of *The New Republic*.

³³ Estimates based on historical data published online by The World Bank, and on IMF projections for 2010.

New table by David M:

	Distinguishing economic feature	International trade	Pivot nation	International cooperation among governments	Game theoretical classification	Organizational complexity
GS0	Late feudalism / early capitalism	Nation-states focus	Dutch Republic	Non-existent	Zero sum game	Absence of global self-organization
GS1	Laissez faire / metal money	Moderate level of trade	Great Britain	Zero multilateralism	Positive sum game without cooperation	Low level of global self-organization
GS2	Mixed economy / fractional reserve money	Neoliberal globalization	United States	Weak multilateralism (UN/IMF...)	Positive sum game with cooperation	Higher level of global self-organization
GS3	Two level economy / mostly government money (maximum reserve banking) / global currency & global minimum wage	Certain sectors in trans-national trade; but increased role of local/regional economies	?	Strong multi-lateralism; democratically organized world governance	Game B – cooperation more than competition	Highest level of global self-organization that also includes more localized economies

More on Pogany's vision for Global System 3, from his 2006 book, "Rethinking the World":

"Gradual and smooth transition to a renewable resource-based techno-economic space cannot substitute for global transformation/chaotic transition because the accomplished transition implies conversion at the macroscopic, mesoscopic, and microscopic levels at once. The world will need a global approach to resource management and environmental control with appropriate authority and means to harmonize national preferences (macroscopic alteration). At the mesoscopic level, national governments will have to ensure steadfast and longsighted resource management and environmental control; they will have to be equipped with administrative tools to guide their economies. They will have to provide a framework for local economic initiatives (cantons). Microscopically, the individual as a consumer will have to develop a taste for (or recover the joy of) long-lasting (slowly depreciating), high-quality products. As a producer, the individual will have to become less competitive and more cooperative; it will have to develop

disinterest in extraordinary wealth and personal power; i.e. the importance of the canonical scale of socioeconomic status will have to decline. (If a GS3-typical persona were alive today, it would probably look at greedy businessmen with the same understanding and empathy that contemporary adults feel when they see children play 'make-believe'). As both consumers and producers, people will have to become conscious of the environment and the need to conserve material and energy resources. The business firm (the typical association of producers under GS1 and GS2) will have to reinvent itself under hard material and energy constraints. It will have to operate in a marketplace that neither encourages nor rewards ruthless competition; it will have to extend its field of view." (pages 211-212)

On page 215, Pogany states that "the main aspiration of a post-GS2 system will have to be the control of global and, hence, national economic activity levels in full consideration of the material constraints that affect the entire human population." And yet, GS2 must expire, and so he writes on page 216 that "In practical terms, GS2 is considered beyond help if its domestic and multilateral institutions need to be suspended for whatever reason, and/or alternatives to replace them pop up. The suspension of the old and the entry of the new may take the form of widespread local initiatives in energy production and environmental protection. Such a phenomenon would defacto presage the two-level economy (GS3). Cantonization may begin when high gasoline prices make more people stay in their immediate environs, encouraging the development of economic neighborhoods and increasing the social and cultural importance of grassroots communities... The scope and intensity of efforts directed at the elimination of the socioeconomic safety net in the vanguard and matching repulsion in the political sphere are indications of the global system's decay. The greater the clash of wills, the more likely that we are in "it."

"...The main concern is the length and intensity of the coming period of *macro-historic* instability... It is more than likely that such subglobal escape routes through internecine manipulation, domination, and conquest will be entertained, delaying unified rationalization and the development of an appropriate strategy to redirect *cultural evolution*. But no one can tell for how long... Humankind should consider itself lucky if economic problems, severe as they may be, sufficed to shock its ranks into unity of thought and action."

Pogany proceeds to discuss some complex economic equations to determine a "global somatic/extrasomatic transformation curve" that could be used to allocate scarce resources in balance with required population levels. Page 218: "To avoid decline and extinction, the world will have to become a single decision maker. It must develop the corresponding institutions and adjust individual conduct. The propositions that (i) a 'transformation curve' between population and physical output will have to be identified; (ii) that once this happens there will be a search for the optimal location on it; and (iii) that this will necessitate the weighing of alternatives lead to this conclusion.

"...there is a trade-off between global population and world material output at the full use of the Earth's carrying capacity... The descendancy will be able to augment physical output only if it sees to the reduction of the population, or vice versa. If it drifts toward the maximum material

wealth, it will need to ‘push’ the level of population toward its minimum; and, if it embraces the ‘more the merrier’ philosophy to its extreme, it will barely subsist...

“There are, of course, an infinite number of intermediate combinations between *Country Club Palace* (very high output with very low population) and *Malthus Point* (very low output and very high population). One that is closer to the second but much less harsh is a world in which basic human needs such as food, shelter, clothing, economic infrastructure (public utilities, transportation and communication systems) and social infrastructure (education, health care, law and order) are fully met. In short, meeting these needs guarantees decent working conditions and living standards.... To secure an opportunity for ‘sustainable development,’ cultural evolution will have to be globally managed.” (pp. 220-221)

In the following chapter ("The Future Mechanism of Global Decision-Making"), he fleshes these ideas out. “A team of international experts, leaning on the planet’s entire academic infrastructure, will have to construct the global somatic/extrasomatic transformation curve. This concept is likely to become vital for latter-day generations.” (p. 222)

The next chapter (“Telos, Saga, and Homo Novus”) has a 12 page section on *The GS3 Avatar*, which includes a section in which Pogany shares more on the concept of strong multilateralism, which comes in conjunction with localism:

“Strong multilateralism is not the rule of a Pontificus Dominus (Kim Jon Il gone global), disguised as an overworked, kindhearted UN Secretary General. It implies an institutional framework for pro-active international cooperation and coordination. Even the replacement of ‘conspicuous consumption’ with ‘conspicuous altruism’ will not turn humans into termites. As far as consumption is concerned, there will ‘have to be’ a shift from quantity to quality; to meaningful variety and refinements. (Economic theory has shown that the increase in the variety of products and improvements in product quality are conceivable without growth in overall economic output or in population.) Local, *cantonal* activities to safeguard and enhance living standards will probably gain in importance at the expense of the competitive cross-hauling of near perfect substitutes and the global franchise. (Good-bye expensive milky slush of stretched coffee beans; so long cheap, health-sapping mystery-meat patties from the assembly line.) Education, leisure, and joy might move to center stage. If not the end, GS3 could be the beginning of the end for poverty, economically motivated criminality, self-degradation through drug use, and the constant and pervasive worry about tomorrow.

“Get comfortable. No one wants to see the individual turn into a faceless, genderless global communitarian living in glassy falansters, unable to tell where his or her organism ends and where its cybernetic prolongation begins. Take a deep breath and imagine life without multitasking, touch-and-go aggressiveness, all the human-made traps for reciprocal deceptions and self-deceptions. The ancient Greek ideal of people cultivating their minds and bodies, living in a global *polis* of limpid order and Apollonian measure, patience, courtesy, and harmony in human relations might just become reality, and this time around for everybody, not just for ‘free men.’ Fulfilling the dream of so many thinkers and believers through the ages, entropy may not be the dreaded archfiend after all. This is the positive way of looking beyond the approaching *chaotic*

interlude, considering the new world order a qualitatively altered state of mind that allows for the continuation of progress seen in *cultural evolution*.

“Utopia? Wishful eschatology? Touchy-feely, quixotic One Worldism? No, Homo novus follows directly from dismissing as groundless the augury that the good fortunes of homo sapiens are inevitably over. Not seeing mankind turn into a diffident collection of vital-sign-exhibiting fossils, begging on their knees for reprieve and forgiveness from forces they no longer try to understand, equals GS3 in the context of self-perception (Saga), foresight (Telos), and long-term optimization (global transformation curve). For all that, the representative brain will have to reprogram itself in a big way.

“As Darwin eloquently noted, complexity of a higher order appears as supernatural if we are not privy to its evolutionary history.” (pp. 267-269)

Pogany’s comments about the next chaotic transition and consciousness change, from the opening Summary of *Havoc*:

"What will it take to go from considering tightened modes of multilateral governance a monstrous dystopia to people around the world on their knees begging for a planetary Magna Carta that is more detailed, focused and enforceable than the United Nations Charter of 1945? It will take nothing less than a mutation in consciousness, as outlined by the Swiss thinker, Jean Gebser (1905-1973). But a mutation of the implied magnitude amounts to nothing less than a break with centuries of ingrained habits, values, and expectations. It is simply inconceivable without the hard fate of macrohistoric turmoil.

“The world lives suspended over an abyss. To appreciate its depth one must recognize that whereas '1914-1945' was the price paid for a mere historic adaptation, the impending turbulence must yield a transformation of evolutionary significance. The argument that the potentially disruptive violence of such a difficult situation may be diffused by an arbitrary lengthening of its time falters on the already binding physical constraints to economic weight gain.

“The new chaotic transition will start sometime between now [2013] and the 2030s; and, barring a miracle, it will turn the world into a charnel house on a scale that will make the destruction, gore, and horrific imbecilities of '1914-1945' look like a mere prologue. But the will to live must triumph in the fullness of time. Once this defining, dark chapter is closed and the world discovers itself, there are many reasons to believe in the rebirth of an all-embracing, well-founded Hegelian optimism.”

- "Havoc: Thy Name is 21st Century" (p. ix-x)

For more on how Pogany related his ideas around GS3 to Jean Gebser’s structures of consciousness, an excerpt from a blog posted in Oct. 2013:

“The current world order cannot deliver long-term sustainability on a planetary scale. By design, it is incapable of recognizing humanity’s thermodynamic reality. A new form of global self-organization is needed and it is probably waiting in the wings.

What does all this have to do with Gebser? Wait, we're getting there!

According to him, each consciousness structure coincided with distinctive socioeconomic conditions: The *archaic*, with primitive hunting, fishing, and gathering; the *magical*, with more advanced versions of the same activities within increasingly complex social schemes centering on the horde; the *mythical*, which was characterized by agriculture; the *mental* by industry coming to dominance.

The collision between our civilization and its ecological constraints, along with a likely historic crisis of epic proportions, may be regarded as the struggle of integral-arational consciousness (Gebser's "fifth structure") to deprive overblown rationality (the deficient phase of mental consciousness) from its current preeminence.

What will the parameters of the new global system be? Regardless of how correctly or incorrectly one may characterize it, any consistent attempt to find an answer must conclude that a radically new social, economic, and political organization will be needed. The precondition of saving the world from itself is a mutation of the average individual consciousness. It will favor cooperation over competition; acquiescence over indifference; responsible sociability over isolation; integrative open-mindedness over stubborn, perspectival dogmatism, altruism over extrasomatic hedonism."

- "Living Under the Dome," Oct. 2, 2013, <http://blog.gebser.net/>

More on Pogany's vision for Global System 3, from his 2012 paper on "Smart Money":

"To round up the argument, the wide scale, generalized mutation into the integral structure will not be the result of self-development, an individually willed inward journey to our quintessential core, the "itself." Rather, it will be compelled along with the emergence of a third global system (GS3) that will take into account humanity's thermodynamic reality -- the limits to GLOPPE's growth. GS3's main attributes could be two-level economy/strong multilateralism/maximum bank reserve money. At one level, production in specific sectors; e.g., mining, the manufacture of structural materials and certain heavily polluting industries, will have to be controlled and divvied up among nations or multinational producers; and some activities, such as space exploration, will have to be financed and organized jointly. At the second level, private enterprise and free markets would flourish under thoughtfully conceived quantitative constraints.

GS3's multilateralism would represent the democratically valid consent of the world's population to a moral and legal authority to overrule local preferences in favor of long-term global interests. Frightening as this prospect may sound, as it evokes the specter of "world government," Gebser serves here as a source of optimistic reassurance. Since GS3 and integral consciousness are identical, the world is bound to discover that only the return of archaic pre-temporality, enriched with the unfolded powers of consciousness can assure both a more fulfilling, anxiety-free individual life and the world's survival under dignified conditions, materially and socially.

As far as the monetary subsystem is concerned, it would reflect the need to control both the scale and structure of economic activities. Maximum bank reserve would restrict the ability of banks

to extend loans. Just as under the prevailing minimum reserve system, some banks in some instances may keep no reserves at all, under the maximum reserve system some banks in some instances might be required to keep 100 percent reserves. While such an arrangement may not eliminate the creation of money through debt it would certainly change its nature. The consent of depositors would be required to make loans, making financial intermediation once again the modest helper that draws together scattered household savings in order to place them into the hands of bona fide entrepreneurs. “Enterprise” in the Keynesian sense will squeeze out “smart money”.

The GS3 society will judge GS2’s naive fallacies concerning “smart money” in a balanced way. The mental aspect will demonstrate its quantitative contradictions; our mythical constituent will show an integral and equalizing comprehension (perhaps using a thermodynamic frame of reference) and the magic will assure no emotional indifference towards the doubled-dyed power hunger for which it had served as a foil.

But to remain truly aperspectival in this moment, not even an opinion perceived by arrogating this adjective ought to be considered infallible. All attempts at meta-narration are subject to deconstruction. The one presented here should be no exception.”

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