



## **CAN CAPITALISM SURVIVE (THE ECOLOGICAL CRISIS)?” THE SCHUMPETER’S QUESTION REVISITED**

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[P. Ravelston:] *“Oh, well, it's merely a temporary phenomenon. Capitalism in its last phase. I doubt whether it's worth worrying about”*

George Orwell, *Keep the Aspidistra Flying*

### **Introduction**

In *Capitalism, Socialism and Democracy* (hereinafter “CSD”) Joseph A. Schumpeter emphasized that capitalism is «an evolutionary process», «a form or method of economic change» (Schumpeter, 2003a, p. 82). According to him, capitalism is characterized by a «process of creative destruction» (ibid., p. 83):

The fundamental impulse that sets and keeps the capitalist engine in motion comes from the new consumers’ goods, the new methods of production or transportation, the new markets, the new forms of industrial organization that capitalist enterprise creates (ibid., pp. 82-3).

This process, according to Schumpeter, is inevitably destined to end, as capitalism has an «inherent ... tendency toward self-destruction» and the capitalistic society is destined to a «decomposition» (ibid., pp. 162, 410). The outcome would be socialism.

Then, to his famous question: «Can capitalism survive?», Schumpeter answered: «No. I do not think it can» (ibid. p. 61). As we know, that “prophecy” did not come true, at least until today.

The 80 years passed since “CSD” publication – full of economic, financial, political, technological and social changes – have demonstrated the resilience of capitalism.

At various times some people thought that capitalism was about to collapse: Schumpeter wrote: «The thirties may well turn out to have been the last gasp of capitalism» (ibid., p. 163n.). Capitalism survived.

Many observers believed that the «last gasp» was the slump that began in 2008. Capitalism survived again.

But beware: the collapse expected by Schumpeter can occur in the future, although for reasons other than those he considered. The factors that can undermine capitalism are deforestation, desertification, pollution, global warming and depletion of mineral resources. These problems must be solved soon, otherwise capitalism could collapse, dragging with it our civilization and perhaps our survival as species.

Then, we must rephrase Schumpeter's question: "Can capitalism survive the ecological crisis?"

Global environmental sustainability was not treated in "CSD", because 80 years ago it was not an issue (but also for the lack of sensitivity of Schumpeter on this subject<sup>1</sup>); however, that book is so full of ideas that can guide us in the debate on this topic.

### **The origins of the debate on ecological crisis**

According to Schumpeter the «capitalist engine» needs the continuous accumulation and the growth of production and consumption; for this reason, he wrote, «to many economists ... the postwar problem *par excellence*» is «how to secure adequate consumption» (ibid., p. 392), or, as we say currently, "an increasing GDP".

After the World War II the standard of living has actually increased, so that optimism spread during 1950s and 1960s. But some economists (Boulding, 1966; Mishan, 1967), biologists (Carson, 1962; Commoner, 1966, 1971) and demographers (Ehrlich, 1968) called attention to the environmental problems arising from the increase in population, in production and in consumption.

In 1972 two reports, *Blueprints of Survival* (Goldsmith et al, 1972) and *The Limits to Growth* (Meadows et al, 1972, hereinafter "*LtG*") received huge attention, in particular the latter, drafted by a group of young scholars of MIT sponsored by the Club of Rome<sup>2</sup>. In *LtG* were developed computer-generated scenarios according to which pollution and depletion of natural resources would not have been sustainable in future. They concluded:

*We can thus say with some confidence that, under the assumption of no major change in the present system, population and industrial growth will certainly stop within the next century, at the latest* (Meadows et al, 1972, p. 126, italics in the original).

Then, the Authors recommended to move the economy toward a «state of global equilibrium» in which population and stock of capital would be stationary.

"*LtG*" sparked a fierce debate. Most economists harshly rejected it, in some case with insults (e.g. Beckerman, 1972, p. 327), challenging the methodology used in the Report (e.g. Cole et al, 1973). The main criticisms were:

- a) tools provided by standard economics (internalization of externalities) are capable of tackling pollution (Beckerman, 1972);

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<sup>1</sup> In "CSD" natural resources were mentioned only *en passant*, and in the *History of Economic Analysis* (Schumpeter, 1954) there was no treatment of externalities, despite Pigou's *Economics of Welfare* (Pigou, 1932) was mentioned several times.

<sup>2</sup> See <https://www.clubofrome.org/history/>.

- b) price system will allow the substitution of scarce resources with more abundant resources (e.g. Solow, 1973, pp. 46ss);
- c) Earth still has huge stocks of resources (Maddox, 1972);
- d) technological progress will permit the discovery of new deposits of resources and the introduction of resource-saving production techniques (Passell, 1972);
- e) economic growth is necessary to be rich enough to afford the costs of cleaning up (Wallich, 1972, p. 62).

Finally, neoclassical mainstream economists rejected the «state of global equilibrium» and confirmed that growth was possible and desirable (Beckerman, 1974).

On the contrary, some economists accepted, at least in part, the “*LtG*” analysis.

Since then, a debate on environmental sustainability has developed. I will briefly summarize that debate below.

### **Neoclassical mainstream economists ("optimists")**

For many years most economists did not care about the consequences of economic activity on the environment, while others underestimated the issue<sup>3</sup>.

At present mainstream economists (keynesians included) advocate that – as the Nobel laureate Paul Krugman wrote – «there’s no reason a growing economy must place an increasing burden on the environment» (Krugman, 2023). This belief is supported by arguments such as “ecological modernization”<sup>4</sup>, “decoupling”<sup>5</sup>, “environmental Kuznets’ curve (EKC)”<sup>6</sup>.

Mainstream economists repeat, after all, the same arguments put forward against “*LtG*”: human ingenuity has always overcome and will overcome the limits to economic growth (Romer, 2021), and growth will solve any environmental problem (Bailey, 2015). Therefore, the idea of stopping growth is not taken into account, also because according to many economists (as well as politicians and opinion leaders) capitalism necessarily entails growth. Alessio Terzi, European Commission economist, in a recent book wrote that «halting growth would mean felling one of the fundamental pillars of our economic system» (Terzi, 2022, p. 10).

At best, some economists and international organizations advocate “inclusive”, “sustainable” or “green” growth (e.g. World Bank, 2012; UN, 2021).

It goes without saying that mainstream economists do not believe that capitalism has an «inherent ... tendency toward self-destruction», neither for the reasons expressed by Schumpeter nor for ecological reasons. Someone, anyway, is worried and warns: «We need to take Schumpeter’s declaration seriously. If the capitalist “ship” seems to be “sinking”, due to this latest capitalist attack ... we should “rush to the pumps” to shore up the case for capitalism...» (Ebeling, 2022).

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<sup>3</sup> The attitude towards climate change is a good example: see Keen (2020) and, for a non-technical overview, Scarpelli (2024).

<sup>4</sup> «Ecological modernization is an approach to address environmental problems that suggests ecological crisis can be resolved politically, economically and technologically in the context of existing institutions and power structures and continued economic growth» (Gibbs, 2017, p. 1).

<sup>5</sup> The “decoupling” is a reallocation of production towards less resource-intensive goods and towards services. “Optimists” believe decoupling is underway (see e.g. McAfee, 2019).

<sup>6</sup> The “EKC” is an empirical evidence according to which «In the early stages of economic growth, pollution emissions increase and environmental quality declines, but beyond some level of income per capita ... the trend reverses, so that at high income levels economic growth leads to environmental improvement» (Stern, 2014, p. 1).

## **Ecological economists ("pessimists")<sup>7</sup>**

Economists of this group believe that environmental degradation threatens to undermine the ecosystem as well as the economy.

They think that the approach of standard economic theory to address pollution can be a solution for *localized* externalities, but it is useless for *pervasive* externalities (Daly-Cobb, 1989, p. 55).

Moreover, as the world has physical limits, these economists think that GDP growth must be abandoned as main goal of the economy (see e.g. Costanza et al., 2009), because its exponential growth in the long term is impossible<sup>8</sup>.

They think also that price mechanism is a solution for “relative” (*Ricardian*) scarcity but not for “absolute” (*Malthusian*) scarcity: a scarce (and then expensive) resource can be substituted by another resource, but the finitude of the Earth implies that the chain of substitutions is not infinite (Georgescu-Roegen, 1975, p. 361).

As regards technological progress, no one assures us that new technologies – capable of consuming less resources, polluting less and cleaning better – will be really discovered; and, if so, whether they will be actually and promptly introduced. Moreover, a technological improvement, increasing efficiency with which a resource is used can lead to an increase in the consumption of that resource (“Jevon’s paradox”, see Alcott, 2015); finally, new technologies do not represent always a “progress” for the environment (Diamond, 2013, ch. 16).

Ecological economists consider not robust or nonexistent the statistical evidence for the EKC and for “decoupling” (Stern, 2014; Hickel, Kallis, 2019; Parrique et al., 2019)<sup>9</sup>; then, the correlation between economic activity and environmental degradation is inescapable and, thereby, growth is called into question. Moreover, in recent decades growth has produced strong inequality, and «Higher levels of national inequality, it turns out, also tend to go hand in hand with increased ecological degradation» (Raworth, 2017, p. 146).

While “ecological economists” agree on the above assessments<sup>10</sup>, their opinions are different about what should be done. For simplicity I divided these opinions in four subgroups.

### **I. Georgescu-Roegen’s *bioeconomics***

Nicholas Georgescu-Roegen (1906-1994) was an economist and statistician of Romanian origin. When he was about 30 he collaborated with Schumpeter at Harvard; later Georgescu-Roegen called Schumpeter «my illustrious master» (Georgescu-Roegen, 1989, p. 160). After important contributions in several fields of economic theory, Georgescu-Roegen reinterpreted economics on the basis of the laws of thermodynamics (Georgescu-Roegen, 1971).

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<sup>7</sup> The definition is coarse: many economists committed to the preservation of environment probably would not recognize themselves in it.

<sup>8</sup> Kenneth Boulding said that «anyone who believes exponential growth can go on forever in a finite world is either a madman or an economist» (Boulding, 1973, p. 248).

<sup>9</sup> The belief that an “economy of information” uses less resources and generates less waste and pollution turned out to be illusory (Ferrebœufs et al., 2019).

<sup>10</sup> The statement should not be taken too literally: for example Kate Raworth advocates «a growth-agnostic economy» (Raworth, 2017, ch. 7), while for degrowth supporters growth is “the ultimate evil”.

To put it very simply, the second law of thermodynamics states that when energy is used, it dissipates irrevocably, and entropy (or disorder) increases. The economy uses energy and matter (at low entropy) taken from the environment (inputs of production) – causing depletion – and, at the end of the process, produces waste (at high entropy) that return to the environment – causing pollution. Matter can be recycled – usually not completely – using energy, while actually it is impossible to reuse energy. As the matter-energy availability and the Earth’s capacity to absorb wastes are limited<sup>11</sup>, the economic process will have necessarily an end.

Starting from this observations, Georgescu-Roegen made several criticisms of the standard economic theory, in particular for the scarce and incorrect references to natural resources<sup>12</sup>. For these contributions he became the “father” of ecological economics.

From the above, it is clear that for Georgescu-Roegen the ultimate cause of the ecological crisis is the economic process in itself, regardless of whether it is capitalist or socialist<sup>13</sup>. According to him, an economy in a «state of global equilibrium» – or a steady-state economy (SSE, see next paragraph) – is not the solution for the ecological problem, because also an economy with constant population and capital consumes matter and energy; then, «a steady state may exist... only in an approximated manner and over a finite duration». Georgescu-Roegen concluded that «the most desirable state is not a stationary, but a declining one» (Georgescu-Roegen, 1975, pp. 367-9).

A “declining” economy would permit to “to buy time”, that is to extend – not forever – the life of capitalism (and of mankind): «The strategy of a time lead as long as possible implies as strict a conservation of depletable resources as possible» (Georgescu-Roegen, 1983, p. 145). For this reason he outlined a «minimal bioeconomic program» that included, among other things, the gradual decrease of world population, the prohibition of the production of all instruments of war, drastic measures to save energy (Georgescu-Roegen, 1975, pp. 377-8). That “program” was radical, maybe utopian, but it was not necessarily an exit from capitalism.

Ultimately, to the Schumpeter’s question revisited “Can capitalism survive the ecological crisis?”, probably the answer of Georgescu-Roegen would have been “yes, but only for a limited period of time, that we can extend by adopting a *bioeconomic* policy”.

## II. Daly’s steady-state economy<sup>14</sup>

US economist Herman E. Daly (1938-2022) was deeply influenced by Georgescu-Roegen, who was his professor at Vanderbilt University.

Daly claimed that, when the scale of the economy approach physical limits of biosphere, growth becomes undesirable, at least in richest countries, because the increase of production and consumption is subject to the law of marginal utility: as GDP grows, its marginal utility declines while its marginal disutility increases, because the costs of growth (depletion, pollution) increase. Growth is “economic” only up the point in which

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<sup>11</sup> The energy from the sun is virtually unlimited but is limited the human capacity to use it.

<sup>12</sup> This is particularly noticeable with the neoclassical production function, in which there is no reference to natural resources (Georgescu-Roegen, 1975, pp. 350n, 357). Almost no macroeconomics textbook takes that criticism into account (Scarpelli, 2022).

<sup>13</sup> Georgescu-Roegen did not consider socialism the solution for the environmental crisis (nor the outcome of the breakdown of capitalism like Schumpeter wrote). Moreover, he showed no particular sympathy for the socialization of means of production (Georgescu-Roegen, 1971, pp. 306-9).

<sup>14</sup> For space reasons I summarize only the Herman Daly’s ideas. I must mention, however Peter Victor and Tim Jackson, who are close to Daly’s positions but have developed very interesting personal analyses.

its marginal benefit equals its marginal cost; beyond that point growth becomes “uneconomic”.

According to Daly in order to minimize the impact of economic activity on the biosphere the solution is the old idea of John Stuart Mill (Mill, 1848): to stop population and stock of capital in a “steady-state”. Daly wrote:

Naturally these stocks do not remain constant by themselves. People die and wealth is physically consumed (worn out, depreciated). Therefore the stocks must be maintained by a rate of inflow (birth, production) equal to the rate of outflow (death, consumption) (Daly, 1971, p. 76).

In the Daly’s SSE inflow and outflow equality must be achieved at a low level, i.e. at a low “throughput”, defined as the linear entropic flow of matter and energy, which are harvested from the environment, “go through” the economy (production and consumption) and come back to the environment as waste.

According to Daly the “sustainable development” must be defined in terms of throughput: it must be within the regenerative capacities of renewable natural resources and within the assimilative capacities of natural sinks. For non-renewable resources it is sometimes possible to attain a quasi-sustainability by depleting non-renewables at a rate equal to the development of renewable substitutes (Daly, 2007, p. 57).

In order to set up and manage the SSE, according to Daly are necessary three institutions: (1) an institution for stabilizing population; (2) an institution for stabilizing the stock of physical artifacts and keeping throughput below ecological limits<sup>15</sup>; (3) a distributist institution limiting the degree of inequality in the distribution of wealth and income (Daly, 1977, ch. 3)<sup>16</sup>.

Daly responded to the Georgescu-Roegen’s criticism of SSE claiming that it does not aim to the perpetual “ecological salvation”: it is a system «in which stocks are constant over decades or generations, not millennia or eons» (Daly, 1979, p. 80).

According to Daly, mainstream economists do not accept the above mentioned ideas because they have a different “preanalytic vision”; this is a concept taken from Schumpeter (1954, p. 41), analogous to the notion of “paradigm” by Thomas Kuhn.

It is interesting, for our purposes, to examine whether Schumpeter would have considered the Daly’s SSE compatible with capitalism.

In “CSD” we read that the «capitalist economy is not and cannot be stationary» (Schumpeter, 2003a, p. 31). Then it is likely that Schumpeter would have considered the SSE outside of the perimeter of capitalism. But some scholars reject the automatic connection between capitalism and growth (Johnstone, 2019), as «capitalism takes many hybrid forms in economies around the world» (Saunders, 2011); then someone consider viable a “steady-state capitalism” (Lawn, 2011)<sup>17</sup>.

The compatibility of SSE with capitalism can be viewed also in terms of the respect of main capitalistic institutions – private ownership of the means of production, economic

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<sup>15</sup> The model envisages that government sets limits to the extraction of natural resources and sells at auction the resources extracted. Thus government limits the aggregate throughput and indirectly limits the scale of physical stocks and the formation of waste.

<sup>16</sup> Daly also proposed other policies: see (Daly, 2014a, pp. 78-86).

<sup>17</sup> On the topic see Victor (2019, ch. 11.4). Daly insisted that the stationarity of stocks of population and artifacts does not imply a static society and a stop in technical innovations: the SSE does not grow, but it develops with a qualitative improvement (Daly, 1977, p. 182; 2014a, p. 78). However, it is legitimate to have some doubt that the Schumpeterian «creative destruction» can continue in a SSE as in a growth economy.

activity aimed at profit, market mechanism. Daly argued that SSE requires «radical, but nonrevolutionary, institutional reforms» (Daly, 1977, p. 2) and claimed that in a SSE the market must be free to allocate resources, even though only within the boundaries imposed by ecology and ethics, because

The market cannot, by itself, keep aggregate throughput below ecological limits, conserve resources for future generations, avoid gross inequities in wealth and income distribution, or prevent overpopulation (Daly, 1977, p. 89).

In the end, is the SSE capitalistic? Daly wrote: «Whether a SSE is capitalistic or not depends on how one defines capitalism» (Daly, 1980, p. 377). Years later, in an interview Daly declared:

Insofar as capitalism has to grow, then it is incompatible with the steady state... If you take away from the capitalist system the ability to damage the environment and to concentrate wealth beyond all reason, then I think you will have made a big step forward. Does that mean you've fundamentally abandoned capitalism? In some ways perhaps, although there would still be private ownership of the means of production. Capitalism in the sense of financialized monopoly capitalism, geared towards continuous growth and concentration of income, is really bad (Daly in Kunkel, 2018, p. 96)<sup>18</sup>.

### III. Degrowth economy

As we seen, Georgescu-Roegen wrote that to address the ecological crisis «the most desirable state is not a stationary, but a declining one». It should be noted, however, that Georgescu-Roegen did not propose a program to establish a “declining” or a “degrowth economy” (Missemer, 2017). Anyway, Georgescu-Roegen is one of the main inspirers of the recent degrowth movement, together with heterodox thinkers like Ivan Illich, Cornelius Castoriadis and André Gorz.

According to some of leading “degrowthers”

Degrowth signifies, first and foremost, a critique of growth. It calls for the decolonization of public debate from the idiom of economism and for the abolishment of economic growth as a social objective. Beyond that, degrowth signifies also a desired direction, one in which societies will use fewer natural resources and will organize and live differently than today (D’Alisa, Demaria, Kallis, 2015, par. 2).

It is interesting to deepen the relationships between SSE and degrowth economy, the two proposed economic systems “against growth”. Herman Daly thought that very probably a degrowth is necessary in industrialized countries before establishing a SSE and, after that, since infinite degrowth (like infinite growth) is neither possible nor desirable, a steady-state would be the natural outcome:

... ‘degrowth’, just like growth, is a temporary process for reaching an optimal or at least sustainable scale [of the economy, ed.] that we then should strive to maintain in a steady-state (Daly, 2014a, p. 234)

The Final declarations of the Paris Conference on degrowth held in 2008 arrived at the same conclusion (Participants Degrowth Conference, 2008, p. 2, point 5). Therefore

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<sup>18</sup> Other “steady-staters” are more skeptical about the compatibility: see Farley (2017).

degrowth economy and SSE seem to be complementary or, better yet, sequential (Farley, 2015; Washington, 2017, p. 18). So, Daly concluded: «There is really no conflict between the steady-state economy and degrowth» (Daly, 2014a, p. 234). Some “steady-staters” share this idea (among others Dietz, O’Neill, Jones, 2013; Czech, Mastini, 2020), but the supporters of the degrowth economy usually disagree, because they believe that Daly’s positions are too conservative<sup>19</sup>. Serge Latouche, considered the leading theorist of degrowth movement, wrote that with Daly’s sustainable development

we do not give up either the mode of production, nor the mode of consumption, nor the lifestyle produced by previous growth. We resign ourselves to a conservative immobilism, without questioning values and logic of developmentalism and economism (Latouche, 2010, p. 22)<sup>20</sup>

Another point of contrast is the control (or reduction) of population: a «false solution», according to Latouche (Latouche, 2009, pp. 25-28) and other “degrowthers” (e.g. Parrique, 2021, p. 4).

Last, but not least, “degrowthers” and “steady-staters” have a rather different methodological approach. The latter refer to classical economists (in particular Malthus and Mill) and use the tools of standard economics (even though with different premises and conclusions: see Daly, Farley, 2011); “degrowthers”, on the contrary, do not accept entirely that approach. Latouche goes so far as to say that any type of economy (keynesian, liberal, etc) is incompatible with ecology, and that «the project of degrowth ... is about *exiting* the economy» (Latouche, 2012, p. 77). He wrote also that «‘Degrowth’ is a political slogan with theoretical implications» (Latouche, 2009, p. 7), «no more than a banner» for an alternative project of society «in which we can live better lives whilst working less and consuming less» (ibid., p. 9). This society would be founded on values such as "simplicity", "conviviality", "solidarity". Therefore, in some way degrowth is a socio-political rather than an economic project.

In “CSD” Schumpeter discussed the «atmosphere of hostility to capitalism» in the 1930s (Schumpeter, 2003a, p. 63), and we can say that a similar «hostility» is an inspiring theme of degrowth movement. Exponents of the movement think that capitalism needs accumulation and growth, and growth is considered dangerous for human survival; then, according to most of “degrowthers” capitalism must be overcome (Kallis, 2011, p. 875; Bonaiuti, 2014; Schmelzer, Vetter, Vansintjan, 2022), also because a “degrowth capitalism” would not be possible (Hickel, 2020). Ultimately, «Degrowth ... signifies a transition beyond capitalism» (D’Alisa, Demaria, Kallis, 2015, par. 3.4)<sup>21</sup>

#### **IV. Eco-socialism**

The core idea of eco-socialists is that capitalism is the real cause of the ecological crisis for its inherent mode of functioning (O’Connor, 1998; Sweezy, 2004; Magdoff, Bellamy Foster, 2010). The idea is traced back to Karl Marx, who pointed out that capitalist production destroys its environmental basis:

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<sup>19</sup> This opinion is shared also by some “radical” ecological economists that cannot be ascribed to the “degrowth school” (see e.g. Spash, Smith, 2019).

<sup>20</sup> My translation from Italian.

<sup>21</sup> It was noted, however, that «Most degrowth advocates ... are reluctant to explicitly position themselves against capitalism» (Andreucci, McDonough, 2015).



Moreover, all progress in capitalist agriculture is a progress in the art, not only of robbing worker, but of robbing the soil... Capitalist production, therefore, only develops the techniques and the degree of combination of the social process of production by simultaneously undermining the original sources of all wealth—the soil and the worker (Marx, 1976, p. 638)<sup>22</sup>.

According to Marx, capitalists use increasing quantities of means of production, labor and natural resources, but these are not producible as “commodities”. Therefore natural resources become scarce and pollution undermines the health and efficiency of workers. As a result, «capitalist production relationships ... degrade or destroy the *conditions* of production, including and especially the environment» (O’Connor, 1998, p. 8).

According to that interpretation, capitalism is destined to go into crisis not only for the well known contradiction inherent to the “laws of motion of capitalist mode of production”, but also for a “second contradiction” (O’Connor, 1996): the destruction of the environment from which the economic system take the resources.

Therefore, according to eco-socialists

...what has to be done to resolve the environmental crisis, hence to insure that humanity has a future, is to replace capitalism with a social order based on an economy devoted not to maximizing private profit and accumulating ever more capital, but rather to meeting real human needs and restoring the environment to a sustainable healthy conditions (Sweezy, 2004, pp. 5-6).

Eco-socialists think that the *raison d’etre* of capitalism is accumulation and growth: capitalism “grows or dies” (Sweezy, 2004; Smith, 2010a), it is «a self-expanding system of economic growth» (O’Connor, 1998, p. 10). For this reason a “steady-state capitalism” or a “degrowth-capitalism” (on the basis of a decision of policymakers, not as a result of the economic contingent situation) would not be possible. These systems would be no longer capitalistic and not socialist, a sort of platonic “goat-stag” that wouldn’t work (Bellamy Foster, 2011).

Which kind of socialism is proposed by “ecosocialists? We can assume that, also in its “green version”, socialism would have the same basic characteristics defined by Schumpeter: «the organization of society in which the means of production are controlled, and the decisions on how and what to produce and on who is to get what, are made by public authority, instead of by privately owned and privately-managed firms» (Schumpeter, 2003b, p. 421). Schumpeter claimed that a system like this can work, but it would involve a cumbersome and excessive bureaucracy (Schumpeter, 2003a, pp. 167, 206).

Regarding the stance towards growth, among “eco-socialists” the views are different: some reject «the dualistic frame of growth versus degrowth» (Löwy, 2018), so leaving room for growth (although “different”), while other talk about a «degrowth communism» (Saito, 2022).

A brief illustration of the controversies between eco-socialists and “non-socialist ecological economists”, helps to understand better the ideas of the two sub-groups.

The eco-socialist Richard Smith wrote that Herman Daly, by accepting the market and the private ownership of the means of production, accepted capitalism; but advocating the SSE he denied the basic characteristic of that system, namely the accumulation of

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<sup>22</sup> See also Marx (1981, p. 949), where he introduced the concept of the “metabolic rift”: see Bellamy-Foster (1999).

capital; he therefore fell into a fatal contradiction (Smith, 2010a). Daly's SSE, according to Smith, did not question the ownership of factories, mines, oil companies, etc. As long as these remain private, we will be in a capitalist economy and all social and ecological evils will inevitably follow (ibid.; Smith, 2010b).

Daly answered that Marxists like Richard Smith betray the ideas always supported by their school of thought («maximizing growth to achieve overwhelming material abundance has been seen as the path to the “new socialist man”»: Daly, 2014b).

Furthermore, according to Daly it is not clear in which way ecosocialists want to make a clean sweep of institutions such as property, market and profit: «By violent revolution? By rational persuasion? By moral conversion?» (ibid.).

Another controversy is about the “democratic ecological planning” proposed by ecosocialists to substitute market as method to allocate resources (Löwy, 2018). If the planning must be really “democratic” (and not entrusted to a central board), the decisions on goods and services to produce and the relative distribution would be made by the citizens' vote. Schumpeter took in consideration that possibility (Schumpeter, 2003a, pp. 174-5), but this appear not feasible in practice (Daly, 2018).

## Conclusions

Capitalism is at a crossroads. “CSD”, despite having been published in a completely different historical context, provides useful ideas to suggest a method to decide the direction to take. Schumpeter wrote:

Analysis, whether economic or other, never yields more than a statement about the tendencies present in an observable pattern. And these never tell us what *will* happen to the pattern but only what *would* happen if they continued to act as they have been acting in the time interval covered by our observation and if no other factors intruded (Schumpeter, 2003a, p. 61).

Well, analysis tells us what would happen if the massive emissions of greenhouse gas and the «*rash and restless spoliation*» of natural resources (Pigou, 1932, p. 30) continued as before.

Then, to the “Schumpeter's question revisited” the answer can be “yes” only if capitalism changes: «'Business as usual' is not an option anymore» (Møller, 2016).

«In 2019 the *Financial Times*, not the classic anti-capitalist outlet, launched a call for reform ideas, as capitalism was “in need of a reset”» (Terzi, 2022, p. 8). Will this “reset” possible? The answer is affirmative. In the 80 years followed to the publication of “CSD”, capitalism has showed its «evolutionary character» (Schumpeter, 2003a, p. 82), so that today economic historians and economists think that there are several types of “capitalism” (see e.g. Baumol, Litan, Schramm, 2007).

But will a “resetted capitalism” be able to avoid the ecological apocalypse?

Some think that a “resetted capitalism” will only be effective if it stops growing in our finite planet but, on the other hand, many – like Schumpeter – think that capitalism aims necessarily at growth and needs to grow in order not to collapse. If this is true, then it seems that capitalism must be overcome. But is it possible to ensure that the end of capitalism does not lead to an economic and social collapse, with bad consequences for democracy (as in Germany in the early 1930s)?

Schumpeter wrote: «... capitalism stands its trial before judges who have the sentence of death in their pockets» (Schumpeter, 2003a, p. 144). To prevent the collapse is it

necessary to pull that sentence out of the pockets? I don't know. But I know that something needs to be done, and that time is short.

## References

- Alcott B. (2015), *Jevons' paradox (Rebound Effect)*, in D'Alisa G., Demaria F., Kallis G. (eds) (2015), *Degrowth: A Vocabulary for a New Era*, Routledge.
- Andreucci D., McDonough T. (2015), *Capitalism*, in D'Alisa G., Demaria F., Kallis G. (eds) (2015), cit.
- Bailey R (2015), R. (2015), *The End of Doom: Environmental Renewal in the Twenty-first Century*, Thomas Dunne Books.
- Baumol W., Litan R., Schramm C. (2007) *Good Capitalism, Bad Capitalism, and the Economics of Growth and Prosperity*, Yale University Press.
- Beckerman W. (1972), *Economist, Scientists and Environmental Catastrophe*, "Oxford Economic Papers", Vol. 24, 3, 327-44.
- (1974), *In Defence of economic Growth*, Cape.
- Bellamy-Foster J. (1999), *Marx's Theory of Metabolic Rift: Classical Foundations for Environmental Sociology*, "American Journal of Sociology", Vol. 105, No. 2, 366-405.
- (2011), *Capitalism and Degrowth: An impossibility Theorem*, "Monthly Review", Vol. 62, No. 8.  
(<https://monthlyreview.org/2011/01/01/capitalism-and-degrowth-an-impossibility-theorem/>).
- Bonaiuti M. (2014), *The Great Transition*, Routledge.
- Boulding K. E. (1966), *The Economics of the Coming Spaceship Earth*, in Jarrett H. (ed), *Environmental Quality in a Growing Economy*, Johns Hopkins University Press.
- (1973), U.S. Congress, *Energy Reorganization Act of 1973: Hearings, Ninety-third Congress, First Session, on H.R. 11510*, U.S. Government Printing Office.
- Carson R. (1962), *Silent Spring*, Houghton Mifflin Co.
- Cole H.S.D. et al (1973), *Models of Doom. A Critique of the Limits to Growth*, Universe Books.
- Commoner B. (1966), *Science and Survival*, Viking Press.
- (1971), *The Closing Circle: Nature, Man, and Technology*, A.A. Knopf.
- Costanza et al (2009), *Beyond GDP: The Need for New Measures of Progress*, The Pardee Papers – Boston University, No. 4, January.
- Czech B., Mastini R. (2020), *Degrowth Toward a Steady State Economy: Unifying Non-Growth Movements for Political Impact*, "Steady State Herald", February 5  
(<https://steadystate.org/degrowth-toward-a-steady-state-economy-unifying-non-growth-movements-for-political-impact/>).
- D'Alisa G., Demaria F., Kallis G. (2015), *Introduction - Degrowth*, in D'Alisa G., Demaria F., Kallis G. (eds) (2015), cit.
- Daly H. E. (1971), *Toward a New Economics: Questioning Growth*, in Johnson W. A., Hardesty J. (eds), *Economic Growth versus Environment*, Wadsworth Publishing
- (1977), *Steady-State Economics*, Island Press.
- (1979), *Entropy, Growth and the Economic Policy of Scarcity*, in Kerry Smith V. (ed) (1979), *Scarcity and Growth Reconsidered*, Resources for the Future Press.

- (1980), *Postscript: Some Common Misunderstandings and Further Issues Concerning a Steady-State Economy*, in Daly H. E. (ed), *Economics, Ecology and Ethics: Essays Toward a Steady-State Economy*, W. H. Freeman.
  - (2007), *Can We Grow Our Way to an Environmentally Sustainable World?*, in *Ecological Economics and Sustainable Development: Selected Essays*, E. Elgar.
  - (2014a), *From Uneconomic Growth to a Steady-State Economics*, E. Elgar.
  - (2014b), *Cold war leftovers*, CASSE, July 29 (<https://steadystate.org/cold-war-leftovers/>).
  - (2018), *Do Red and Green Mix? A Contribution to an Exchange on Why Ecosocialism: For a Red-Green Future*, “Great Transition Initiative”, December (<https://greattransition.org/roundtable/ecosocialism-herman-daly>).
  - (2018), interview by Kunkel B., *Introduction to Daly-Ecologies of Scale*, “New Left Review”, No. 109, 80-104 (<https://newleftreview.org/issues/ii109/articles/herman-daly-benjamin-kunkel-ecologies-of-scale>).
- Daly H. E., Cobb Jr. J. (1989), *For the Common Good. Redirecting the Economy toward Community, the Environment, and a Sustainable Future*, Beacon Press.
- Daly H. E., Farley J. (2011), *Ecological Economics – Principles and Applications*, 2nd edition, Island Press.
- Diamond J. (2013), *Collapse: How Societies Choose to Fail or Survive*, Penguin.
- Dietz R., O’Neill D.W., Jones N. (2013), *Enough Is Enough. Building a Sustainable Economy in a World of Finite Resources*, Routledge.
- Ebeling R. M. (2022), *Can Capitalism Survive? 80 years after Schumpeter’s Answer*, “The Future of Freedom Foundation”, Vol. 33 n. 4 (<https://www.fff.org/explore-freedom/article/can-capitalism-survive-80-years-after-schumpeters-answer/>).
- Ehrlich (1968), *The Population Bomb*, Ballantine.
- Farley J. (2015), *Steady-State Economics*, in D’Alisa G., Demaria F., Kallis G. (eds) (2015), cit.
- (2017), *Capitalism and the Steady State: Uneasy Bedfellows*, in Washington H. (2017), *Positive Steps to a Steady State Economy*, CASSE NSW.
- Ferreboeufs et al (2019), *Lean ICT - Towards Digital Sobriety*, Report ([https://theshiftproject.org/wp-content/uploads/2019/03/Lean-ICT-Report\\_The-Shift-Project\\_2019.pdf](https://theshiftproject.org/wp-content/uploads/2019/03/Lean-ICT-Report_The-Shift-Project_2019.pdf)).
- Georgescu-Roegen N. (1971), *The Entropy Law and the Economic Process*, Harvard University Press.
- (1975), *Energy and Economic Myths*, “The Southern Economic Journal”, XLI, n. 3, 347-81.
  - (1983), *Bioeconomics and Ethics*, in Buonaiuti M. (ed) (2011), *From Bioeconomics to Degrowth: Georgescu-Roegen's 'New Economics' in Eight Essays*, Routledge (orig.: mimeo, Special Coll. Library, Duke University).
  - (1989), *Quo Vadis Homo sapiens-Sapiens?*, in Buonaiuti M. (ed) (2011), cit.
- Gibbs D. (2017), *Ecological Modernization*, *The International Encyclopedia of Geography*, Wiley.
- Goldsmith E. R. D. et al (1972), *A Blueprint for Survival*, “The Ecologist”, Vol. 2, No. 1, 331-79.
- Hickel J. (2020), *Less is More: How Degrowth Will Save the World*, Random House.

- Hickel J., Kallis G. (2019), *Isn't Green Growth Possible?*, “New Political Economy”, Vol. 25, No. 4, 469-86.
- Johnstone J. (2019), *Distinguishing Capitalism from Growth*, “Steady-State Herald” (<https://steadystate.org/distinguishing-capitalism-from-growth-james-magnus-johnston/>).
- Kallis G. (2011), *In defence of degrowth*, “Ecological Economics”, Vol. 70, 873-80.
- Keen S. (2020), *The appallingly bad neoclassical economics of climate change*, *Globalizations*, 18:7, 1149-77 (<https://www.tandfonline.com/doi/full/10.1080/14747731.2020.1807856>).
- Krugman P. (2023), *Wonking Out: Why Growth Can Be Green*, “The New York Times”, February 17.
- Latouche S. (2010), *La scommessa della decrescita*, Feltrinelli (orig. publ.: *Le pari de la décroissance*, Librairie Arthème Fayard, 2006).
- *Farewell to Growth*, Polity, 2009 (orig. publ.: *Petit traité de la décroissance sereine*, Fayard, 2007).
- (2012), *Can the Left Escape Economism?*, “Capitalism, Nature, Socialism”, 23:1, 74-8.
- Lawn P. (2011), *Is steady-state capitalism viable? A review of the issues and an answer in the affirmative*, in Costanza R. et al (eds), *Ecological Economics Reviews*, Annals of the N.Y. Academy of Sciences, Vol. 1219, Wiley-Blackwell.
- Löwy M. (2018), *Why Ecosocialism: For a Red-Green Future*, “Great Transition Initiative”, December (<https://www.greattransition.org/publication/whyecosocialism-red-green-future>).
- Maddox J. (1972), *The Doomsday Syndrome*, McGraw-Hill.
- Magdoff S., Bellamy Foster J. (2010), *What Every Environmentalist Needs to Know About Capitalism*, “Monthly Review”, Vol. 61, No. 10 (<https://monthlyreview.org/2010/03/01/what-every-environmentalist-needs-to-know-about-capitalism/>).
- Marx K. (1976), *Capital. A Critique of Political Economy*, Vol. One, Penguin Books (orig. publ.: *Das Kapital. Kritik der politischen Oekonomie, Buch 1*, Verlag von Otto Meissner, 1867).
- (1981), *Capital. A Critique of Political Economy*, Vol. Three, Penguin Books (orig. publ.: *Das Kapital. Kritik der politischen Oekonomie, Buch 3*, Verlag von Otto Meissner, 1894).
- Mc Afee A. (2019), *More from Less. The Surprising Story of How We Learned to Prosper Using Fewer Resources*, Scribner.
- Meadows D. H. et al (1972), *The Limits to Growth*, Universe Books.
- Mill J. S. (1848), *The Principles of Political Economy with Some of Their Applications to Social Philosophy*, Longmans, Green and Co.
- Mishan E. J. (1967), *The Costs of Economic Growth*, Staples Press.
- Missemer A. (2017), *Nicholas Georgescu-Roegen and degrowth*, “European Journal of the History of Economic Thought”, 24 (3), 493-506.
- Møller M. (2016), *‘Business as usual’ is not an option anymore*, World economic Forum - Davos Agenda (<https://www.weforum.org/agenda/2016/01/why-do-we-need-a-multi-stakeholder-approach-to-sustainable-development/>).
- O’Connor J. (1996), *The second contradiction of capitalism*, in Benton T. (ed), *The Greening of Marxism*, Guilford Press (orig. publ.: “Capitalism, Nature, Socialism”, 1, Fall 1988).

- (1998), *Natural Causes: Essays in Ecological Marxism*, Guilford Press.
- Parrique, T. (2021), *From Green Growth to Degrowth*, “Global Policy”, April (<https://www.globalpolicyjournal.com/sites/default/files/pdf/Parrique%20-%20From%20Green%20Growth%20to%20Degrowth.pdf>).
- Parrique T. et al (2019), *Decoupling Debunked: Evidence and arguments against green growth as a sole strategy for sustainability*. European Environmental Bureau (<https://eeb.org/wp-content/uploads/2019/07/Decoupling-Debunked.pdf>).
- Participants Degrowth Conference (2008), *Declaration on Degrowth*, Appendix Three, “The Simplicity Collective” (<http://www.simplicitycollective.com/DeclarationOnDegrowth.pdf>).
- Passell P. et al (1972), *The Limits to Growth*, “The New York Times”, April 2.
- Pigou A. C. (1932), *The Economics of Welfare*, MacMillan and Co.
- Raworth K. (2017), *Doughnut Economics. Seven Ways to Think Like a 21st Century Economist*, Chelsea Green Publishing.
- Romer P. M. (2021), *Economic Growth*, Encyclopedia-Econlib (<https://www.econlib.org/library/Enc/EconomicGrowth.html>).
- Saito K. (2022), *Marx in the Anthropocene. Towards the Idea of Degrowth Communism*, Cambridge University Press.
- Saunders H. (2011), *Does Capitalism Require Endless Growth?*, “The BreakThrough Institute” (<https://thebreakthrough.org/journal/issue-6/does-capitalism-require-endless-growth>).
- Scarpelli G. (2022), *The Recipe with no Ingredients*, “INOMICS” (<https://inomics.com/it/blog/the-recipe-with-no-ingredients-in-macroeconomics-textbooks-1522573>).
- (2024), “*It is much too soon to act*”: *Economists and the climate change*, “Real-World Economics Review” 104, forthcoming.
- Schumpeter J. A. (2003a), *Capitalism, Socialism and Democracy*, Routledge (orig. publ.: Harper & Brothers, 1943).
- (2003b), *The March into Socialism*, in Schumpeter J. A. (2003a), cit. (orig. publ.: “The American Economic Review”, Vol. 40, No. 2, Papers and Proceedings of the Sixty-second Annual Meeting of the American Economic Association (May 1950), 446-56).
- (1954), *History of Economic Analysis*, Oxford University Press.
- Schmelzer M., Vetter A., Vansintjan A. (2022), *The Future is Degrowth: A Guide to a World beyond Capitalism*, Verso Books.
- Smith R. (2010a), *Beyond Growth or Beyond Capitalism*, “Real-World Economics Review” 53, 28-42. (<http://www.paecon.net/PAERReview/issue53/Smith53.pdf>).
- (2010b), *If Herman Daly has a better plan, let’s hear it*, “Real-World Economics Review” 55, 120-3 (<http://www.paecon.net/PAERReview/issue55/Smith55.pdf>).
- Solow R. M. (1973), *Is the End of the World at Hand?*, “Challenge”, March-April, 39-50.
- Spash C. L., Smith T. (2019), *Of ecosystems and economies: re-connecting economics with reality*, “Real World Economics Review” 87, March, p. 224 (<http://www.paecon.net/PAERReview/issue87/whole87.pdf>).
- Stern D. (2003), *The Environmental Kuznets Curve: a Primer*, CCEP Working Paper 1404, Crawford School of Public Policy, The Australian National University.

- Sweezy P. M. (2004) *Capitalism and the Environment*, “Monthly Review”, Vol. 56, N. 5 ([https://monthlyreview.org/2004/10/01/mr-056-05-2004-09\\_0/](https://monthlyreview.org/2004/10/01/mr-056-05-2004-09_0/)).
- Terzi A. (2022), *Growth for Good: Reshaping Capitalism to Save Humanity from Climate Catastrophe*, Harvard University Press.
- UN (2021), *Our Common Agenda. Report of the Secretary-General* ([https://www.un.org/en/content/common-agenda-report/assets/pdf/Common\\_Agenda\\_Report\\_English.pdf](https://www.un.org/en/content/common-agenda-report/assets/pdf/Common_Agenda_Report_English.pdf)).
- Victor P. (2019), *Managing without Growth. Slower by Design, not Disaster*, 2<sup>nd</sup> ed., E. Elgar.
- Wallich H. (1972), *Zero Growth*, “Newsweek” 79, 62.
- Washington H. (2017), *Concept map of the steady-state economy*, in Washington H. (ed) (2017), cit.
- World Bank (2012), *Inclusive Green Growth: The Pathway to Sustainable Development*.