1. **Globalization driven by technology or by politics?** Is globalization essentially an inexorable (deterministic) process or essentially a contingent process driven by the decisions of individuals (and, in principle, a reversible project)? In the second case, are the involved individuals just an elite (politically and/or economically powerful individuals)? Is globalization ultimately an economic or a political phenomenon? (Globalization = extension and intensification of economic, political and social activities across borders, political and geographic = make the planet smaller)

2. **Convergence.** The deterministic view of the globalization process is in line with the presumption of historical convergence. The idea is that technological progress forces social changes, that those changes are inevitable and, therefore, that (regardless of history, cultural particularities, national ideologies and practices) societies will become more alike in their basic organization and convergence also in standards of living. The only difference is the speed at which societies reach the common destination.

3. **Death of conflict?** The ‘death of conflict’ expresses the idea that adoption of a core of values and principles in a society will bring social conflict/tensions to an end. Societies become like markets, where interaction/competition is peaceful. The ‘rationality’ of technology spreads to the social world: social problems can be solved ‘technically’, technocratically. In the end, a stable social order is reached and the interests of all the groups are reconciled. Globalization is said to dissolve the sources of social and political conflict.

4. **The flexibility imperative.** The failure to ‘make globalization work’ in an economy is, according to orthodox economic thinking, solved by increasing ‘labour flexibility’: improve (through economic policy measures) the capacity of domestic labour markets to ‘accommodate structural changes smoothly and rapidly’. The mobility of global capital reduces the bargaining power of workers: firms just choose countries where workers accept the flexibility imperative (labour market deregulated). Labour regulation protecting workers is said to be a constraint preventing markets to be ‘free’ and the globalization process to succeed and deliver its presumed benefits (it seems that, to make markets free, workers must be enslaved).


5. **Tension between democracy and globalization.** So far democracy seems to have operated with more strength locally, pulling towards self-organization and accountability in geographically limited areas. Globalization transcends geographical limits and, in principle, undermines democracy (as the forces of globalization tend to evade democratic control and accountability).

6. **Cosmopolitanism.** Represents an ethical solution to the tension between democracy and globalization. It involves universal principles (democratic public law) to extend democracy to all domains: local, regional, national and global. It represents a way to control globalization (and arbitrary power) by subjecting it to democratic organization, control and accountability.

7. ‘**The paradox of our times**, Held (2010, p. 4). The paradox is that the current collective issues (or core sets of problems) increasingly transcend political borders but the tools to handle these issues are inadequate or insufficient (problems addressed in an ad hoc manner, lack of coordination among international institutions, not accountable global organizations). The paradox expresses a problem of global governance: global problems cannot be solved at the national level or by nations acting alone. Worse still, the gap between the need for global solutions and the inability of multilateral institutions to meet that need is growing.
8. **Global core problems in an increasingly interconnected world.** These are problems associated with sharing the planet (climate change, biodiversity loss, resource shortages, pollution), sustaining societies (poverty, inequality, conflict prevention, global diseases) and establishing global regulations (nuclear proliferation, toxic waste disposal, intellectual property rights, genetic research rules, trade rules, finance and tax rules).

9. **Is globalization creating a multipolar world?** Until a few decades ago, globalization was led by “the West”. Now, “Asia” is ascending and regaining geopolitical and economic power (G20 replaces G7, increasing share in world GDP).


10. **Historical race between Europe and Asia?** Goody (2010) claims that, since the Bronze Age Urban Revolution (that created the culture of cities, ‘civilization’), there has been an alternation in the leadership of material and informational development between the western side of the Eurasian continent and the eastern side. History does not seem to support the idea of a permanent advantage: all advantage/dominance/superiority is temporary.

11. **Eurasian miracle.** There is a common history of the development of civilization between East and West. Development has not been a uniquely or exclusively European phenomenon. The ‘European miracle’ (that the Industrial Revolution and the sustained growth in the standard of living occurred in Europe) is actually part of a larger ‘Eurasian miracle’. There is no radical discontinuity in world development: the societies and urban cultures of Eurasia experienced a continuous development, to a great extent mediated by commercial, mercantile and manufacturing activity. The invention of writing accelerated cultural innovation towards the establishment of a knowledge society.


12. **The Washington Consensus.** It represented an economic agenda for globalization (economic liberalization and global market integration) based on adopting the following measures (and others in the same spirit): free trade; capital market liberalization; flexible exchange rates; market-determined interest rates; market deregulation; privatization (transfer of assets from the public to the private sector); balanced government budget; tax reforms stimulating investment and production; secure property rights; protection of intellectual property rights. The underlying logic of the WC is to reorganize the public sector (at all levels: local, regional, national, global) to facilitate the activity of global private institutions and give preeminence to market institutions in the creation and distribution of wealth. The WC captured orthodox economic thinking: free markets should regulate all economic activity and states should just attract foreign investors and preserve a good credit reputation through fiscal discipline; liberalization, deregulation and privatization of the economy; and commitment to make employment as ‘flexible’ as necessary.

13. **Successful integration in the global economy.** The most successful examples of non-western economies reaching western levels of development and prosperity (Japan, South Korea, Taiwan) did not follow the measures from the Washington Consensus. China and India have neither adopted these recommendations. All these countries achieved sustained growth by imposing protective barriers and letting the public sector sponsor and steer development.

14. **The augmented Washington Consensus.** It adds to the original set of measures: legal/political reform; regulatory institutions; anti-corruption fight; labour market flexibility; WTO agreements; financial codes and standards; ‘prudent’ capital-account opening; non-intermediate exchange rate regimes; social safety nets; poverty reduction.
15. **Neoliberalism.** It is an ideology claiming that essentially all the economic and social problems can be solved by some free market process. And even if the market solution is not absolutely satisfactory, there is the presumption that any solution articulated by public authorities will fare worse than the market solution. According to Perry Anderson, neoliberalism is “the most successful ideology in world history” and is currently ruling the world. In advanced economies, neoliberal principles appear to represent a domain of political convergence between the moderate left (no longer hostile to markets) and the moderate right (no longer uneased by market excesses).

16. **Neoliberalism as a social experiment.** The implementation of the neoliberal doctrine creates neoliberalism as a process, resulting from the application of such policies as: privatization of public companies and services; deregulation of private economic activity; reform of welfare programmes and taxation systems that disprotect the poorer, vulnerable or disfavoured groups; the extension of markets mechanisms to areas where they are not appropriate… These policies are enforced by most developed countries and by the main global economic institutions: International Monetary Fund, World Bank and World Trade Organization.

    “The surest way to do more to help the [world’s] poor is to continue to open markets.”
    Mike Moore, former Director General of the WTO,

17. **Historical materialism.** It is a general theory of economic systems, applicable to all of human history, holding that the characteristics of the productive forces (means of production and labour power: technologies and people) of an economy causally determine the remaining dimensions (economic, political, cultural…) of a society.

18. **The development thesis of historical materialism.** The thesis holds that the forces of production tend to develop with time, so overall productive power tends to eventually increase. Historical materialism provides an understanding of economic development: it is a theory of historical directionality. To be sustainable, an economy must promote the development of its productive forces.


19. **Offshore outsourcing.** A key driver of economic globalization is the rapid expansion of offshore outsourcing, itself facilitated by the increasing ability of companies to fragment production processes across national borders. As a result, the world has initiated a transition toward a single global economy.

20. **The Great Transformation.** Expression that refers to the creation, since around 1980, of a global labour market and the associated redefinition of the social order. The process is analogous to the rise of national market economies in the nineteenth and early twentieth centuries.

21. **Drivers of the globalization of labour markets.** (1) ‘The great doubling’ of the global labour force, due to the entry of China, India and Russia in the global economy (nearly 1.5 billion additional workers between 1980 and 2000). (2) The expansion of higher education in developing countries (increased by 383% between 1970 and 2000). (3) The transfer of modern technology to developing countries.

22. **Winners and losers from the Great Transformation.** Winners: businesses that employ workers from developing countries and the workers in developing countries (mainly, China and India) employed by the modern (more productive) sectors. Losers: workers in other developing...
countries (manufacturing jobs in Latin America, Africa, and Asia have been transferred to China or India; some of these countries have benefited from an additional international demand for natural resources, but extraction industries employ relatively few workers and create basically low-skilled jobs). In both developing and developed countries, the creation of a global labour market is putting (mostly, low-skilled) workers in a more precarious position: offshore outsourcing give more privileges and negotiating power to businesses.


23. **Globalization and neoliberalism.** Neoliberalism sees free international flows of capital and goods as the best way to reduce poverty and unemployment. Free markets are viewed as self-regulating social institutions that can deliver the best results in terms of satisfaction of economic needs. Any malfunctioning (poverty, unemployment, economic crises) is due to interferences in the market system that constrain their behaviour (public intervention or old-fashioned social practices). The neoliberal recommendation is to remove those constraints and make social and economic structures more 'market friendly'.

24. **Criticism to neoliberalism.** (1) In poor countries, trade liberalization has been followed by more inequality and poverty, less growth and more frequent economic crises. (2) Rich countries embraced protectionism and state intervention to become rich, the opposite to what its prescribed to the poor countries.


25. **The puzzle of the Middle East’s economic underdevelopment.** In the present, the Middle East is considered an economic laggard, a region suffering from a general economic inferiority in comparison with more advanced regions (in terms of life expectancy, energy and resource use, GDP per capita, literacy). Around the year 1000 this was not true: the region was economically advanced. Even around 1750 the inferiority did not appear so evident. The gap between the West and the Middle East was created in the nineteenth century. The twentieth century did not serve to close the gap but to keep it open. In comparison with the West, the Middle East has (at least since 1750) experienced a relative decline: growth has been slower than in the richest countries. Why?

26. **Kuran’s (2010) explanation.** The Middle East fell behind the West because fundamental institutions of a modern economy were adopted late: durable or long-lasting private enterprises, the only ones capable of mobilizing massive amounts of resources for production activities and thereby ensure durable economic transformations. Until too recently firms in the Middle East were too small and short-lived: profit-making enterprises were temporary undertaking and did not outlive their founders. This kind of institution was incapable of mobilizing huge amounts of savings, creating and exploiting new technologies, develop complex organizations, consider long-run planning horizons... Lacking the legal ability to create permanent and bigger private firms (the long divergence in organizational development) explains the lag in living standards and the subordination to western economies (the long divergence in prosperity).


27. **How globalized is the galaxy?** The Russian astrophysicist Nikolai Kardashev classified extraterrestrial civilizations in terms of the potency of their technology. A KI (Kardashev type 1)
civilization could employ the energy resources of a planet (human civilization would be KI). A KII, the energy resources of a star. And a KIII, the energy resources of a galaxy. It has been claimed that most extraterrestrial civilizations in our galaxy are of a KII or KIII type.

28. **The Fermi paradox.** Life seems to possess a tendency to expand everywhere and increase complexity. Technology also appears to possess a tendency to evolve and increase complexity. The universe is estimated to be some 13.8 billion years old. It is then reasonable to expect our galaxy to be full of advanced civilizations. The paradox is that we have not yet obtained solid evidence of their existence: the universe is silent. Where is everybody?

29. **Basic resolutions of the Fermi paradox.** (1) Extraterrestrials are or have been already here. (2) Extraterrestrials civilizations exist but we have not yet been able to gather evidence of their existence. (3) We are essentially alone in the universe.

30. **Webb’s (2015) resolution.** Even if life may arise easily, intelligence is probably hard to emerge. Virtually all species on Earth did not need much intelligence to arise and prosper: in general, survival does not require intelligence. Intelligent living beings may be a rare exception in the universe. The development of intelligence may be such a protracted process that it becomes very vulnerable to events that could stop or delay its development (on Earth the process took billions of years).

31. **Some considerations on the Fermi paradox.** (1) As with many other basic phenomena (the emergence of life on Earth, consciousness, the industrial revolution, the scientific revolution...) we are trying to theorize from a single case/occurrence. (2) Are technologically advanced societies inherently unstable? (3) Can technology sustain a high rate of change/progress? Is the acceleration of technological advance since the industrial revolution an exceptional event? A bubble that cannot last? (4) The conditions necessary for a phenomenon to emerge may be quite different from the conditions necessary for the phenomenon to last, develop or evolve (what works to make a poor economy prosper may not work to make it permanently prosperous; the way to become successful in globalization may be different from the way to remain successfully globalized).


32. **Is globalized finance destroying the economy?** Technological advances reduce the need of labour in production. Instead of creating a leisure economy it appears that those advances are forcing employees to work overtime to repay debts incurred because of insufficient wages. There is a global debt overhead that increases faster than the value of global production (the economy’s ability to pay). Economies (national and global) are endangered by the privilege granted to the financial sector to generate debts without regard to the wealth creation process that ensures debt repayment. It is very difficult for physical wealth to expand exponentially but financial wealth can grow exponentially with certain ease (money is just numbers on a computer screen, mere accounting entries: can be created in huge amounts immediately). The financial sector is autonomous and plays according to its own rules: the casino rules.

33. **Two kinds of progress.** Traditional idea of progress: from 1945 to 1980, the dominant idea was growth in living standards (children inherit a better world than their fathers). The neoliberal (pro-financial) idea: since 1980, the financial sector (banks, financial investors) want the economic surplus (growth in wages and corporate profits) for themselves, so the benefits of an expanding economy are concentrated on a small percentage of population (which does not leave much room for the rise in living standards).
34. **Technological progress as a social struggle.** The evolution of technology (which technologies become triumphant) cannot be explained on exclusively technical considerations. Technology can always follow alternative paths and it is social forces that select the path to follow: technologies are involved in a process of elimination of technological designs whose outcome is socially determined (by the struggle between social groups pursuing their interests).

35. **On the use of technologies.** Once a technological design wins out and is adopted as the standard, the technology maybe used for purposes different from the one motivating the technology. Initially, education and public programming dominated radio broadcasting; similarly, television was originally conceived for surveillance and education. When businesses gained control over the two technologies they transformed them into entertainment media.

36. **How deterministic is the history of technology?** Heilbroner (1967) contends that technological development must proceed in a relatively fixed sequence: some developments must necessarily precede others. For instance, societies must pass through the hand-mill before making a transition to the steam-mill, which is necessary to moving to hydroelectric plants; or mastering electricity is necessary before mastering nuclear power.

37. **Evidence for the deterministic view.** (1) Examples of simultaneous inventions and discoveries. (2) Absence of technological leaps. Most technological advances seem to be incremental and evolutionary. (3) Predictability of technology. There are two constraints to technological capacity in a given time: the accumulated stock of available knowledge (which only expands gradually) and the level of technical expertise (the material competence). Both determine the ability of industries to produce the equipment corresponding to higher technological levels. That ability also depends on the size of the capital stock. Hence, within certain limits, at least the short- to medium-run evolution of technology appears predictable.

38. **Does technology create social orders?** That is, does technology impose social and political traits on societies that adopts the technology? There are at least two elements of influence: the composition of labour force and the hierarchical organization of work.

39. **Some questions on technology.** What fuels technology? Itself? Is the recent explosive technological development a bubble? Is technology necessarily expansionary? Are there limits for technological expansion? Is technology potentially a *perpetuum mobile*? What are the essential resources for technological growth? Are these resources exhaustible? Can technology’s strain of nature reach a limit point? Will technology be the new nature? Could a new nature be technologically built? Are the laws of nature subject to technological manipulation? Can laws of nature be technologically created or modified?


40. **Economic revolution by confluence of technologies.** A confluence of technologies will lead to the next production revolution: digital technologies (3D printing, internet of things, advanced robotics), new materials (bio- or nano-based) and new processes (data driven production, artificial intelligence, synthetic biology).
41. **South Korea’s success.** In the 1950s, Korea was one of the poorest countries in the world. Now ranks among the richest (GDP per capita higher than Spain’s). But Korea did not succeed because it conformed to the free market ideology. Rather Korea’s economic ‘miracle’ was based on: (1) nurturing certain new industries through government support, according to a national development plan, until the industries were ready to face international competition; (2) government control of all the banks, to be able to regulate a basic element of business activity: credit; (3) undertaking big projects by state-owned enterprises (such as POSCO, the steel maker); (4) controlling foreign exchange and foreign investment. In sum, “The Korean economic miracle was the result of a clever and pragmatic mixture of market incentives and state direction. The Korean government did not vanquish the market as the communist states did. However, it did not have blind faith in the free market either”.


42. **Is capitalism eventually self-destructive?** The industrial capitalist society has created a chasm between society and nature, when the former cannot subsist independently of the latter. By destroying nature, the capitalist society destroys itself. The expansionary trends of a global capitalist economy places burdens on the planet and endangers its regenerative capacity.

43. **Anthropocene.** Term coined by atmospheric chemist Paul Crutzen that refers to the geological epoch in which humanity is capable of causing short-term changes in the planet. Fronts on which the planet is being assaulted by human activities: climate, ocean acidification, stratospheric ozone depletion, the nitrogen and the phosphorus cycles, global freshwater use, land use, biodiversity loss, chemical pollution. The term captures the idea that biogeochemical cycles, the atmosphere, the ocean, and the earth system as a whole are no longer immune to the human economy. It is preceded by the Holocene (the period started 10k-12k years ago)

44. **The global ecological rift.** It is the break in the relationship between the world economy and the planet arising from a continuously expanding world economy. There are insurmountable physical boundaries to economic expansion beyond which the planet’s ecological viability is compromised. Are there thresholds (tipping points) for those fronts from which no return is possible? Has any of those thresholds been already crossed?

45. **Social vs natural scientists.** Social scientists do not appear to have risen to the challenge: even if the global problem is acknowledged, no real attack has been proposed or deemed necessary. “Sustainable (green) capitalism” is claimed to provide the solution. The real objective seems to be preserving capitalism rather than preserving the planet. “Saving” the planet is a new opportunity to make profits. A new capitalism can coexist with the planet. It is natural scientists who appear to be more concerned about the burdens industrial capitalism imposes on the planet.

46. **Social sciences and social order.** J. D. Bernal: “the backwardness and emptiness of the social sciences are due to the overriding reason that in all class societies they are inevitably corrupt”. The reason for the comparative underdevelopment of the social sciences is that they are circumscribed by and often subservient to the established order of power. Social sciences seem in practice more concerned with preserving the existing social order than facilitating (necessary or desirable) changes in the social order. In normal circumstances, the social sciences do not lead: they follow (stable social environment creates a conservative social science). When the social order is disrupted, social sciences have the best opportunity to advance and make relevant achievements.
47. **Social sciences.** Mainstream social science has developed a static and ahistorical (sometimes anti-historical) character and adopted reductionism, abstract empiricism, and anti-naturalism (divorce from the natural environment in which societies exists). “Little or nothing in human society makes sense except in the light of history”.

48. **Jevons paradox.** If a new technology reduces the amount of a certain resource (and the environmental impact) per unit of production, the new technology may have an expansionary effect on the general economic activity that could increase the amount actually used of the resource and its environmental impact. The paradox is that a technology created to save resources and the environment may ultimately offset the initial energy/environmental savings and contribute to worsen the original problems: resource depletion and environmental deterioration. The underlying explanation is that technologies are not developed and adopted to achieve social goals, like saving resources or the environment, but to make (private) profits.


49. **On interpreting empirical evidence.** Fig. 1 below represents a variable growing at 1‰ (0.1%) per year for 3,000 years; Fig. 2, 1‰ growth for 25,000 years. In both cases, 1 is the initial value. The same phenomenon (1‰ annual growth) looks like different depending on the scale chosen: in Fig. 2 it appears as if something extraordinary had happened (an apparently ‘glacial’ growth suddenly turns explosive), whereas Fig. 1 suggests that everything is ‘business as usual’.

![Fig 1. 1‰ growth for 3,000 years](image1)

![Fig 2. 1‰ growth for 25,000 years](image2)

50. **Herman Daly’s impossibility theorem.** “It is impossible for the world economy to grow its way out of poverty and environmental degradation. In other words, sustainable growth is impossible”.

51. **Replication of social outcomes vs replication of social processes.** Sequence in most developed countries: national identity (middle class + national market) → modern state (state authority). In most developing countries, state preceded the nation. These countries are not the result of middle-class prosperity created in a unifying national economy. A developed (capitalist? technologically advanced?) democratic nation-state seems difficult to replicate. Is failure to create a nation state the cause for the failure to develop? Not politically viable implies not economically viable?

52. **Western civilization = cancer for the Earth.** “Our civilization thus operates in the same way as a cancerous cell that goes on destroying the organism off which it lives.” (p. 3)