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Planet Earth and Humanity

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The earth, a futility in space, is the only home for all humans and, at present, the theatre of the globalization of our society. Humanity has always been wondering about the origin of our blue planet. This is rather irrelevant for everyday life however. What really matters is that all of us can live in harmony and diversity on 'Mother Earth' and preserve our environment for future generations. Our planet is inhabited by an amazing variety of living creatures, among which at present are 7 billion humans. This number has risen at an alarming rate for more than a century and will reach the 10 billion mark around the year 2100. But whether the earth resources can cope with the growing demands is most uncertain. What will be our common future? This global issue has been the focus of the Reports of the so-called Club of Rome,[1] the Brundtland Report,[2] etc, but the responses of society are as yet inadequate. Science and technology can now unravel the many subtle interrelations between geosphere, atmosphere and biosphere and monitor the worldwide growing impact of human activities on the environment.[3] Earth observation from aerospace and geo-information systems have opened new vistas in this field. It is evident that there are limits to growth and that the present 'rape of the earth' should be stopped and a master plan for global sustainability be made. This plan should not be imposed top-down but be rooted in our free will and thus have a polycentric structure. The political agenda for globalization should not be a flywheel for economic growth but be oriented to the tripartite: sustainability–social balance–economic requirements. Can we make this happen?

Humanity: Exploring and Peopling the Globe

Life on earth began long after the earth crust was formed, and has evolved ever since. Humans are a newcomer in this context. The oldest human traces have been found in Africa and are almost 7 million years old; some of these primitive groups left Africa, at an early stage, from the northeast, where the African plate hits Eurasia and distinct human remains confirm that they reached the Far East about 1 million years ago. The relationship between these primitive human groups and the modern Homo Sapiens is not yet fully clear, but we do know that the latter left Africa and spread over Eurasia in two waves, from approximately 180,000 years BC onwards. The 'New World' was

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reached only about 14,000 years ago by island-hopping in the Aleutian Archipelago and the Bering Strait. However, these impressive prehistoric explorations did not result in globalization. The wandering tribes lost contact with those who stayed behind and dispersed in the vast, as yet unpopulated, parts of our globe. Regional contacts date back thousands of years but our knowledge of them is incomplete. They also include contacts overseas, although coastal navigation was dominant and the oceans, which are nowadays shipping avenues, were major barriers. Rice, which was tilled more than 13,000 years ago in China and South Korea, thus became an important staple food in South and Southeastern Asia. Sugar cane, which had been cultivated for 10,000 years in New Guinea, made its way westwards to ancient Persia and later with the Islamic conquests to North Africa and Southern Europe.[4] In 1974 (Paris) and 1992 (Ulm) it was found that cocaine and nicotine were used for the mummification of Ramses II and Henut Tani. Were there even unknown pre-Colombian contacts between South-America and Africa?

Real globalization began, however, around 1500 with the discovery of America by Columbus in 1492 and the worldwide nautical discoveries that followed. Columbus died believing that he had reached China. However, the exploration and traverse of the Pacific Ocean soon followed. The Philippines were discovered by Magellan in 1521, where he died on the island of Cebu. After several unsuccessful expeditions, Spanish ships reached Cebu in 1543. The first contacts with Chinese traders were made there in 1570 by two Basque sailors, López de Legazpi and Urdaneta. They had departed from Mexico in November 1564 and, aided by the trade winds, reached the Philippines in February 1565. The global ring was closed and considerably shortened later by the construction of the Suez and Panama Canals. Africa was a bit out of the mainstream and the Silk Road lost its importance. One may wonder why the initiative for these daring voyages occurred in the conglomerate of Western European countries and not, for instance, in the huge Chinese empire, where Zheng He's fleet sailed the coasts of South-East Asia, East Africa and the Americas around 1400.[5] Different ship-building techniques and navigation methods together with environmental factors such as sea currents, wind systems and the shorter crossing of the Atlantic (compared with the Pacific Ocean) are major factors but differences in the cultural domain have also been mentioned: there were more dynamics in the diverse European societies than in the centrally governed and traditional imperial China.[6]

In the beginning, globalization was a slow process. Of course, the gold and silver treasures that reached Spain were spectacular, but trade and politics in Europe remained focused on pre-existing issues. Spain's main interest was the Mediterranean: the influence of the Pope, the rise of the Ottoman Empire, the wheat trade, etc. At the same time, coastal trade around the North Sea and the Baltic, and the related struggles among competing countries, dominated the trading patterns in North Western Europe. When the European centre of trade with the new markets overseas shifted from the Iberian peninsula to NW Europe, and the volume and variety of merchandize increased, global patterns of change gradually developed. The first effects of globalization outside Europe were disastrous. The firearms used by the intruders made any fighting a very unequal affair. Plundering of cities, forced labour

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in gold or silver mines and other abuses disrupted existing societies. The major calamity, however, was the massive death caused by the unintentional introduction of contagious diseases against which the indigenous population had no natural resistance. Epidemics of smallpox, influenza, typhus, scarlet fever, tuberculosis, etc., decimated or even eradicated the population of large areas, leaving their land barren and putting an end to their civilization.

Initially the positive effects of globalization were less spectacular but they gradually gained in importance all over the world. Today, our life is not possible without global exchanges. Food supply is an outstanding example of this. Europe cannot feed its present population without the potatoes originating from South America. An African village market is now unthinkable without the tapioca, maize and many root crops, all brought from the New World. And what must the SE-Asian cuisine have been like before cassava was brought from Brazil by the Portuguese, and chilli peppers, the basis for sambal, from Mexico? And what about bananas and coffee that originate from Africa? Even the stone-age Pygmies in Central New Guinea smoked tobacco introduced at the coast by the Portuguese. In turn the Portuguese and the Dutch brought black pepper and other spices from the Molucca Islands back to Europe. Rice, first cultivated in China, is now an important cereal worldwide. Domestic animals also became globalized, such as horses domesticated in ancient Egypt, and sheep originating from Central-Asia. The effects on everyday life of globalization are indeed impressive.

The exchange of cultural heritage is an even more important outcome of these contacts. It has brought new ideas and attitudes that have widened human capacities and may lead to more open-minded societies where we can learn to understand and appreciate each other. This is an important but not always an easy process. A lack of external contacts makes the introduction of new concepts unlikely. This applies particularly to some remote parts of the world. An example is Central Asia where the Silk Road for millennia was a link between China and Southern Europe. The much safer sea route from Western Europe to the Far East via the Cape of Good Hope that replaced it, brought isolation and stagnation in these mountainous areas.

The changes brought about by these ever-intensifying worldwide contacts are diverse and vary strongly from place to place. They were accompanied by many abuses. Slavery has existed in many parts of the world and at all times.[5] However, none of these can be compared with the massive and cruel slavery following the conquest of the Americas. So numerous were the slaves of certain African tribes who were transported across the Atlantic Ocean, that their languages still exist in some parts of the Americas where people with African roots now make up a substantial part of the population. Colonialism also had traumatic effects on the people and societies concerned. Both have come to an end but their echo still lingers in the world today. Colonialism was short-lived in the Americas where the settlers soon freed themselves from their European rulers. It remained widespread in the Far East up to the mid-twentieth century as a follow-up of trade posts and monopolies of competing European companies.[7] In the nineteenth century, Africa also became a theatre of colonialism. The Chinese expansion in SE Asia was structured in a very different way.

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It was mostly based on personal initiatives and family structures. Between the fall of the Manchu Dynasty in 1911 and the Second World War, some 50 million Chinese farmers moved to Manchuria in probably the largest overland migration of the twentieth century. The Russian expansion in Asia was likewise overland.

The Industrial Revolution and Shifting Centres of World Power

Globalization began as a rather small-scale exodus from Europe. About 3 million Europeans emigrated to the Americas between 1500 and 1800 but 60 million have followed thereafter.[8] We must bear in mind that the total tonnage of the world fleet in 1600 amounted just to one modern supertanker and increased to 7–8 supertankers in 1800. It was the industrial revolution of the eighteenth century, spreading rapidly from England over the Western world, and notably the advent of steamships and railways, that brought mass transport within reach across the oceans and within the interior of continents. This sparked an unprecedented expansion in trade and global power, which led to a period of European imperialism, first mainly in Asia (where the USA and Japan were also players), and in the nineteenth century in Africa. But times began to change after the First World War. The League of Nations, forerunner of the United Nations, was founded; US President Wilson spoke of 'self-determination' and Lenin of 'anti-imperialism'.

Thirty years after the Second World War, the hegemony of western countries in Asia and Africa came to an end. In Europe they even lost control over their own territories when the winners of the war, Russia and the USA, became entangled in the 'Cold War' and the Iron Curtain divided the continent. When it became clear that the centralized production system, dictated by Moscow, was an economic failure, the curtain suddenly fell in 1989 and the East-European countries joined the free-market area that was shaped by the USA and had already been adopted in Western Europe in 1945.[9] The sudden introduction of the free-market caused a shockwave for these 'countries in transition' that were then not used to worldwide competition and unbridled neoliberalism, with its multinationals, consumer society and disregard of social problems we are confronted with today. The system has been successful for several decades but fully depends on continuous economic growth. The current crisis shows, however, that this artificial blowing-up of the global economy has ended in collapse. The American hegemony in the world is being replaced by a multi-focus structure. Low-wage countries, with the so-called BRIC countries (Brazil, Russia, India and China) in the lead, have become powerful economic and political players. This could result in a more balanced sharing of wealth in the world if the smaller countries can become regionally organized in order to obtain their rightful place. This is not an easy process because of old enmities and the need for giving up some sovereignty. It is unlikely that a capitalistic system geared only to economic growth will be an appropriate instrument in this new situation – social balance and ecological sustainability are also required.[10]

The lengthy discussions about European integration exemplify the difficulties that have to be faced to achieve the regional cooperation required for multifocal

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globalization. The centuries-old inter-European contacts and migrations were severely hit by a wave of strong nationalism around 1800 when many multi-cultural countries were split up into nation states. The greatest stumbling block to renewing the old ties is not so much the bloody warfare of the past, but, first and foremost, the psychological unwillingness to accept that the days of global hegemony are over. The European Union must strengthen solidarity and bring about renewal of European coherence. Shortly after the Second World War there was great enthusiasm for the European ideal, but it has been waning in recent years, which is particularly due to the present economic crisis. A first draft for a European Constitution was presented in 2007 (Lisbon) but had to be downgraded to a Treaty because of strong opposition, and even that was turned down in several of the required national referenda. Where are the Europeans of 1945? Have we already now forgotten the bloody wars that ravaged Europe, and the Iron Curtain that made Europe powerless for half a century, with the East oppressed by the Soviet Union and the West at the behest of the USA? At present and in the future, a divided Europe has no say in world affairs.

The fears of anti-globalists are mainly loss of their own identities and being crushed by superpowers. But diversity and free exchange of ideas are equally important for society, as well as the proper sharing of income. The multi-focus globalization process, therefore, is a promising development. Good governance is required, however, to create a sustainable and peaceful future for mankind. Banks and multinationals are already fully globalized, and intergovernmental structures to control them are badly needed at regional and global levels. All efforts should be made to reduce causes of discontent in the world. Military interventions stimulate terrorism and may reduce our security instead of improving it. The question is whether we have learned from history or if we will allow the past to bedevil our future.

Limits to Growth and Coping Strategies

There are now more than 7 billion people in the world. The UN marked 31 October 2011 as the '7 billion day'.[11] Every second, five people are born and two die, leading to an increase of three. In 1950 there were only 2.5 billion people, and in the year 2000 around 6 billion. The estimates for the future are 9 billion around 2050 and, if this trend continues, 10 billion in 2100. And all of them need food, water, shelter and work in order to live and to build a safe and happy future for their children.[12,13] The reality at this moment is that of 90% of the lives in economically less-developed countries, 43% lack basic sanitary provisions and 14% suffer from hunger or malnutrition. Furthermore, 20% of mankind owns 75% of the global income. Improvement of this situation should be a top priority worldwide, not only for humanitarian reasons but also because a contented world community is in our own interest. However, we spend €900 billion annually on military expenditures without much ado, but we complain about the €78 billion allocated to peaceful development. Prophets of doom say that disaster is ahead, but this is not necessarily so if we take adequate action immediately. This is the greatest ever challenge for humanity.

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A social time bomb threatens the present economic system when many are unemployed and particularly the lower classes live in marginal conditions. This inevitably paves the way for discord, envy and revolt. The profits made by companies and the resulting Stock Exchange quotations are no measure for economic success if rooted in large-scale dismissals of the employed. Some of the rich nowadays live in fenced-in residences with gates, guards and monitoring devices. At the national level some rich countries try to stop illegal immigration for economic or security reasons by building high fences at their borders.[14] Israel tries to keep out the Palestinians, the USA the Mexicans and India the Pakistanis, etc. Europe and Australia try to stop boat refugees. These measures are clearly not a lasting solution and lead to inhuman situations. The shift of production to low-wage countries, facilitated by modern means of telecommunication, is a more effective response that will lead to a better distribution of prosperity over the world. At present, the great majority of high-tech electronics is produced in Asia and made available at affordable prices in the 'West'. This multi-centric globalization process has a future. Attempts to keep the production in rich countries by importing cheap labour from elsewhere lead to justifiable complaints of deprival of livelihood from local workers fearing loss of their jobs.

An ecological time-bomb is simultaneously provoked by the pursuit of uninhibited economic growth of our consumer society. Instead of changing our lifestyles and priorities, we are still plundering the earth's resources at the expense of future generations. Climate change gets much attention in this context from the public at large as well as from world leaders.[15] But global warming is only a symptom of this degradation.[16] Focusing on it distracts the attention from the cause: we are consuming too much with too many people and resemble a bad physician focusing on the symptoms of a disease instead of on causes and remedies. The anti-globalist lobby is diverse; birth control is a delicate issue in many countries and planning for less consumption is suicide for politicians.

The present economic crisis that the world is facing, after decennia of excessive growth shows that the neo-liberal balloon of a fully free market has led to the unbridled inflation of the economy. Important changes are required. The social and ecological time bombs mentioned above are key elements for solving our problems. Few have foreseen that all this would happen only two decades after the debacle of the guided economy in Eastern Europe. We need new economic structures to meet the present and future needs of humanity.

The Present Crisis: Crack of Doom or Global Challenge?

In the chaos following the Madoff mortgage swindle and the collapse of the Goldman Sachs bank in the USA, banks all over the world have been involved in a number of frauds, including manipulations of the LIBOR and EURIBOR interest rates, etc.[17] Hedge funds search the Stock Exchange for enterprises that have economic problems, and self-appointed creditability-judging organizations force countries with great debts to pay sky-high interest rates. It is evident that this corporate greed cannot go on.

Steeply rising unemployment at the onset of the present economic crisis made it impossible for many Americans to pay for their mortgages. The banks then seized

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their houses and they had to move out and join the masses of homeless people living on the streets, under bridges, etc, in so-called 'tent cities'.[18] Others are just one pay-cheque away from this in the absence of a social welfare system. A lucky few are supported by their family or friends, while others depend on ghetto solidarity. The position of discriminated groups, such as Afro-Americans and illegal (Mexican) immigrants, is particularly bad. Officially, there are 750,000 homeless people in the USA, but social workers estimates are 3,500,000. The protests organized by the 'Occupy Wall Street Movement' in all major American cities are signals of this growing discontent. Comparable responses in other industrialized countries show that these governments have their problems too.

At the national level, most European countries have maintained a certain social balance through negotiations between the government, employers and trade unions. In international issues, however, governments and trade unions have hardly any say. Multinationals have free play, and are not in favour of regional and global political structures. Their aim is to make quick profits and to reaching maximum stock market values to satisfy the shareholders. In the meantime, the inimical take-over of companies and banks continues and the granting of high bonuses to captains of industry are standard practice even if their firms go bankrupt through mismanagement. Globalization therefore should not be restricted to the economic sector but also take shape in the political and social sectors of society within the ecological capacity of our planet.

What are the options that remain after the debacles of the centrally guided economy and the free market? New dictatorships are not acceptable anymore and thus will be of no avail. Lasting solutions need broad support rooted in democratic discussions between all partners. New ideas and sustainable modern lifestyles can thus be developed. Some people advocate the return to religious leadership in society. However, this will inevitably result in struggles between, or suppression of, religious groups. In addition, fundamentalism does not necessarily create jobs but may lure young people to desperate deeds of terrorism. We had better focus on the sustainable well-being of humanity in our home, Blue Planet Earth.[19] Erasmus once said: 'The World is your Fatherland'.

The terrorist attacks of 11 September 2001 on the Twin Towers in New York and the Pentagon in Washington, DC, caused a shock wave that made the entire world suddenly aware of the hatred generated by the international political tensions, particularly in the Middle East.[20] They also marked the beginning of the 'War on Terrorism', launched by US President Bush, Jr.[21] The reasons why Bin Laden decided on this spectacular action have not been seriously explored. Was it anger about the geopolitical role of the US in the region, discord with the powerful oil imperium build up in cooperation with regional rulers,[22] or envy of the wealth of the decadent western nonbelievers? The reasons why Bush had to attack Iraq, with so much power displayed in searching for weapons of mass destruction that did not exist, are also seldom discussed. Any ties between the Iraqi Government and Al-Qaeda have never been proven. Hurt pride resulting from the events of 11 September may have played an important role. Concerns about oil interests and pressure by the American military complex are other factors. The invasion was not the easy 'cake-walk' predicted by

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Bush and the idea that Iraq could be transformed into a western democracy by military means turned out to be a failure. The war on terror and the search for Bin Laden continued in Afghanistan at enormous cost but was not successful either. The damage in the areas of combat is great but the damage to international relations is much more important. In fact, all of us now live in a kind of 'everywhere war',[23] with a 'big brother is watching you' syndrome,[24] an increased fear of terrorism and an invented 'axis of evil'.

The Way Ahead

We are exhausting the resources of the Earth and have reached the limits of growth. Fortunately, however, we can make better use of existing resources, create new materials and invent new methods of energy production using modern science and technology. The last few decades have brought interesting developments in this area but they are as yet quite insufficient to solving today's global problems. The growing concern of the public at larger is positive and so is the attendance of Heads of State and other decision-makers at global meetings on the subject. But much more has to be done.

Mutual cooperation and proper governance at regional and global levels are therefore a must for the future. This multi-focus globalization process, also known as glocalization, should not be restricted solely to economics but also encompass social and environmental issues. The struggle of Europe to achieve this is a promising example, but also shows how difficult it is to establish and maintain the required solidarity. Monolithic nation states should be avoided because they deprive citizens of the possibility of living with and respecting people with other ways of life. Dictatorships, based on political issues or religion, have similar negative effects. In addition, sooner or later they will lose the support of their community and thus sustainability. Lasting results can be reached only when decisions are rooted in the free will of the people in a democratic system. We should regulate the free market and prevent an economic and cultural selling-off globally.[25–27] Furthermore, we should urgently and with great invention, cope with the limits of growth. Humanity must embark on a new course to create a liveable society[28] and be prepared to defend it. But will we succeed? Predicting the future is, of course, impossible; a pandemic super-plague or a major natural disaster may change the picture completely. However, continuing our present course may lead to the self-destruction of humanity. Preventing this is our common responsibility. The future is in our hands.

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