Classic economists had their vision of a stationary state—the ontological destination of economic growth and development vis-à-vis population exploration, finiteness of arable land and the exhaustibility of nonrenewable resources. Neoclassical Economics has taken the necessary process of abstraction and thus excludes leaving essential aspects of the world out of the analysis. The corruption of Economics was initiated by nineteenth century American railroad oligarchy by influencing the founding members of newly formed American Economic Association. Technical progress seemed to offset any tendency towards diminishing returns Frederick Soddy observed in 1920s that economics is a pseudoscience requiring a paradigm shift and offered an alternative perspective, rooted in the laws of thermodynamics. Contrary to mainstream belief, economy used to draw energy from outside itself and thus incapable of generating infinite wealth. Vanguards of capitalist globalization also promote the pseudoeconomics to sustain the growth fetishism undermining its ecological limits. Fossil-fueled global warming or anthropogenic climate change leads to biophysical transformation on the global scale engendering localized stresses in the forms of ice melt, sea-level rise, barren land and deteriorating water sources. The most daunting task emerged to confront the hegemony of neoclassical economics according to which structural stability is achieved through continued consumption growth. Foucauldian wisdom reminds us if the values and political implications underlying the growth business as usual do not ensure how to protect the society, we can refuse to accept their imperatives and develop alternative epistemology.

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The world is fast heading towards a ‘Perfect Storm’ of an interconnected financial, ecological and social crisis. Global financial crisis, surfaced in 2008, appears to be the consequence of sub-prime housing mortgage practices in USA, is actually the manifestation of growing disjuncture between the real economy of production and the paper economy of finance. Frederick Soddy, a Nobel Prize winner in Chemistry 1921, had made this point in his 1926 book ‘Wealth, Virtual Wealth and Debt’. Soddy argued that it is easy for the financial system to increase the debts, private or public, and to treat this expansion of credit as the creation of real wealth. However, the industrial activities consisting of interdependent growth of production and growth of consumption are achieved only by matching growth in the extraction and final destruction of fossil fuels. The obligation to pay debts at compound interest could be fulfilled by squeezing the debtors for the time being or by inflation or enhancing economic growth. But such economic growth is falsely measured because it is based on undervalued exhaustible resources and unvalued pollution.

One of the stalwarts of neoclassical economics Milton Friedman prescribed to let the markets determine the value of national currencies to improve the overall efficiency of the global monetary system. This idea was executed by President Nixon in 1971, to avoid a crash on the dollar. Since then, an extraordinarily sophisticated information and communications infrastructure has been built to link and trade these national currencies. “The trading volume in the foreign exchange markets reached an impressive $3.2 trillion per day in 2007, to which another daily $2.1 trillion of currency derivatives should be added. Over 95 per cent of that trading volume is speculative, and less than 5 per cent is in fact used for actual international trade of goods and services”. Thus, in the midst of dipping stock markets, mounting credit downgrades of banks and entire countries, economic data confirms a sharp slowdown in economic growth in virtually every corner of the world. The global financial crisis harshly exposed bounded rationality and limitations in the efficient market hypothesis. The conventional macroeconomic knowledge that failed to predict their evidently self-made crisis is now being considered as grossly unsuited to the study of historical dynamics. The crisis of paper economy is the tip of the iceberg as the real economy embedded in socio-ecology undergoes much more severity.

CORRUPTION OF ECONOMICS AND GROWTH FETISHISM

In the 1860s, the British economist William Jevons famously observed that gains in technological efficiency like more economical use of coal in engines actually increased the overall consumption of coal, iron, and other resources, rather than “saving” them, as British Government was anxious about running out of coal. So, ironically, the very capitalist efficiency and market organization of production just further environmental destruction. If we consider efficiency from the standpoint of society and ecology, then the definition of efficiency contradicts the notion of market efficiency. Real economic efficiency is achieved by including all resources to promote sustainable human wellbeing in the allocation system, not just marketed goods and services. Most classical economists had their vision of a ‘stationary state’-the ontological destination of economic growth and development constrained by the planet’s population exploration vis-à-vis finiteness of arable land and the exhaustibility of non-renewable resources. Even a century ago
classical economic thought still regarded land for the most part as the common heritage of mankind. But the early modern period witnessed the colossal enterprise of scientific inventions and their technological potential where economic growth appeared unlimited and the stationary state mutated to an analytical fiction. In three-factor classical economics, land rent reverted to society in an automatic and efficient manner. Neo-classical value theory — based on marginalism and subjective valuation obliterates natural resources from economics ontology and ends up leaving essential aspects of real world economics out of the analysis. There would be no economy without a constant inflow of natural resources like the sun and the atmosphere, the soil, the seas, fossil fuels, metals and minerals, etc throughout in the system. Humanity does not produce these ‘fictitious commodities’ but exploits them as observed by Karl Polanyi in his path-breaking treatise “The Great Transformation, first published in 1944. Simply by holding title to a portfolio of real property, without any effort to increase their value, one could quickly turn a profit from social investments, as revealed in classical prudence.

Karl Marx’s entire critique of political economy is based on the contradictions between use value and exchange value. Marx repeatedly referred to sustainability as a material requirement for any future society — the need to protect the earth for successive generations. Marxism was never a major force in United States the primary challenge to the classical tradition came from what has since come to be known as neo-classical economics. The classical tradition of economic thought was ably synthesized and represented by one dominant figure of the age in America: Henry George. His 1879 book, “Progress and Poverty” sold more copies throughout the world than any book till that time except the Bible. George propagated that conflating land into capital allowed land rent to be concealed and diluted and the undeserving windfalls accrued to ‘leisure class’ speculators and led to depression of labour wages at the margin. Following the classical tradition, George recognized that there is no justification for the titleholders to reap the return of what society has invested. George advocated for a progressive tax because land was mostly concentrated among the wealthy. It was neutral among different land-use options.

Professor Mason Gaffney in his 1994 book” The Corruption of Economics” has described how the leading Economics scholars were induced to change definitions and to initiate two-factor (capital and labour) neoclassical economics denying land and natural resources’ contribution in production process to serve primarily the interests of the most powerful political force during the late nineteenth century America- the railroad industry. The railroad barons exerted their manipulative power to preempt the possibility of any rent extracted from land use. They were able to influence the dominant brains engaged in establishing the American Economic Association (AEA). To oppose and alienate George from the domain of economics had been the preoccupation to the founding members of the AEA that fetched a grand success.

Classical economics was concerned about scarcity of savings as well as over-consumption. Thomas Malthus was a remarkable exception within the classical tradition who promoted the idea that under-consumption causes recession. Based on Malthusian conviction, J M Keynes came forward to reverse under-consumption and over saving during the Great Depression of the 1930s in his ‘The General Theory of Employment, Interest and Money’ (1936) that government spending and subsidized consumer spending can compensate for "demand deficiencies". An American economist Murray Rothbard observed that Keynes "possessed the tactical wit to dress up ancient statist and inflationist fallacies with modern, pseudoscientific jargon, making them appear to be the latest findings of economic science". Keynes’ misrepresented the Say's Law as "supply creates its own demand" if it were a quotation from J B Say. Obviously, Keynes was greeted equally by governments and traders as Messiah amidst socioeconomic doldrums of interwar world and Keynesianism replaced the classical tradition.

In USA, The ideas of “science” and “social control” were central to better meet the social or public interest in the formation of institutional economics in the interwar period. The decline of institutionalism in the post 1945 period can be connected with the Keynesian ‘revolution’. The pragmatic ideas embedded in institutionalism yielded place to the positivistic ideas of Keynesianism that “provided new “scientific” justifications of the deductive and abstract methods rejected by institutionalists”. Paul Samuelson’s ‘Foundations of Economic Analysis (1947)’ had initiated the
mathematisation of economics in a grand scale that provided the power to confuse the outsiders along with the economists incapable to cope with ‘competitive inflation of rigour’. Milton Friedman’s essay “The Methodology of Positive Economics” (1953)’s novelty was in innovating the immateriality of background assumptions.

Thus the idea that economics is the “science” of the choices of isolated individuals with fixed and quantified preferences has redesigned the study of economics in a formalistic manner that “justifies its ignoring economic phenomena that do not fit its methodology and this narrow agenda”. The project to divert Economics from the road to flourish as a disciplined study of humans’ economic activities in the broader socio-ecological context to a mere vocational training equipped with quantitative tools had been accentuated. A ‘boutique’ or more aptly, a ‘comprador’ economics had elevated to full swing marginalising political and methodological plurality. This motive has reached its zenith by the turn of the millennium exemplified by Margaret Thatcher’s famous assertion that ‘there is no alternative’ (TINA) and Francis Fukuyama’s equally famous verdict of ‘End of History....’ Both trumpet the advent of a particular political and economic system as the final destination of humanity’s socio-cultural evolution.

DEVELOPMENT OF MALDEVELOPMENT

The pioneering research-report, “Limits to Growth”, by an international team of experts assembled at the MIT Sloan School of Management on a project supported by the Club of Rome”, was published as book in 1972. The main contribution of the “Limits to Growth” was in attracting people’s attention on the fact that the finite earth cannot sustain unlimited economic growth by continuous depletion of resources and the irreversible destruction of ecosystems. But the ‘limits to growth’ position became marginalized by the World Commission on Environment and Development in their report ‘Our Common Future (1987)’. The commission disseminated that eco-efficiency and dematerialization as the ways to make economic growth compatible with environmental sustainability. It has been the most daunting task to confront the hegemony of autistic neoclassical economics according to which structural stability is achieved only through continued consumption growth. Thirty years later, the same authors of ’limits to growth’ produced a book with a subtitle ‘The 30-Year Update’ which confirmed most of the predictions of the 1972 book and warned that humanity had already overshot the limits of the Earth’s support capacity.

In his classic 1966 paper ‘Development of Underdevelopment’, Andre Gunder Frank observes that that economic development and underdevelopment are the opposite sides of the same coin and the product of the same historical process. The treadmill of production is founded on eternal law of capitalist circulation -supply creates its own demand and drives the expansion of production and consumption synergistically. The zero-sum game has its obvious tolls on wretched teeming millions mostly of ‘other’ world. Global biophysical transformation engenders localized stresses in the forms of coastal erosion, ice melt, and infertile land and deteriorating water sources. These stresses threaten critical minimum basic needs of vulnerable societies without the capabilities of adaptation and resilience. Thus global warming is enhancing the fast liquefying of Arctic cryosphere, causes matching rise in seaboats that will result in submerging of several small-island states in Pacific and Indian Ocean by the end of twenty-first century. The genesis of the financial crisis is embedded in a much catastrophic ecological crisis manifested by growing human population’s strive for higher per-capita consumption- the only indicator of economic growth by deploying ruthlessly limited resources stored in in a finite and fragile planet. This enterprise has all along reinforced the plunder of the planetary ecosystem that is largely irreversible for 1,000 years after emission stops.

The neo-liberal project of globalisation, with its liberalisation of markets, privatisation, de-regulation and challenges to collective social agents are attuned to the goal of unlimited growth of material production and consumption as the best possible quality of life. Karl Marx’s theory of metabolic rift in relation to humanity envisioned
in nineteenth century “has evolved into multiple ecological rifts transgressing the boundaries between humanity and the planet”. It has been estimated that humanity has already transgressed three planetary boundaries: for climate change, rate of biodiversity loss, and changes to the global nitrogen cycle. Apart from the plunder of environment, Growth fetishism has negative impacts on ensuring social welfare in the spheres of poverty alleviation, distributive justice, intergenerational and interspatial equity, etc in less developed countries.

THERMODYNAMIC WORLD SYSTEM

The German physicist Rudolf Claudius’s 1885 study on energy reserves, warned that the world’s energy moves from an ordered to a disordered state of energy or a lower quality energy, which is called the principle of entropy. This principle applies not only to energy, but to all forms of matter or materials. Frederick Soddy considered economics a pseudoscience requiring a paradigm shift and offered an alternative perspective on economics, rooted in the concept of entropy - a quantitative measure of disorder used in thermodynamics that investigates transfer of heat energy in a system. Contrary to mainstream belief, economy used to draw energy from outside itself and thus incapable of generating infinite wealth. Neoclassical idea that land and capital are the same requires us to believe that the economy is self-sustaining — a sort of perpetual motion machine and technical progress can offset any tendency towards diminishing returns that was falsified by Frederick Soddy in 1920s.

In a subsequent complementary work to his 1966 paper, Frank elaborates on how the structure, process and transformation of the "single world-wide system," generate the new wealth and poverty of nations, based on and developed along two main conceptual red threads, entropy and multilateralism, that run almost parallel and intimately related as to intersect at important junctures. Entropy is dispersed from the more 'ordered' regions and sectors of the global world economy to other less ‘ordered’ regions that are obliged to absorb the entropy dissipated in their direction by the more ‘ordered’ ones engendering fast extent of maldevelopment in third world. Thus the climate change caused by global warming and depletion of the ozone layer generated by industrialized nations. Burning of coal and oil, mostly imported from less developed countries are ultimately (re)exported to second group, where they to sink low level areas into the rising sea, and massive destruction of virgin rain forests to maintain industries and consumption in developed world. The industrialised countries have polluted the environment to a catastrophic extent with increasing energy- and chemical-intensive production since the days of industrial revolution. Apart from historic entropy transfer, the globalization has facilitated the developed countries to off-shore hazardous manufacturing in the underdeveloped South.

To combat the disastrous impact of worldwide depression in late 1930s, Keynesian revolution aimed at long-term growth of national income through consumption, investment, incremental capital/output ratio without considering physical and energetic realities. Sody’s critique has been furthered by Nicholas Georgescu-Roegen in his magnum opus ‘The Entropy Law and the Economic Process ‘(1971). Georgescu-Roegen models the economy as a living system that draws from its environment valuable or low entropy matter and energy adjusted by equal quantity of polluting high entropy matter-energy back to the environment. According to a main proponent of neoclassical school of economics Robert Solow, technology can set resource scarcity and thus the determinant factor of economic growth. Subsequent research has observed that Solow has failed to assess the energy processes of consumption, transformation and depletion though these factors are inseparable from the growth of industrial production.
A JUST SAFE WORLD

Vested interests from nineteenth century American railroad oligarchy to vanguards of neoliberal globalisation have promoted a pseudoknowledge quixotically empowered to reign over academics and policy. Michel Foucault’s knowledge-power discourse reminds us that if the values and political implications underlying the ‘growth business as usual’ do not ensure how to protect the society, we can refuse to accept their imperatives and develop alternative epistemology.

Reflecting contemporary global geopolitics in light of the changed perspectives in earth system requires recognition of embeddedness of both market and control and command economies and societies in the natural ecology—an extension of embeddedness hierarchy suggested by Karl Polanyi by the historic turn of post-war world. Polanyi emphasized that a total self-regulating market, disembedded from the society was nothing but a ‘stark utopia’. Such an institution could not sustain ‘without annihilating the human and natural substance of society…’ Polanyi’s relevance in contemporary geopolitics lies in his navigating the ontological shift towards examining the highly unequal world system vis-à-vis the pre-emptive belief in market and, inter alia, in technology as panacea.