

Energy: The Time Frame for the Transition to Renewable Sources and the Question of European Power

For quite a considerable time now, scientists and economists have been debating the question of the possible depletion of the traditional (so-called non-renewable) energy sources that constitute the basis of the global economy and are the irreplaceable driving force behind growth in the developing world. Given the clear nature of these resources (oil, gas, coal, uranium) — they are “non infinite” and non renewable —, the debate, which has now reached the mainstream media, focuses on two crucial and inter-related questions: a) How many years or decades can we reasonably expect to elapse before these energy sources are completely depleted? And b) What technical and financial resources will have to be employed, and in what quantities, in order to develop economically acceptable solutions based on the use of replacement “renewable” sources of energy, such as photovoltaic solar systems, hydrogen, fuel derived from agricultural products, etc. (and again, what time frame are we looking at?). This is a debate that is unfolding alongside and often overlapping another dramatic issue facing today’s world: the risk that the continued and indiscriminate consumption of fossil fuels, and the consequent increase in the gases responsible for the greenhouse effect, might worsen dramatically, maybe irretrievably, the conditions of life on our planet.

It is over this question of the “time” that remains in order to complete this transition that the experts are divided. The first scientific studies aiming to identify the production-consumption ratio (albeit with reference only to oil) date back to the mid-1950s and to the work of American geologist M. King Hubbert who, based in the laboratories of Shell Oil in Houston, calculated that production of crude oil in the United States would peak (hence the term Hubbert’s peak) at the start of the 1970s, after which it would, gradually and inexorably, decline. With the benefit of hindsight, we know that Hubbert’s calculations were correct and that the USA’s oil production peak did, indeed, come in 1970.

Hubbert himself, and others in his wake, endeavoured to extend these analyses and to work out on a global level how long it would take for energy sources to run out completely. Obviously, enormous difficulties were encountered in the course of these latter studies (compared to those conducted in the United States, where the data available had been reliable and plentiful), on account of uncertainty over (or partial ignorance of) the real extent of the world reserves. At the end of the 1980s, for example, many of the leading OPEC oil-producing countries reported sudden increases in their proven oil reserves but failed, however, to supply details that would have allowed these figures to be verified. Leaving aside the more technical aspects of these studies, which were nevertheless based on solid (albeit prevalently statistical) scientific methods, what must be underlined here are their conclusions, which, to a great extent, highlight that the “supply/demand” ratio for oil will reach its “highest point” sometime in the next ten years.

Conversely, we also read of more optimistic predictions that indicate a time at least twenty or thirty years hence, or that even hypothesise, as Leonardo Maugeri says in his recent book *The Age of Oil* (Westport, Ct., 2006), that there exist in the earth’s subsoil as yet undiscovered reserves of oil, including “unconventional oils” (which will be exploitable thanks to improved extraction technologies, rendered profitable by hiking prices), sufficient to postpone the point of depletion to some far-distant and indefinite time, making — at least for the foreseeable future — the very concept of the “peak” seem absurd. What we are faced with here is a complex equation, influenced by a great many scientific and technical-economic variables, not to mention purely political factors. It is thus not unreasonable to give credence to the more cautious and now generally accepted hypothesis and to accept that there does, in fact, exist a “time” in which energy sources will start to run out and that this time will come within the next twenty, or at most thirty, years. Remarkings on the global crisis deepened by the events of September 11, 2001, George Soros, founder of the Open Society, writes (*The Age of Fallibility*, New York City, 2006): “The core of the crisis is the tight supply situation of oil. The reasons are partly secular and partly cyclical. The secular factor is that oil consumption regularly exceeds the discovery of new reserves.”

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As seen with other crucial events in the history of mankind, whereas science may anticipate new problems and offer possible answers, its falls

to the world of politics to take the necessary decisions and to act. As recalled above, experts (scientists and economists) have long been pointing out both the problem of the finite nature of energy sources and the various energy-related environmental problems, most of them predicting that the relative crises will manifest themselves in a not too distant future. Equally, technology has developed some possible answers to these problems, which are now well known (recourse to renewable energy sources), and in some cases, thanks to technological innovation, valid solutions already exist. But the world of politics seems incapable of responding with the necessary speed and determination. As Colin Campbell wrote in 1997 (*The Coming Oil Crisis*, Brentwood, Essex): “In an ideal world, governments would properly study the resource base and understand the principles of depletion. They do not, and in democratic societies cannot, because they are elected for short terms and are therefore motivated to deliver short-term benefits to their electors. As a consequence, it is most unlikely that the governments of either the United States or the European Union will adopt an energy policy with the aim of preparing for the inevitable peak in oil production and subsequent scarcity.” Ten years on, nothing has changed. George Soros, in his book, cited earlier, drew attention to the recurrence of certain, sporadic crises (pirates in Nigeria, hurricanes in Texas and in Louisiana, the exacerbation of the conflicts in the Middle East, for example) that, once they are ultimately resolved (or, rather, dampened), result in an increased availability of crude oil and a relative reduction in oil prices. His point was that these situations fail, in the medium- to long-term, to alter substantially the oil depletion curves, and in fact “may sap the political will to deal with them; indeed that is what happened after the first energy crisis in the 1970s. It is liable to happen again.”

In truth, and shamefully late in the day, some governments have now raised this question and launched their first tentative initiatives. Unsurprisingly, the United States were the first to tackle the issue publicly. In his State of the Union address on January 31, 2006, President Bush, after declaring that “America is addicted to oil,” undertook to set up a vast programme of investment and research into renewable energy sources, the aim being “to replace more than 75 per cent of our oil imports from the Middle East by 2025.” Further details and further undertakings were contained in the 2007 State of the Union address. Even in Europe, on a political level, we can now observe a growing realisation — albeit more gradual and confused than in the United States — of the fact that we have to tackle the question of our dependence on non-renewable energy

sources, introducing long-term measures designed to make alternative sources of energy available and economically viable. Since it was obvious from the start that most of the EU states were not destined to get very far tackling the problem purely at national level, efforts were made to develop a collective approach. This led, in 2002, to the publication of a European Commission “Green Book” on the issue. This is an ongoing debate that, however, is inevitably conditioned by the substantially “confederal” nature of the Union, which — leaving aside the many declarations of principles, for example on the desirability of creating a “European Environmental and Energy Agency” — makes it entirely predictable that the responsibility for carrying out any plans decided at European level will be passed on to the individual states; indeed, this is what is already happening.

At this point, we can draw a few conclusions: the scientific and technological instruments needed for an effective “global” solution to the energy problem exist, and they presuppose the development of a system based mainly on a combination of different renewable sources; but it is inconceivable that these resources will be available under economically acceptable conditions before the second or third decade of this century (President Bush has talked of 2025), and even then, only providing the political powers have, in the intervening years, taken the decisions (major investments in research, more extensive and safer use of nuclear power, legislation to encourage the use of renewable sources, extensive campaigns to raise awareness of the need to save energy, etc.) that will allow the transition from the “theoretical” (scientific) stage to the stage of economically sustainable “industrial” realisation, as well as the start of a process of environmental recovery of our planet.

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But this will not suffice. While effective political initiatives undertaken today may solve the long-term problem, the world of politics cannot disregard the equally serious problem of the “transition period”, that is, the problem of the “short to medium term.” In the short to medium term, it will not be enough simply to prepare for the future (developing renewable energy sources); it will be a question of striving to survive on the resources that are currently available. In other words, it will be necessary to establish a world “balance of power” that will allow a fairer and more rational use of the resources that, although dwindling, still exist (oil, gas, uranium, etc.), and without which the economic development of

the various countries, in particular the most backward ones, would basically grind to a halt, having economic and political consequences that are all too easy to imagine.

It is not only a question of preventing deteriorations of the crisis situations, or even the situations of outright war, in the world, particularly in the areas where these resources are to be found (the Middle East, central Asia, Africa); it is also one of creating the conditions in which it will be possible to set in motion a sort of “virtuous cycle” that will help to foster their progressive — and not impossible — pacification. Today, on the other hand, the geopolitical choices of the world’s leading powers tend to aggravate these crisis situations. In particular, the United States (despite, according to Bush, planning ultimately to break its dependence on Middle Eastern oil) is well aware that, in the short to medium term, it is not in a position to do without the oil it receives from Saudi Arabia, the United Arab Emirates, Kuwait, and other countries in this region, and (using its claims that it is “exporting” democracy and striving to counter the threat of terrorism as an ideological cover for its real political and military objectives) is endeavouring to strengthen and develop controlling positions in the Middle East, in central Asia, and now in Africa.

China, for the time being at least, appears to have opted for a “softer” (and more positive) approach, partly on account of its currently lesser capacity for direct intervention. Indeed, the policy China has begun to implement is based on the building up of contacts (mainly established through diplomacy and enriched through its provision of economic aid) with many of the oil-producing countries in Asia, the Middle East, South America, and Africa. These are moves that, while falling within the sphere of traditional “power policy games,” could well lead to “escalations,” and create a real risk of a serious degeneration of the situation — and whether this occurs will depend on the extent of the transition, already under way, from a unipolar to a bipolar (USA and China) world political order. There have, indeed, already been signs of such an evolution of events — signs which should not be ignored. In January, China fired a ballistic missile that successfully destroyed one of its own weather satellites located more than 800 km above the earth’s surface. A spokesman for the Chinese Ministry of Defence was quick to stress that it was not China’s intention to engage in an “arms race” in space. But as *The Economist* pointed out (January 27, 2007 “Stormy Weather”): “it is hard to see the test other than as a display of China’s ability to challenge American space power.” And indeed the move certainly prompted nervous reactions from both the US administration and America’s allies in

Japan and Taiwan. Meanwhile, the United States' recent decision to encourage the intervention of Ethiopia (its ally) in Somalia and to create a special military command for Africa, must be viewed from the same perspective (that of a potential "confrontation").

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In this whole scenario of global geopolitical relations, the major European countries, too, are looking for a role to play. Germany, in particular, as revealed in a recent German Foreign Ministry document (info@german-foreign-policy.com), seems to be focusing on the possibility of establishing a special relationship with Russia through an agreement that would even extend to military collaboration, making provision for the joint deployment, in areas as yet unspecified, of "stabilisation" forces. The European Union, on the other hand, is nowhere to be seen, since, not being a real state, it lacks the normal instruments for intervention in international affairs, namely, a government that can express a single foreign policy and that has at its disposal not only a political but also a military apparatus, as well as sufficient financial resources to pursue a policy of support and alliance vis-à-vis the oil-producing countries.

Before moving on, let us get a possible misconception out of the way: whenever we mention the possibility that a "European power" (a European federal state) could intervene (in the Middle East for example) in order to protect its own interests, employing all the instruments of so-called power politics, we should not make the mistake of envisaging a return (now quite impossible) to Europe's colonial past, with its gunboats and landing parties. Instead, we should think back to the events of October 1956, when British and French (and Israeli) troops attempted to occupy the Suez Canal following Egyptian president Nasser's decision to nationalise it. To halt the Anglo-French campaign, the US president, Dwight Eisenhower, did not have to send in US troops (he sent in only an aircraft carrier as a token gesture): all it took to make the governments of France and Great Britain see reason was a telephone call to the British prime minister, Anthony Eden, in which the American president threatened economic sanctions against them (the sale of US treasury reserves of sterling and French francs) should they fail to withdraw.

Let us try to imagine what might have happened had a European federal state (a European federation) existed in 2003, at the time of the sudden deterioration of the Iraqi crisis. The federation's president (or his

or her delegated representative) would have discussed the situation with the US president — on an equal footing, as is possible only between sovereign states —, “recommending” that he persevere with the United Nations’ inspections programme, or with other diplomatic endeavours, and at the same time making it quite clear that should America persist in its unilateral and bellicose approach, the European Central Bank would have no hesitation in selling the US treasury bonds in its possession. One might say that this is the stuff of political fiction; indeed it is, given that no European federal state as yet exists. But we have to imagine concrete courses of action in order to appreciate fully the very real and positive opportunities that the founding of a European state entity could present.

In the absence of a European federal state, however, it is the nation-states that take the initiative, as in the case, mentioned earlier, of Germany and its return to an “ost-politik” approach in its dealings with Russia. From a federalist perspective, we should not find these “nationalist” choices particularly surprising. Whether we like it or not, and this applies to Germany and the other European states, the governments’ instruments (limited as they are) of political power still lie in the national framework and it is only to be expected that, in emergency situations, they will try to use them to defend, albeit partially and rather ineffectively, the interests of their electorate. The German government, like the French and Italian governments, are faced with the problem of ensuring that energy supplies, from Russia, Algeria, Iran, or elsewhere, are not suddenly interrupted, and even though they can see that a common (European) line would be beneficial and are indeed willing to set up cooperation agreements (by definition intergovernmental) to this end, they still employ all the national political instruments at their disposal, over which they have direct control (and for the use of which they are answerable to their electorate, in accordance with the principles of democracy), in order to guarantee that their own citizens will not suddenly find themselves without hot water, petrol or electricity. The result, of course, is choices that are contradictory and short-sighted, and that tend to create tension between the European states, even threatening to undermine the very balance of power underpinning the Union. A recent case in point has been the planned gas pipeline under the Baltic Sea (now under construction), which will allow Russian gas to reach Germany directly, circumventing Poland. At the same time, given the current framework of power in Europe, they are the only choices the states can make.

Instead, it is obvious that a Europe bound together as a state, that is, as the federation envisaged by Altiero Spinelli on Ventotene and by the

founding fathers of the European Communities in the 1950s, would be in a position to guarantee the European citizens real protection. It would fall to the European federal state, which would be equipped with the necessary instruments, to start negotiations with Russia — again, negotiations conducted on an equal footing between sovereign states — in order to secure just conditions that would guarantee continued supplies not only for Germany but for all the states in the federation. Equally, a European federation that were part of a broader confederal Union would have not only the power, but also the natural inclination to protect the interests of the Union's other member states.

Furthermore, a federal state (and only a federal state) would be ideally placed to promote and initiate, possibly through the United Nations, the “grand bargain” that is now widely felt to be absolutely essential in the Middle East if this area, which is in such close proximity to Europe, is to find a way out of the vicious cycle in which it is caught (the roots of which can, to a great extent, be traced back to the choices made by the Europeans at Versailles in 1919). In this way, Europe would be able to protect the legitimate interests of its own citizens, ensuring, for itself, fairer and better regulated access to the energy supplies it needs, at least for the inevitable transition period; but, more than this, it would also be able to promote a genuine “multilateral” peacemaking policy, feasible through recourse to diplomatic instruments and the launch of a serious programme of economic aid, thereby making its interests coincide entirely with its duty — the moral duty that derives from its acknowledgment of the wrongs of its colonial past.

There is clearly a risk, partly due to objective circumstances, that these choices will run counter to the interests of the United States (and, up to a point, of those of the other world powers); however, a Europe equipped with its own state apparatus (federal and not centralised) would be able to exercise true sovereign power, but a “softer” version than the prevalently military power wielded by the United States. It could, for example, give serious consideration to Iran's proposal to set up a new oil and gas “exchange” where transactions would be made in euros; but, at the same time, it would be in a position to insist that Iran, in return, acknowledge the existence of the state of Israel, and also to promote direct negotiations between Palestine and Israel that might culminate in the two states' acknowledgment of each other, in the definition of undisputed and clear borders, and in a system of international guarantees in which the European state, the United States of America (and possibly China, India and Russia, too), and the regional powers would all play a part, thereby

paving the way for a not impossible de-nuclearisation of the whole Middle Eastern area.

But all this hinges on the founding of a “European power” — a continental state that, albeit initially without the level of military capability of other continental states, would nevertheless be able to make its presence felt in the framework of international relations. The present European Union does not have the power to do this, and neither will it have should the Constitutional Treaty — certainly useful from the perspective of more efficient management of the EU’s confederal configuration — be approved, be it in its current state or after the possible minor modifications that would do nothing to alter its decision-making mechanism or enable it to exercise sovereign state power.

Time is running out. The energy crisis (and the equally alarming environmental crisis) are already under way and the scientists and economists have long since worked out their formulas, clearly pointing out the unavoidable alternatives facing Europe and the world as a whole. It could be that the oil peak will not come before 2025, as President Bush seems to think, or before 2030 (or even later), and perhaps the squaring up between the emerging Asian powers (China in particular) and the United States will be kept on a mainly diplomatic level. But what is certain is that all the leading players on the world stage — those that exercise sovereign state power — are already at work, not only to find more long-term solutions, but also to safeguard their interests in the face of the deadlines of the short- and medium-term period (the period of transition). Meanwhile Europe, conditioned by its own division, could soon find itself substantially in thrall to external powers, making the scenario that Luigi Einaudi hypothesised and, in vain, warned against over fifty years ago, seem closer than ever.

The Federalist

The Disunited States of Europe in Today's and Tomorrow's World.

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The collapse of the Soviet Union in 1991 altered profoundly the shape of international politics. Until 1991, the existence of a de facto duopoly had limited the freedom of action of the two world leaders. The duopoly then gave way to the American superpower, which was the only power capable of imposing its will on the world's big, or fast developing countries: China, Russia, India, and Brazil, and no longer required the Europeans' support. During the Cold War, the latter believed that they were making an important contribution to the global equilibrium, and the Americans did their best to encourage this belief. The superiority of the United States is not limited to its armed forces, but is equally manifest in the economic and cultural fields, as well as in research.

Until a short time ago, this superiority was exercised with prudence and moderation. At the start of the Cold War, the United States, maintaining its long tradition of non-interference in European affairs, displayed a wise restraint, born of its profound respect for democracy. The collapse of the Soviet Union, however, led to a definite change. The balanced system of international relations is no more. During the Iraqi crisis, the Americans responded with arrogant indifference to the resolutions of the UN Security Council, and showed total disregard for the collective security measures that the UN is bound to enforce, and these attitudes have had serious effects on the international equilibrium.

Another victim of the Iraqi crisis has been the Atlantic Alliance, which protected Western Europe so effectively throughout the duration of the Cold War. It has been deeply affected by the war in Iraq. Once an alliance of equals, it is now an instrument in the hands of the Americans, used to support American soldiers engaged in conflicts outside the geographical boundaries of the Alliance itself.

Finally, Europe — or let us say the European construction — has been the third victim of the Iraqi crisis. Instead of strengthening the solidarity that they have been striving to promote for the past fifty years, the disunited states of Europe have been unable to maintain the resolute and

dynamic approach expected of them. Indeed, with the exception of the single currency, the European Union has failed to make any significant contribution to the cohesion of its members. Its enlargement has been pursued in haste and in the absence of a political vision. The Iraqi crisis has exposed a deep divide in Europe, and the split is not between those who are pro-American and those who are anti-American, but rather between those who chose European unification as the means of regaining control of their own destiny, and those who have given up on it.

These crises and divisions have at least served the purpose of highlighting the ambiguities on which the activity of the Atlantic Alliance and the organisation of the Western world are made to rest.

Today's international situation is characterised by the transition from the bipolar world order, based on the Russian-American duopoly, to a world in which there is only one pole of power: the United States of America. It is a setting in which Europe lacks a voice. All we can now do is strive to create the conditions that will allow the emergence of a multipolar world, and make sure that we are ready, in good time, for its advent. This is an evolution, probably inevitable, that the Americans view with hostility, resignation and anger.

1. *Facing up to Reality.*

The European Union must also face up to the dangers and respond to the challenges arising from the evolution of today's world.

The first danger is the spread of weapons of mass destruction. In 1965, during the negotiations that led to the signing of the Nuclear Non-Proliferation Treaty, the efforts of the international community — with the US and Soviet Russia in the forefront — were directed at restricting possession of these weapons to the five permanent members of the Security Council. Faced with this truly one-sided contract, some countries — first India, then Pakistan — asked for, and obtained, exceptional treatment, undertaking, as they did so, to respect the Treaty and to behave with the same sense of responsibility shown by the five permanent members of the Security Council.

Since the collapse of the Soviet Union, however, the situation has changed radically in the matter of armaments. The restriction on the possession of nuclear weapons favoured by the United States and the Soviet Union has had the perverse effect of boosting the nuclear ambitions of countries, such as Israel and Iran, located in the world's most conflict-ridden areas. And other countries may well, in the near future,

wish to provide themselves with such weapons.

If the United Nations proves unable to ward off this danger, the great regional powers will have to do something about it. In one way or another, the international community will become aware of the need to protect itself against the lethal threat posed by weapons of mass destruction. The new, multipolar world order will be conditioned by this very grave problem — hence the intensity of the current debate on this issue. Europe, in all likelihood, will play its part in meeting this challenge. It must also respond to the expectations of its peoples; and help find an answer to two problems: the spread of weapons of mass destruction, and the protection of its own citizens; in other words, how to control the use of these weapons by other countries while retaining the possibility of employing them itself, should the need arise. The threat of a proliferation of nuclear arms raises the question of who should decide whether or not they must be used, and in this regard there seems, even in the long term, to be only one possible answer: a European *federation*.

There is a second concern: the rapid development of the “continent-states” — China and India in particular — is already affecting the availability of the raw materials needed by the industrialised world. The main problem is that of the probable, and probably imminent, exhaustion of gas and oil supplies and the rising cost of these resources. As a result of higher energy prices, alternative sources, like coal, bituminous schists, and aeolian and thermal energy, will become increasingly competitive. It is however likely that scarcity will generate conflicts. And while the producing nations seek to exploit their advantage, the disunited states of Europe will be struggling to obtain energy at reasonable prices. Shouldn't the Europeans get together to ensure that they are not crushed between the energy-producing nations and our competitors?

One of the most urgent and worrying problems facing us today is that of the growth of the world's population. While the developed world — and other, fast developing countries like China — have managed to curb the growth of their populations, in the poorest countries of the world the rate of population growth is still very high. The world has also witnessed migratory flows so strong that they have fostered attitudes of intolerance in those countries that have been affected by them. The nineteenth century saw vast migratory movements, too, and these proved to be the making of America; the twenty-first century, on the other hand, finds itself faced with unwanted migratory flows. The European states are all, to a greater or lesser extent, affected by these movements and will be obliged, before too long, to take adequate steps to regulate and channel

them. This, at least, is my hope.

The globalisation of trade has ushered in a new, even fiercer form of competition between the major industrialised nations. The phenomenon has its advantages; it is also fraught with risks. Some companies are induced to relocate their production to areas where the cost of labour is lower, at the risk of pushing up the level of unemployment at home; then there is the competition from Chinese and Indian industries, which, with such an abundance of labour at their disposal, can drive some European manufacturers out of business.

Globalisation and today's migratory trends threaten to trigger off conflicts between rich and developing countries, in a global setting characterised by the dire poverty of the world's underdogs, and by the selfishness, mixed with a growing sense of guilt, of its rich populations. There is every chance that racial tensions will emerge, or indeed tensions between groups belonging to different civilisations. The racism/anti-racism debate might thus come to dominate the course of this century, just as the fascism/anti-fascism and communism/anti-communism conflicts did the last one.

All these developments, which threaten to make things difficult for Europe, must be viewed in relation to other rivalries, which have not yet declared themselves openly. The disunited states of Europe will not be able to stand up to China for much longer. Neither will they be able to influence the political situation in the Middle East, even though they are likely to feel the impact of its crises. Europe, if it wants to be heard, and be able to act, must attain an adequate level of power, or "critical mass." But it will not be recognized as such until it has overcome its frustrations by providing itself with institutions that work and are geared to action.

2. The Means.

Does Europe have the means to make itself heard, and respected in the face of today's major powers: the United States, but also China, Russia and India? It must be accepted that Europe is no longer the protagonist on the world stage that it was during the five centuries of its hegemony.

I shall not dwell on Europe's role in the process of industrialisation. Industrialisation, particularly in the nineteenth century, was the true driving force of European power. With the defeat of Hitler in 1945, that power came to an end, and this new state of affairs was illustrated by the failure of France and Britain's intervention in Egypt in 1956. During the Cold War, the world was dominated by the Soviets and the Americans.

Fifty years on, the Russian-American duopoly is gone; it has been replaced by American unilateralism which, in turn, is set to give way to a more complex international pattern based on a global arrangement in which Russia, China, Japan, India and Brazil will all take part.

After 1945, Europe set about rebuilding itself. It is rich again today, and might therefore wield military and economic power. Yet it does not. Is this because the means are wanting? Not at all. The European states spend a sizeable proportion of their gross domestic product on arms that are certainly not inferior to those of the Americans and Russians. Europe has the means, and the question remains: what to do with them?

Since the disappearance of the Soviet threat, various views have been taken of Europe's defence; but there still remains a built-in contradiction. The point has been made that the European defence system will not be credible unless it is based on the pooled forces of France and the United Kingdom, the only countries whose armed forces are up to scratch. The trouble is that the British give priority to their relations with the United States and want the organisation of Europe's defence to come within the framework of NATO, which is the same as saying that they do not want Europe to have an autonomous defence capability. But if Europe wants to become an independent factor of the new world order, it cannot allow its defence to be capped by NATO.

All the experience that has been acquired and all the efforts that have been made to set up a Western European defence system have failed to produce any results, because despite the presence of various national armed forces in Europe, what is lacking is one common European will in the sphere of defence. The military means are there; the will to act as one is not. During the Cold War, Europe's armies were united in a coalition which enjoyed a measure of credibility, since the forces stationed all over Europe were mostly under American command. When the Soviet threat disappeared, they all wanted their freedom back. In the wake of this, efforts were made to integrate them, so as to lend credibility to the new system. Such efforts are certainly commendable as a move in the right direction, but they do not make it possible to take the decisive step towards the creation of a common European army, which requires that the decisions on its deployment should no longer rest with the national governments, but with a supranational authority.

Europe's means are not restricted to the sphere of defence. After the end of the Second World War, Europe rebuilt its economy; its gross domestic product increased significantly and so did trade. There is no doubt that the principles on which the European Economic Community

was founded, and developed, contributed in no small degree to this evolution. Great Britain's change of attitude, from initial scepticism to membership of the EEC, proves it: the British realised that joining the Community would favour economic growth.

The European Community is a success story that can be summarised in a few words: the abolition of customs duties, and a common policy decided by the member states on the basis of proposals put forward by an independent authority — the Commission. Candidate countries are required to accept the set of rules of which the European Commission is the keeper.

Europe, then, has adequate economic means. The question is, could this situation lead to a true unification; not only of the market, but also of economic policies?

Currently, the ultimate responsibility for economic policies is still in the hands of the states and thus there is no true European government of the economy. Those who created the European Community first, and European Union later, were convinced that the work they had done would lead, almost automatically, to a strengthening of the European institutions. The introduction of the single currency has certainly been a big step forward. But until the management of the economy is vested in an independent authority that can be an effective partner with the European Central Bank, the national systems will continue to prevail. Once again, the means are there, but they have not been used to get beyond the intergovernmental stage.

The European project initiated by the Treaty of Rome has been an undeniable success and its results are clearly visible today. But whatever substance has been given to Europe so far is the work of the “community spirit” alone — the initial impetus of fifty years ago. Attempts to extend its powers through agreements between governments have failed. It has been possible to implement the provisions of the Treaties of Rome, but the extension of Europe's remit in the second domain, or “pillar” (security, defence, CFSP) has failed to get beyond the first tentative steps, while the return to the intergovernmental method in relation to the third “pillar” has compounded the weakening of the Community.

This return — by no means new — to the intergovernmental approach accounts for the gradual decline of the enthusiasm that had marked the years of the European Community's construction. Today, as the French and Dutch referenda clearly showed, inertia and resignation prevail.

The intergovernmental method returned to the fore when the member states embarked on a new phase in the development of the Union,

extending its remit without the fundamental choice having first been made between the intergovernmental approach (which implies the maintenance of the member states' right of veto) and genuine common policies of a supranational nature.

The competition between those sectors managed by the Community method and those where the intergovernmental approach prevails has not favoured the former. Despite the efforts of the Commission to guarantee adherence to the terms of the Treaties, it has to be acknowledged that there has been a drift, or regression, towards intergovernmental methods. Even the most sincere Europeanists, staunch supporters of the European Union, ultimately find themselves proposing intergovernmental solutions in order to facilitate the working of the Union, putting forth, for example, the idea of a "directoire," falling back on existing structures, or indulging in power politics. The European Union, like the European Community before it, has adequate means at its disposal, but these should serve a definite project. Instead, to all intents and purposes, it is as though the UK, which (from the time of its initial application for membership of the Community) has always made it clear that it would like to have Europe turned into a free-trade area managed by the intergovernmental method, had, over the years, won its case against supranational integration.

The extension of the areas in which the member states cooperate according to the intergovernmental method has been accompanied by the Union's geographical enlargement, following the entry of new member states. Initially conceived for six countries linked by their history, geography, standards of living, and social and economic experiences, the Treaty of Rome, which is still the basis of the European political system, now embraces twenty-seven countries. And we are faced with the prospect of admitting more that, from a cultural, political and social point of view, seem to have little that can define them as European. One thing is sure: the enlargement of the EU to twenty-seven countries has radically altered the profile of Europe. And, as already noted, this enlargement, with all its consequences, occurs at the very moment when the member states are extending, and plan to extend further still, the Union's field of activity through a return to the intergovernmental method. This double enlargement reveals a tendency wholly alien to the bid for "an ever closer Union" which was at the core of the European building project. The fact is that Europe, in relation to its defence as well as its foreign policy, is now going through a severe identity crisis and is up against a fundamental contradiction.

Defence, again, is a case in point. To be truly credible, it should be free

from foreign interference — that of the US in particular; but to be truly European, it should be in the hands of a political power, directly invested by the peoples of Europe, not by their governments alone. The fact must be driven home that, in the current situation, strength does not lie in numbers; numbers are, if anything, a source of weakness.

3. *“When There is a Will, There is a Way”*.

The problem of Europe today, which relates to its place in the world and its historical influence, is still the same problem that emerged in the wake of the second World War. At that time, rebuilding Europe was regarded as the major objective because it was believed that this would give the Europeans the means to retrieve their independence and their rightful place in the world, and in history.

The years after May 9th, 1950 saw enormous progress, above all in terms of reconciliation among the Europeans. This required, first of all, the forging of new relations between France and Germany, based on the fact that the two countries now shared the same destiny. However, to prevent this reconciliation from being a mere flash in the pan, it is now imperative that these two peoples reaffirm their will to unite. And they must not be the only ones to do so. The three Benelux countries, Italy, France and Germany all narrowly escaped destruction in the turmoil of the Second World War.

For Europe to succeed, it must steer away from the intergovernmental formulas which may occasionally give the impression of allowing progress, but in fact do not make it possible to build a strong and enduring political entity capable of offering its citizens the exciting prospect of recovering the place on the world stage that, historically, is theirs.

We need to dispel the ambiguity attached to the term “Europe.” Europe is a geographical area whose borders are far from clearly defined, as shown by the hazy limit of the Ural mountains, and by Turkey, which, while an integral part of the European “concert,” is truly alien to Christian Europe, as our forefathers realised in the second half of the fifteenth century. The ambiguity of the term “Europe” was apparent again when, after the internecine wars of the nineteenth and twentieth centuries, efforts were made to restore the so-called “European concert.” The Europe of the Vienna Congress, of the Paris Congress, of the Berlin Congress, and of the Treaties of Versailles has little to do with the political notion of Europe. Where does Russia fit in? And what about Turkey?

I believe that the Europe whose advent we hope for should be one that delivers a political message, is powered by a common will, and is known as “Europe” just as the US is known as “America.” Europe is built around a project rather than a geographical area. Just as the United States developed the idea of a “clear destiny,” so the time has come to promote a Europe based on a conjunction of wills, in other words, a *federal Europe*, a *European federation*.

In 1950, Europe was born of a great ambition: to regain its rank, power, and influence through the pooling of its resources. Today, on the contrary, it lies dormant, unaware of impending dangers. To be present, and active, on the world stage, it must once again find the will to shape its own destiny.

The European Union of today is not the Europe that we dreamt of, and are still dreaming of. It is a disunited Europe that Washington does not take seriously and its own citizens deride. The time has come to find, once again, the drive and energy that allowed the advances of the '50s and '60s, and to create a European federation with a great, new ambition. It must necessarily rest on three pillars.

The first and most important of these is independence. This has become an absolute priority since the end of the Cold War era, when the world had to wake up to the fact that there remained only one superpower. Until then, the transatlantic bond had mattered more than independence. General De Gaulle was in fact ahead of his times when he made independence a priority, as the Bundestag's separate protocol to the Treaty of the Elysée (1963) showed. Independence means not being at America's beck and call. Independence conditions and signals the European federation's bid to control its own destiny, which means standing apart and, if necessary, opposing the US.

The second pillar is Europe's standing: the European federation cannot be confined to a lower-profile, subordinate role — that of second fiddle to the world's leading power. Rank, of course, must be based on realities: a large population, a high national income, the highest possible level of know-how; but the pooling of the factors of power — currency, defence, diplomacy — is bound to enhance the federation's standing in the world.

The third pillar is the achievement of stability. The Europeans, from 1990 up to now, have acted in the belief that a country's stability could be guaranteed by granting it entry to the European Union. Given that the EU has succeeded in ensuring stability for its institutions and their activities, it has been felt that the most effective way of guaranteeing the

stability of countries torn apart by vicious internal conflicts (one need only think of Turkey, Cyprus and the former Yugoslavia) was to open the doors of the EU to them. In my view, stability cannot be achieved by taking on the problems and tensions of a few countries that see Europe as a way of escaping their own responsibilities. The important thing is to create, within the *European federation*, a centre of power that, through its influence, will be the best guarantee of stability for all the regions around it.

The fact remains that Europe finds itself up against the intrinsic limitations of the new international society. In the course of history, Europe has left its mark on the two Americas and, to a lesser degree, on India, Indochina, Indonesia, China, Japan and Korea, the very states that are now challenging it for a place which, owing to the disproportion of the forces in the field, they once allowed it to have. Europe once held sway over the Arab-Muslim world and black Africa. What are, then, the chances of its rising again to a place of eminence?

The Soviet Union died fifteen years ago, and, in its absence, Europe — first the twelve-member and then the fifteen-member EU — has followed America's lead, giving the impression of being its "brilliant deputy." The disunited states of Europe have failed to come up with any ideas of real value, particularly since the Eastern European states broke free from the dominion of the Soviet Union. Meanwhile, the only meaningful project that Western Europe has advanced has been that of a "confederation," independent of the United States, which, however, the newly liberated countries would not accept. Europe found nothing to say in response to the crises that hit the former Yugoslavia, even though France and the UK could have taken the initiative. It has kept silent, too, over the more recent problems of weapons of mass destruction and of the Middle East. It is true that there has been strong opposition to the war in Iraq in some of the major Western European countries, but this has gone no further than public demonstrations of hostility and anger. More alarming still is the impression that Europe has lost the will to enforce its own point of view. It often seems to be pulled along in America's wake, at the mercy of its ally's moods. Can we really can be surprised, then, when some people conclude that, fine though it is, the European dream no longer appeals to the younger generations?

On the strength of my long acquaintance with European history, my equally long experience of international affairs, and the fifty years in which I have been able to observe the European institutions at first hand, I feel qualified to suggest a new departure — a solemn call by the six

founding member states of the European Community to set the process of European unification going again. An uphill enterprise to be sure, but a thrilling one; and the other ways lead nowhere ...

In order to make proper headway, the process must, in my opinion, be restarted by a small group of countries. The European Union as defined by the Nice Treaty need not be abandoned, but the pace must be quicker and bolder; there should be no second thoughts, and priority should therefore be given to the drawing up of a *federal pact* by the governments of the Six with, if necessary, a new Treaty within the Treaties.

Why not, in the spirit of the Messina Conference, restart the negotiation of a federal pact? Why not bring it home to the populations of Europe's six founding member states that Europe is not a tangle of rules that blurs its true aims? Why not insist on the importance of subsidiarity, leaving it to the national institutions to look after their own affairs in less crucial areas? Why can't the Six devise a common foreign policy? Why not create the economic government that the single currency is crying out for?

Whenever it has been followed, the federal way has always brought success, whereas the intergovernmental approach has always led to compromises, hesitation and weariness. The European idea is so strong that, even where the intergovernmental approach prevailed, some progress was still recorded. However, the reality before us now is a stark one: without a fresh injection of energy, we are bound to witness the death of the European project and a return to the past.

Who on earth can believe that the EU, with a budget amounting to just 1 per cent of its GDP, has the necessary means to meet the challenges of the modern world, when a federal state like Canada devotes 50 per cent of its resources to the federal budget, nearly as much as is allotted to the budgets of the provincial states?

The defeat of the referendum in May 2005 is not to be attributed to too much federalism but rather to the sense of disappointment caused by the ridiculous wasting of a great ambition on issues like the hunting of migratory birds in southeast France, or clam fishing. This is why we must pin our hopes on a federal pact negotiated among Europe's six founding member states and ratified by their peoples.

Huge difficulties face us, it is true. But can we honestly believe that they were less on May 9th, 1950? Are reconstruction, wealth and harmony really greater obstacles to progress than ruin and quarrels? When shall we realise that failure to move ahead means moving back? Can the peoples of Europe be really so blind as to believe that their former rank

and independence can be regained without their relinquishing a part of their sovereignty? Such transfers of sovereignty, if they are not made in favour of Europe, will in any case be made in favour of the major states making up the new international community.

The federal pact must create institutions that rule out a return to the past and design policies which will chiefly be supranational. It is time to embark, once again, on a bold policy of movement and to stop lamenting over our weakness. The time has come to appeal to the peoples of Europe's six founding member states. Of course, their citizens are no longer the same, and circumstances, too, have changed. But what hasn't changed is our history, which revives our dreams of greatness. It is essential now to point to a way forward that is certainly more difficult, but also more thrilling, than those of the past. The time has come to show our peoples the path leading to federation, the way that involves vast transfer of sovereignty. It must be understood that without such transfer of sovereignty, Europe will not regain its historical place in the world. It will be a puppet in the hands of the great powers and its citizens will remain as disillusioned and disheartened as they are now.

It is time to propose, to them, a radical reform of the institutions, which must become federal institutions based on an agreement vesting in a supranational authority the responsibility for the management of currency, diplomatic relations, foreign policy and defence. This pact must be ratified by the different countries and submitted to a referendum.

Clear limits will be set on the federal power. The supranational power need not take care of everything, far from it. Indeed, it should not involve itself in minor issues, like clam fishing, which so often trigger off disputes, and pay more attention to the really big ones, such as the reconciliation of France and Germany. Isn't this, after all, Europe's major political achievement of the past half century?

It might be specified, for example, that only the main problems (weapons of mass destruction, collective security, international relations, war and peace) should fall within the remit of the federation. Local crises could be dealt with through missions entrusted to a single state or group of states, without necessarily involving the federation: this would be consistent with the principle of subsidiarity. If the steps taken at national level were to prove inadequate, then, and only then, would it be necessary to appeal to the higher — federal — level.

Our objective today is to try and inspire a new ambition in the Europeans engaged in the federal adventure, to make this prospect of recovering control over their destiny an exciting one. Federation does not

mean renunciation. Quite the opposite. But it demands firmness of purpose, the will to be independent, to keep one's rank, to be once again in charge of one's future.

The Ecocentric Approach to Sustainable Development. Ecology, Economics and Politics

GUIDO MONTANI

“... humanity is in a final struggle with the rest of life. If it presses on, it will win a Cadmean victory, in which first the biosphere loses, then humanity”.

Edward O. Wilson¹

1. *Is Ecology also a Socio-Historical Science?*

Ecology developed towards the end of the XIX century as a particular branch of research of some natural sciences, thanks to the first successes of evolutionism and biology. Ecology's specific field of study is the ecosystem, which is described as “[...] a complete structure with living beings related to each other and to their inorganic environment, totally open, but capable of self-regulation up to a certain point.”² Nonetheless, ecology very soon involved also scholars of the humanities. Indeed, it seemed necessary to consider the *homo sapiens* species as a living being whose presence conditions the evolution of ecosystems. As a matter of fact, the ecosystems inhabited by *homo sapiens* are at risk of losing the equilibrium that allows them to self-regulate. Therefore, those who want to remove the causes that put the ecosystems in danger must concentrate on the species that, more than the others, appear to be responsible for the destruction of the ecosystem “Earth” or biosphere.

The *homo sapiens* species is today studied by the so called social or cultural sciences, which include history, philosophy, linguistics, sociology, psychology and so on. Indeed, the human species seems to differentiate from the other living species because of its particular capacity to develop, thanks to language, groups of articulated symbols, which direct and condition the relationships between individuals in society, such as myths, religions, cities, tribes, enterprise, states, etc., to sum up, what we describe as civilisation. It could therefore be possible to claim that

humankind created for itself a second “cultural” nature, which conditions its way of life in an even more decisive manner than the first “biological” nature, from which it distances itself more and more. This is the direction which the investigation of those who propose to discover a specific conduct of human beings in relation to all the other living species should probably follow.³

The task that we now intend to face is, however, different. If we admit that the ecological problem is due to the overcoming of the “degree of self-regulation” of ecosystems because of the non ecologically compatible behaviour of the *homo sapiens* species, we can concentrate our attention on the economic and political systems, from the functioning (or malfunctioning) of which the biggest threats to the integrity of the natural environment ensue. For example, the greenhouse effect, which is responsible for the rising temperatures of the Planet, depends both on the quantity of polluting gases discharged into the atmosphere by the world system of production and on the lack of political will of the national governments to intervene efficaciously. A similar claim may be developed also for the loss of biodiversity, because the extinction of many living species depends both on the continuous transformation of ecosystems into activities aimed at satisfying exclusively human needs (and not at the survival of other animal or vegetable species), and the neglect, or complicity, of the political system, which does not take responsibility for preventing certain human activities from putting at risk the survival of other species that live on the Planet.

Economics and politics hold an important position within the panorama of the socio-historical sciences thanks to the creation, as from the Middle Ages, of the modern State. The contemporary age is characterised by a more and more distinct division between civil society — the autonomy of which is revealed not only in the cultural sphere, but even in the market — and political society, which monopolises the power of government. This historical transformation of the organisation of society and of the forms of government developed together with the evolution of economics and politics as the first theoretical disciplines which attempted to explain, by partially using the natural sciences as reference models, the behaviour of individuals committed to the market and to the struggle for power. Max Weber rightly claims that the socio-historical sciences work out typologies (nowadays, we prefer to talk about models) as conceptual tools that explain some aspect of the social situation, without providing an exhaustive explanation or replacing it (however, the mistake of exchanging the model with reality frequently occurs and is maybe

inevitable, because the socio-historical situation exists since it is a system of dominant cultures, where models of alternative types of lives continue to confront one another).

It is now necessary to clarify whether there is place for ecology, as a socio-historical discipline, next to economics and politics, which have already been consolidated as academic subjects in the course of the modern age.⁴ The answer to this question is negative if one considers the ecological problem as per its nature interdisciplinary. Since it deals with the relationship between the human species and the other living species, it must therefore be dealt with by nature scientists in collaboration with socio-historical scholars, who must extend the boundaries of their studies in order to include the ecological problem in their theoretical paradigms. In some manner, this process is underway. The formation of disciplines such as Ecological Economics is in every respect following this direction, even though a similar systematic enlargement of the field of research of politics has not yet taken place. Nonetheless, these developments, *per se* desirable, may encounter insurmountable barriers because of the theoretical postulates on which these disciplines are founded. Economics and politics were created to study intra-specific behaviour between human beings. Ecology, hypothetically, must deal with inter-specific relationships. It cannot be excluded that *homo sapiens* may develop in time an independent ecological behaviour in relation to economics and politics, namely new behaviour concerning the relationship between the human species and the other living species. One could actually claim that today we are at the dawn of a new discipline: ecological behaviour will reveal itself in so far as individuals modify their relationship with the natural environment and civil institutions accept and consolidate the new culture.⁵

We intend to address this problem in this paper, with the awareness that a clear distinction among the fields of study of the various socio-historical disciplines is imperative to improve their analytical power. The understanding of ecological behaviour can contribute in a decisive way to the discovery of the political and institutional reforms needed to solve the ecological problem. In the following pages, after having taken into consideration the difficulties stemming from the anthropocentric approach to sustainable development (at times described as *weak sustainability*), as an alternative, an ecocentric approach (also described as *strong sustainability*) will be advocated. The ecocentric approach enables us to concentrate our attention on a crucial aspect of ecology: the limits, usually brought to light by the nature scientists, of human exploi-

tation of ecological goods. It will therefore be easier to pin point the necessary reforms in order to allow the economic and political institutions to warrant sustainable development. In the conclusions, some research guidelines will be outlined for ecology as the science of sustainability.

2. *Sustainable Development: the Anthropocentric Point of View.*

In the second half of the XX century, the perception of the growing degradation of the natural environment brought about by the industrialisation process aroused an intense debate on the relationships between the economic system and environment, from which some guidelines concerning environmental policies emerged, such as the “polluter pays” principle. In this context, particular attention should be paid to the concept of sustainable development, which is sanctioned in the *Brundtland Report*, of 1987, drawn up by the World Commission on Environment and Development. This *Report* considers as sustainable the development that “meets the needs of the present without compromising the ability of future generations to meet their own needs.”⁶ Through this definition, a link is made between the notion of development, which the economists had conceived exclusively as the growth of the per capita income, and the environment, from which the necessary resources for production are taken to satisfy human needs, and where the waste of industrial activities and of consumption is dumped. Furthermore, it also establishes a link between generations, since the indiscriminate exploitation of the present resources can compromise the welfare of future generations. There exist therefore “limits” to economic growth, which the *Brundtland Report*, however, describes as “relative.” Actually, the concept of sustainable development implies “not absolute limits, but limitations imposed by the present state of technology and social organisation on environmental resources and by the ability of the biosphere to absorb the effects of human activity.”⁷

The notion of sustainable development has had an undisputable positive impact on public opinion. Awareness of the interdependency between economics, politics and ecology has grown, and certain initiatives of both businesses and governments for the safeguarding of the environment, though in differing ways, are more and more widespread. Thus the request for the best techniques to evaluate the sustainability of public interventions was stimulated.⁸

This progress, however, must not overshadow the fact that the notion

of sustainable development, as it is described in the *Brundtland Report*, presents ambiguities which make its application inefficacious. The objectives are manifold and the political priorities are not very clear.⁹ The biggest ambiguities, which we want to discuss here, concern the relationship between ecology, technological progress, human needs and the present “social organisation,” in other words the institutional context in which the environmental policies should be implemented.

First of all, let us consider the relationship between technical progress or, to use a more neutral expression, technological change, and sustainable development. Since the notion of sustainable development concerns the relationships between different generations, that is a long period of time in an age in which rapid technological changes occur, inevitably one has to admit the chance of major technological changes. The XIX and XX centuries witnessed a systematic attack by humankind and its economy on the environment, which caused increasing devastation. The present century, one might assert, could become the beginning of a harmonious relationship between humankind and nature, thanks to ecologically compatible production techniques. In this regard, the attitude of scientists and economists tends to change. It goes from phases of dark pessimism to phases of decisive optimism. The theories on endogenous growth may justify an optimistic vision of the future in so far as it is possible to plan the exploitation of “oriented” knowledge to reduce the “scarcity” of natural non-renewable resources and to diminish the harmful effects of waste in the environment.¹⁰ In actual fact, it is impossible to deny that the present challenge humankind must face, that is to provide for the survival of about 9 billion individuals on the Planet within 2050 without compromising the liveability of the biosphere, can be won only with the aid of ecologically compatible technologies, starting with the replacement of polluting forms of energy with clean and renewable forms of energy. Nonetheless, an unlimited faith in the possibility of the discovery and introduction of new technologies can play an ominous role, because it justifies the postponement *sine die* of the necessary reforms which are already possible. For example, the ecologist Lomborg thinks that “given our past record, it is likely that by humanity’s creativity and collective efforts we can handle and find solutions to these problems” and that “mankind’s lot has vastly improved in every significant measurable field and that is likely to continue to do so.”¹¹ Faced with this unlimited faith in human creativity some perplexity is legitimate. The current productive system, still structurally based on “dirty” technologies which are more and more widespread in developing countries in their desperate attempt

to catch up with the living standards of the richer and more polluting countries, can generate irreversible damage, in the short term — shorter than the miraculous inventions Lomborg is expecting — such as devastating rising temperatures or the extinction of a high number of living species, which are absolutely necessary for the equilibrium of the biosphere. Furthermore, faith in the goodness and efficacy of the institutions (“the collective effort”) seems to be badly placed. The international political order has not changed radically compared to that which allowed the first and second world wars to break out. Modern technologies, from nuclear to ICT, which require the support of satellite systems in order to be effective, often have a dual use, civil and military. What is being done to prevent a third world war, which would certainly destroy many of the species that inhabit the Planet (including the *homo sapiens* species)?

The second ambiguity of the concept of sustainable development concerns the relationship between the satisfaction of human needs and the safeguarding of the environment. It is the relationship between two objectives that may be considered as rival or complementary, according to the historical and institutional context in which one raises the issue. The lack of clarity on the nature of this relationship has generated a debate that is often confused and misleading. The origin of the problem is to be found in the mandate that formed the UN Commission which suggested the concept of sustainable development. For the *Commission on Environment and Development*, the overcoming of the gap between rich countries and poor ones represents one of the prevailing concerns. The notion of sustainability was originally intended in the dual meaning of the elimination of the gap between rich and poor peoples and the elimination of environmental degradation, caused by the pressure of the world capitalistic system on natural resources. By exploiting this dual meaning of sustainability, many ecological movements and some theorists have attempted to pour the new wine of ecology into the old casks of the schools of thought which emerged in the XIX century. For example, some neo-Marxists¹² have tried to uphold the thesis that the world capitalistic system — which generates growing gaps of wealth between the rich and the poor, colonialism, the exploitation of cheap labour and of the natural resources available — is the main cause of environmental degradation at world level. Capitalistic globalisation and the exploitation of nature are, according to them, two sides of the same issue. The defence of the environment coincides with the removal of the capitalistic system.

This interpretation of the causes of environmental degradation was inflicted a heavy blow by the break-up of the USSR, which revealed how

systems with central planned economies exploited natural resources just as much as market economies did. Yet, one should not be too surprised about this unpleasant situation. The industrial civilisation uses technologies the function of which is mainly to transform, as efficiently as possible, certain natural resources, with the use of manpower, machinery and energy, into goods, which have a much lower cost, and are therefore competitive, if they are produced in large scale. For this reason, in so far as the developing countries, such as the Asian tigers, China, India, Brazil, etc. use the same production methods which have caused the destruction of nature in the first industrialised countries, they produce the same effects in their own natural environment. The spreading of the industrial civilisation, from the original European niche to the Third World countries, coincides with the spreading of environmental degradation at world level. The globalisation of industrialism is crucial to reduce, and totally eliminate, the gap¹³ between rich and poor countries, but it will certainly not solve the problem of the destruction of the natural environment.

Let us now consider the third ambiguity, the one relating to the present “social organisation.” In order to face the issue in general terms, it is necessary to remember that the organisation which makes the existence of civil society possible is the sovereign nation State. And in the current historical situation, characterised by globalisation, each nation State is forced to consider the existing relationships of power with the other nation States. In the course of the centuries that characterise the modern era a world system of States took shape. In this system the superpowers are more influential, that is they have more power than the medium sized and small powers. Thus, each single national government, including that of the superpowers, never makes decisions without calculating the possible effects on the balance of world power. In this sense, no government is completely independent in the context of the world system of States. Hence, even the decisions that concern ecology and the environment cannot escape the laws of world politics, as the *Brundtland Report* testifies. This report, as far as the actions to be taken are concerned, “advises” the national governments to implement certain policies. At the end it is the national governments that decide, and the national governments must first of all obey the logic of the balances of power. This means that the ecological objectives are constantly subordinate to other priorities, such as security, armaments, war and the satisfying of the national production lobbies. After the *Brundtland Report*, the UN organised some world conferences on the environment, starting from the one in Rio de Janeiro in 1992, which claimed in a solemn Declaration of principles the

guidelines which emerged from the *Brundtland Commission*. Nonetheless, the results achieved are very scarce. No one can seriously assert that the national governments are implementing effective policies to avoid a possible irreversible ecological crisis at planetary level.

However, some ecologists¹⁴ claim that the battle for sustainable development should be carried out mainly within the walls of the nation state, resorting without hesitation to protectionist measures so as to put a stop to the excessive free inter-nation circulation of capitals, goods and people. Similar ideas are also hosted within the *no-global* movement which opposes the process of globalisation because of the discrimination between rich and poor countries and because of the environmental damage the international market creates. Though a precise theory on this has not yet been formulated, the nation State is implicitly considered the only efficient defender of public interest against private interest, that is the multinationals, financial centres, etc. This cultural panorama, luckily, is not homogenous. Some ecologists are beginning to observe that in the present international system “it would be extremely difficult, if not impossible, to adopt development strategies that give environmental matters the necessary priority... To believe that sustainable development, as it is currently defined, has substantive meaning and is feasible is unproductive... a paradigm shift would necessitate changes in the structure of the international political economy since it would probably require an equitable and stable international economic order in which to function.”¹⁵ These observations can be shared. But it is necessary to find the new international political paradigm. As the history of science demonstrates, until a new paradigm has been found, thought will continue to wander in the dark meanders of the old conceptual system, of which it continues to be prisoner.

Therefore it is necessary to discuss the “limits” of sustainability pointed out in the *Brundtland Report*. These limits are evidently too flexible if international politics and economy can adapt them to their traditional needs, ignoring the new environmental priorities. Science becomes effective when it develops objective thought, which everyone must recognise and accept as true, consequently adapting one’s behaviour. The search for boundaries, or limits, which should not be disregarded is therefore necessary. It is a demanding task. Humankind is capable of controlling only certain aspects of reality, on condition that reality can be delimited, as happens with the experiments that chemists carry out in test tubes. Unfortunately in the socio-historical sciences, it is much more difficult, maybe impossible, to reach a satisfying detachment

from the situation one intends to study. However, this is not a good reason to give up the attempt.

3. *Sustainable Development: the Ecocentric Point of View.*

In order to determine the field of investigation, let us now concentrate our attention on the relationships between the human species and the natural environment. Let us ignore, for the time being, the interior problems of the human species. This means that we shall consider the human species as a community of individuals (a population), whose forms of life cause alterations to the ecosystems which, without human influence, would be capable of self-regulation. In point of fact, from its original African niche, in which it differentiated from the other anthropomorphic monkeys about six million years ago, *homo sapiens* emigrated to all the continents overtaking, thanks to its reproductive capacity, all the other living species. It has been calculated that at the end of the Neolithic period, at the dawn of the so called agricultural revolution, the Earth was inhabited by less than 4 million individuals. In just 12 thousand years, the world population has exceeded 6 billion. The main problem of sustainable development consists, first of all, in the modification of human behaviour in order to make it possible for ecosystems to self-regulate. It is not biologically possible that in such a limited amount of time (the times of biological evolution are calculated in thousands if not millions of years) ecosystems can adapt. If human development does not become sustainable, the life of many species will be threatened and the fundamental equilibrium that regulates life in the biosphere will be altered.

Human history has hence reached a dramatic turn. Humankind will have a future only on condition that it accepts responsibility to preserve life on the Planet. Humankind has conquered the power to destroy life, but it does not have, and will never have, the power to create it (to manipulate cells does not mean to create life). We must therefore accept the task of adapting our behaviour to the new situation, modifying the habits we inherited from the past. The Earth has become a great natural park the survival of which is assigned to the *homo sapiens* species.

Human development is sustainable if life on the Planet is not threatened of extinction. In this definition, human development is subordinate to an overriding objective: the continuation of biological life on the Planet. It is therefore possible to avoid the danger of the concept of sustainable development becoming diluted in the subjective and historically conditioned horizon of human needs. For example, when one talks

about sustainable societies or about sustainable social development the reference is to a situation in which there are no dramatic disparities in the way in which the resources are distributed among the different social groups and among individuals. An unsustainable social development is characterised by irreparable social divisions, which may cause uprisings or revolutions. In these cases, the problems of the relationships between the human species and the environment are not taken into consideration.

Environmental sustainability concerns the definition of some limits and the identification of the means necessary for them to be respected, when human activities threaten other living species in the biosphere. As some ecologists have rightly stated, “sustainability is an objective concept to the extent that natural science is objective.”¹⁶ Cooperation among scientists is therefore essential for an accurate definition of limits to sustainability, even though it is impossible to deny that a “human” factor is implicit in the definition put forward here, because it is practically impossible to define the conditions for the biological survival of the human species without considering its level of cultural, economic and political evolution, on which the feasibility of sustainable policies depends. It is impossible for humankind to trace a definite boundary between biological and cultural life. It is hence necessary to admit that the ecocentric point of view represents a polarity, opposed to the anthropocentric one. Between these two poles, several other concepts of sustainable development are possible.¹⁷

On the basis of the ecocentric approach we can claim that a certain human activity, such as fishing, is sustainable if it allows for reproduction of the species fished on an unchanged scale. We can say that the activity of logging in a forest is sustainable if at the same time reforestation is carried out and there is no threat of extinction to the animals that live there. An activity that is based on the exploitation of non-renewable energies is not sustainable. Industrial activities must therefore be based on technologies that exploit renewable sources of energy. Certain industrial activities that bring about greenhouse gases will not be sustainable until their quantity is reduced to a level that does not threaten to increase the average Planet temperature. Consequently, in order to assess these effects efficaciously, it is necessary to implement a proper system of environmental accounting in physical terms (for clean water, for the threatened species, for logging, for the purity of the air, etc.). In this sense, on the other hand, the UN is already urging governments to develop, together with national economic accounting, a satellite accounting for the so called ecological or natural capital.

The fact that there is an attempt to define with objective (physical) terms the limits that human development should not go beyond makes the objectives of sustainability more precise, but it certainly does not solve all the problems concerning the implementation of the necessary policies. It is obvious that each of these limitations will collide with important “human” needs, which should, in theory, be sacrificed to safeguard ecological objectives. Defiance, as the current political situation testifies, may be considerable. In fact, the historical tendency which has modelled human behaviour since the far away origins of our species must be changed. Humankind has colonised the entire world struggling against a hostile nature. It had to learn to survive in regions with very cold, very hot, very damp or very dry temperatures. It had to fight against very dangerous predators. The diaspora of the original minuscule population of *homo sapiens* to the various continents finally divided the species into many gangs, tribes, villages, states, etc. which considered each other as enemies. To pursue a common objective, that of saving the Earth, requires a deep change in behaviour; some would say in “human nature” (which, obviously, would be unchangeable during the lifetime of a few generations if human traits were determined only biologically). For this reason, it would be advisable to define the goal of sustainable development in objective terms, in order to concentrate thoughts and actions on the development of effective policies.

At the basis of political thinking, there is an ethical commitment. If we consider ecology, the new ethics is founded on the responsibility of the human species for the preservation of life on Earth. One could object that it is untimely to talk about ethics. Actually, human responsibility for the preservation of life coincides with its own interest, because the human species is threatened by an irreversible environmental degradation, as are the other living species. Nonetheless, this consideration does not at all exclude ecological ethics founded on responsibility. A residue of utilitarianism can be discerned in each moral tenet. The principle “do not kill” points out an ideal of the community in which everybody’s life, even that of the preacher of moral tenets, is safer. Despite that, thousands of years of religious teaching and the juridical application of the law against killing fellowmen has not prevented murderers and criminals from existing. The freedom of an individual is revealed in the opportunity of choosing among different options in life, not necessarily directed to the preservation of the human species (if the opposite hypothesis were valid, it would not be worth the effort to search for sustainable development).

In short, the principle of a blanket responsibility of the human species

for nature needs to be translated into an effective policy. For this reason, the more general aspect of a policy for sustainable development consists in fulfilling the right to life on Earth. If the notion of sustainable development is to become a new form of behaviour, embraced by the citizens of the world, sustainable policies need to be transformed into a series of rights and duties. Modern civilisation, as far as the relationships between individuals and the duties of human beings towards other living species are concerned, must be founded on rules and regulations solemnly sanctioned by a Constitution.

Let us now see how it can be possible to guarantee the right to life on Earth by reforming the old economic and political institutions, in order to fix limits to the exploitation of nature.

4. *Limits to Growth.*

The issue concerning limits to growth, raised by the Club of Rome,¹⁸ in 1972, fostered an intense debate that continues today. The study of the Club of Rome consisted in projecting the trends of exploited natural resources into the future, on the assumption that consumption and production had to satisfy a growing population. The gap between the requested and available resources showed that development would not be sustainable, unless drastic changes in lifestyles and technology occurred.

This reasoning provides useful elements to attract attention to the issue concerning unsustainable development. Nonetheless, in so far as it projects the trends of the past into the future, it is laid open to the optimists' criticism. It is easy to say that scarce natural resources can be replaced with other less scarce resources and that technological progress will allow humankind to obtain more and more material wealth, thanks to the increase in productivity and the saving of resources. There are no limits to growth.

Indeed, by including the potentialities of technological progress in the analysis, the debate could continue *ad infinitum*. However, the history of humankind does not entirely uphold the optimists' theory. Cases of unsustainable development have already occurred in the past.¹⁹ It is thus legitimate to wonder how it is possible, considering the present condition in which humankind lives, to put into practice a new strategy which will deal with the problem effectively. Ancient civilisations suffered natural catastrophes as a sign of fate. Today, we are aware of the danger and we can avoid it.

In order to discuss this problem, the most direct route is that of taking

into consideration the crucial factors that have allowed humankind to acquire the power to destroy nature. Life on Earth is in danger because it is threatened by human activities that are anti-ecological. Only if humankind becomes capable of fixing limits to this power, then can it hope to win the challenge of sustainable development.

The relevant factors, in an investigation concerning the limits of development, appear to be three. The first consists in the general features of the modern State which, in contrast to the ancient one, has created a clear distinction between political power and civil society. The modern state developed as an absolute power, founded on the charisma of a leader, or on the divine right of the sovereign. Nonetheless, absolute power has undergone growing limitations, thanks to the spreading of civil rights and to the introduction of the democratic process, which has forced governments to answer for their actions before the citizens. This type of State, which took shape within the European culture, is now spreading at world level. The second factor concerns the separation between political power and economic power, thanks to private property and the market economy, which allow individuals and businesses to commit themselves to the production of goods and services in order to earn individual benefits. As regards this, it should be noted that the communist experiment consisted in the suppression of the system of private property, thanks to the collectivisation of the means of production, but it did not replace the final purpose of the market system: the production with more effective methods of goods necessary to satisfy the needs of the population. The collapse of the USSR, as a collectivist experiment, was also caused by its disappointing competition with the more efficient system of market economies. Communism intended to obtain with political means what the market economies achieve with economic means. Finally, the third factor concerns the role of science and technology in modern society, in particular its relationship with the market economy. Without the development of modern science, the continuous progress in the efficiency of contemporary productive methods would not be possible. Scientific applications are no longer a task reserved to university laboratories, but are growingly an activity that is carried out within big and small businesses, which have not only become production centres, but also centres for technological innovation. Contemporary economy is more and more a knowledge economy.

The three aforementioned factors have allowed for the extraordinary rate of growth of population in the modern era. Each of these factors gave birth to a specific human activity, characterised by a particular perform-

ance that distinguishes it from the other spheres of social life. The individuals who form the political class are committed to activities to conquer government power, from the small local communities up to the supreme government of the nation. Their action is principally regulated by constitutional laws. A second class of individuals, economic subjects, formed by various actors — such as business people, workers, bankers, traders, consumers, etc. — act in the market where, thanks to competition, the producers try to satisfy the consumers' requests by producing the goods in the most convenient manner (in other words, economical). The third group of individuals, important for our objectives, is that of scientists, researchers and technicians. The activity of scientific research is typically a human activity for the comprehension of natural or social phenomena based on a theory that can be considered true when it is confirmed by successful experimentation.²⁰ The scientist's motivation — from Galileo to Einstein — is knowledge, even though other factors, such as the search for fame or wealth, may accompany the main motivation. Several considerations must be made for applied science, i.e. the transformation of great scientific breakthroughs into technologies that can be used practically, in particular for production. In this case, the advancement of knowledge is, first of all, motivated by research for profit. In some cases (like Thomas Edison and Bill Gates), it is the innovator himself who becomes the entrepreneur. In other cases, the innovator and entrepreneur are distinct individuals. In modern businesses this distinction is more and more frequent, with the setting up of research centres within businesses.

The limits to growth are to be found in the ways in which the reciprocal relationships between these three social subjects are organised.

5. Economic Goods, Ecological Goods and Sustainability of the Economy.

In order to clarify the notion of sustainable development and to make this concept effective by fixing some institutional limits to economic activities, let us now concentrate our attention on the relationships between economic subjects and scientists. The next paragraph will deal with the political relationships in depth. Nature scientists and some social scientists were the first to raise, and they continue to do so, the problem of the limits that human activities are surpassing, putting life on Earth in danger. Their researches lead them to bring to light problems that are underestimated or are not completely detected by those who are involved

in other activities.

Economic activities have other objectives. Those who act in the market economy do not seek the truth nor political power (though fame through a scientific discovery or economic wealth can make the conquest of political power easier). The subjects active in the market economy pursue the primary objective of personal gain. With the formation of the competitive market and of the first centres of industrial production, the first theoretical systems of political economy also emerged, such as mercantilism, physiocracy and the classical doctrine. Let us briefly consider how these schools of thought conceived the relationships between economic activities and natural resources.

The classical economic system outlined the fundamental criteria of contemporary theoretical economy. The commodities produced must be required by the consumers. Economic goods satisfy a demand that is revealed by the market (effectual demand), where the consumers find the products that can satisfy their needs. Commodities are produced, on the basis of the known technologies, thanks to the initiative of capitalist-entrepreneurs who advance the funds to pay wages and the means of production. The capitalist's remuneration is the profit, that is the difference between the proceeds obtained from the selling of the product and the costs, which are the wages and the capital invested. The relationship between the economic system and natural resources occurs when the latter become scarce, in other words when a price (or a revenue) can be demanded for their use. In this case, as happens for the lands that have become scarce compared to the final demand of crops, the land owners can demand a rent. Thus, natural resources become part of the economic system only if they are scarce and can be privately owned. If they are not subject to ownership and they do not have a price, they have no economic significance.²¹ For example, the timber obtained in a *res nullius* woodland and used to build a ship will have a value equal to zero. The cost of the ship will depend solely on the value of the wages and of the other means of production utilised as capital.

Neoclassical economics reconstructed the economic framework on a new theoretical basis. The theory of demand was founded on marginal utility, whereas the theory of value and distribution was founded on the contribution of productive factors in the production process, each of which receive remuneration equal to its marginal product. Initially, the productive factors taken into consideration by the neoclassical economists were three — land, labour and capital — but in the course of the XX century the economic theory concentrated more and more on a “produc-

tion function” solely formed by labour and capital. It is also for this reason that the neoclassical economic theory was in a quandary when facing the new environmental problems. On the basis of the notion of production function and of an unlimited faith in the substitutability of the factors and in technological progress, one can maintain an optimist outlook even in the presence of the exploitation of scarce natural resources. For example, Robert Solow, after having defined sustainability as the possibility to maintain the same productive capacity in the future, assumes “that it is always possible to substitute greater inputs of labour, reproducible capital and renewable resources for smaller direct inputs of the fixed resource.”²² It is on this basis that the marginal theory of production can conceive sustainability. Even though Solow rightly explains that this requires a “minimum degree of optimism,” that is faith in the fact that scarce natural resources are substitutable, otherwise the economy will function like a watch “that can be wound only once”: sooner or later it will stop. In this case, Solow remarks, there is no sense in talking about sustainability. Yet, this is the case we are actually interested in, i.e. the danger of biological life on Earth being destroyed. Biological life is not replaceable. An extinct species is extinct forever. Therefore one must realise that when the notion of production function, which is based on the contribution of substitutable productive factors, includes non-renewable resources, it describes a model of unsustainable economic growth.²³

In order to better understand the limits of economic theory, classical and neoclassical, and of market economy, let us now consider the crucial notion of scarcity. Economic goods are scarce when they have a positive price. This means that buyers are willing to give up a share of their income to purchase them. In this case it may be convenient for businesses to produce them. Entrepreneurs produce these goods or commodities using other commodities with positive prices and natural resources, the price of which may be zero if they are plentiful. Therefore, when some natural resources (land, water, trees, animals) belong to a capitalist-entrepreneur, they will be treated just like any other means of production: they will be considered as part of the capital to be remunerated on the basis of current profit rate. But this treatment of natural resources meets the economic objectives of an efficient and profitable production, certainly not that of conserving the environment. If we examine natural resources that cannot be privately owned with current technologies (such as a mineral deposit at the bottom of the ocean) or that cannot be owned because they are protected as a public good (for example a park), they obviously cannot be considered as a productive factor and, hence, they cannot enter the

production function. The market is an institution whose function is to satisfy the needs of consumers at the lowest possible cost, thanks to competition among businesses. The market function neither consists in guaranteeing a fair distribution of incomes, since consumers must have an adequate income to express an effective demand before production can be carried out, nor does it guarantee the conservation of the environment.²⁴

It should now be explained that the notion of economic scarcity should not be confused with that of ecological scarcity. An ecological good, such as the air we breathe or the water we drink, becomes scarce, as far as its use is concerned, only when pollution makes it dangerous for our health or for the survival of other animal or plant species. The concept of ecological scarcity is hence totally different from economic scarcity. Ecological scarcity refers to the physical and biological properties of a good necessary to conserve the life of human beings, animals and plants. Economic scarcity concerns the property that the good has to be useful. Ecological scarcity is not necessarily perceived as such by economic subjects²⁵ (for example, a certain type of polluted water, though it is not perceived by people, is revealed by complex scientific instruments and laboratory analysis). Naturally, ecological scarcity may produce economic effects. The pollution of a water spring will make it useless to meet certain nourishing needs, whereas the price of other mineral waters or of purified waters will increase. In other cases, ecological scarcity does not produce economic effects. The thinning of the ozone layer was not perceived initially as dangerous by consumers, nor by the producers of chlorofluorocarbons (CFCs).

In order to overcome the limited point of view of traditional economics, some economists embarked on the exploration of a different approach, that of *Ecological Economics*, in the attempt to establish a new field of interdisciplinary research the explicit objective of which is to study the existing relationships between ecosystems and economic activities. These efforts were partially successful, because ecological economics managed to discover some techniques, such as tradable permits, which allow governments to intervene in order to limit the polluting effects of human productive activities.²⁶ Yet, within ecological economics, the anthropocentric approach is leading some researchers in an illusory direction. Since the present economic activity and economic thought which justifies it do not seem to be respectful for nature at all, some economist attempts to include the cost of environmental pollution in the calculation of wealth produced, in the hope that the “anti-eco-

conomic” use of the environment may put a stop to the waste of natural resources. It has been observed, for example, that in the case of an environmental disaster, such as the spilling of oil from a ship, the cost to clean it up increases the value of the GDP, whereas the collective wellbeing certainly is not improved. These economists suggest that the economic benefits that public society can gain from the “services of nature” be assessed. As the capital created by human productive activities produces certain services (houses produce a service for several generations) in the same way nature produces services, which must be considered a contribution to social wealth. Nonetheless, on the basis of this methodological viewpoint, at first sight reasonable, we end up by embarking on a desperate task, because it is necessary to make an economic evaluation of the oceans, of the tropical forests and of all the living species, of the skies and of the ozone layer that protects life on the Planet and (why not?) even of the solar system, since the Sun is essential for the survival of the biosphere.²⁷

Let us consider as an example the economic evaluation of the ozone layer, which does not have a market price, but is essential for the conservation of life on the Planet. The first events relating to the discovery of the damage caused by chlorofluorocarbons to the ozone layer and the attempts to remedy the polluted stratosphere go back to the Seventies, when some scientists realised the harmful effects of these gases. Later research was intensified in order to show the consequences of an increase of ultraviolet rays on the ocean food chain, on the photosynthesis process of plants and on humankind. Finally, the UN managed to take measures to invert the trend, even though the negative effects of the polluted stratosphere have not yet been totally averted and will probably continue to occur for the whole of the XXI century.²⁸ Thus it was not the market, nor the economists that revealed the polluting of the stratosphere, but nature scientists. Even if the ozone layer had been assessed economically, it would not have roused the interest of the international scientific community, of the public opinion, of ecological movements and of governments. The air breathed in many industrial cities is polluted by fine dusts. But nobody is worried about this, unless the health organisations disclose how dangerous they are. Therefore, it is not by means of the market mechanism and of economic evaluation that “ecological scarcity” (it would be more appropriate to talk of environmental problems or threats to survival) is disclosed. The market is an institutional mechanism suitable to reveal economic scarcity, i.e. of goods that can be owned and have a price. The ozone layer cannot be

owned nor can it have a market price. The market does not state the value (value of use or of existence) of many goods which are however essential for the existence of human beings and other living species.²⁹

The classical economists, especially Adam Smith, realised that the competitive market is an institution that can efficiently satisfy the demand for goods and services when it is possible to obtain a profit from their production. However, they also realised that it would be in vain to expect the market to produce those “public” goods, such as national defence, the justice system or the road networks and harbours, because in this case only a public authority, the government, can collect the necessary taxes to finance and provide these goods for the citizens. No entrepreneur would do this. Today, we must consider the defence of life on the Planet a public good. Life, in all its manifestations, must be considered an *intangible public good*, in the precise sense that it must be rescued from the manipulating and destructive intervention of the human species in the unfortunate cases when an ecological good becomes private property, economically exploitable. The problem concerning the ecological limits of economic activities is, consequently and above all, a problem concerning the reform of the right to property, not only for individuals, but also for nation States. Humankind lives on the Planet, but cannot consider the Planet as a property that it can “use and abuse.” The Earth is not the common heritage of the human species.³⁰ Life on Earth is a good that must be preserved as “intangible” by humankind: it is a good that must be taken care of, but that cannot be used as one pleases. We are the guests and not the owners of Planet Earth.

There exist more direct and effective intervention techniques than those suggested by the economists who want to evaluate natural services.³¹ Experience has already proved that it is the scientists, who by profession deal with the study of nature and of the environment, who are the most careful “guardians” of the ecological systems. They are thus in the position to show the limits of the destructive and polluting action of humankind, in the course of its attempt to emancipate from poverty, first in an industrialised Europe and now in the industrialising countries. Each time it will just be a matter of evaluating how much carbon dioxide can be emitted into the atmosphere without causing the greenhouse effect, how much tropical forest can be preserved to save some species on the verge of extinction, etc. These limits must be perceived in a world plan of productive activities in which the growth needs of the world economy are adapted — or one tries to adapt them — to environmental constraints. This does not mean the opening up of a new research pathway, but it

means updating and making operative the attempt already made in 1977 by a group of experts for the UN, led by the economist Wassily Leontieff,³² who developed a world multiregional economic model, based on *input-output analysis*. It is within the context of a world plan of productive activities that it makes sense to address the problem of possible limits to economic growth, of greater austerity in consumption and in lifestyles, of energy saving, of the creation of protected natural parks, as global public goods, of the research of renewable energies, etc. The 1977 plan should be updated as far as its technical aspects are concerned, but first of all, the political institutions that can guarantee its implementation should be created.

Before discussing the political power necessary to implement a world ecological plan, it is fitting to address the problem of the role of technical progress. Naturally, the hope of survival of humankind on a Planet that in a few decades will host over 9 billion individuals, depends very much on technological progress. It is out of the question to think that the problem can be solved without some significant innovation on the front of renewable energies, of energy saving in transport, of the cleaning up of both fresh and sea water, etc. Yet, not only should we not believe in the miracle that future technologies may bring to the present problems, but we should overcome our attitude of superiority and dominion generated by the industrialist ideology. It is true that since its faraway origins, humankind has struggled against a hostile nature. From the stone age until interplanetary trips, humankind has tried to overcome natural obstacles using intelligence and technologies. The industrial revolution, in fact, can be considered as the semi-divine endeavour of the unbound Prometheus.³³ Nonetheless, if it is not reasonable to put any limits to scientific and technological progress, because it is within the logic itself of this activity to go beyond the boundaries of knowledge, it is necessary to put limits to the use that humankind makes of its intellectual conquests. In a controversy with Bacon and his idea of science as power, Karl Popper states: "The idea of mastery over nature is in itself perhaps neutral. When it is a case of helping our fellow men, when it is a case of medical progress or of the fight against starvation and misery, then of course I welcome the power we owe to our knowledge about nature. But the idea of mastery over nature often contains, I fear, another element — the will to power as such, the will to dominate. And to the idea of domination I cannot take kindly. It is a blasphemy, sacrilege, *hubris*. Men are not gods and they ought to know it."³⁴ Popper's protest against a concept of science as the instrument for human dominion on nature should be extended: nation

States use human knowledge and technologies not only as means of supremacy of humankind on nature, but also to subject other human beings, those outside the national tribe. Science can therefore serve as an instrument to emancipate humankind and as an instrument of power of some people over other people. It is in this perspective that the problem of international politics should be addressed.

6. *The Limits of Power Politics: a World without Sovereigns.*

No human society, no matter how small, can exist without creating power relationships within itself. Even small groups of hunters or pickers in the savannah, in the Palaeolithic age, had to accept some form of subordination to the orders of a chief in the more difficult phases of the hunt, when coordinated action was necessary to reach the prey and kill it. It was then inevitable that codified rules for the sharing of food were followed. Hierarchical or power relationships, in the precise sense that somebody exercises the art of command and the others obey, are absolutely necessary for the cohesion of more numerous and complex societies, until the formation of the modern nation States.

In human societies, contrary to animal ones, including non human primates, power relationships are established on cultural archetypes, such as myths, religious beliefs, the worship of ancestors or modern political ideologies. In so far as it is possible to reconstruct the history of ancient societies, such as the civilisations in the Mediterranean basin, the ancient Asian empires or those of America, it has been verified that political power is almost always founded on religious faith. The supernatural powers of the sovereign awarded great stability to the institutions, allowing communities to organise the struggle for survival in the most effective manner. This relationship between political and religious power was kept alive in the modern State, under new forms. In the first years of the nation State, Hobbes could state that the sovereign is the “mortal God.” However, the emancipation of civil society from traditional power reached such an extent that the feudal *ancien régime* entered into an irreversible crisis. Political power had to find a new ideological foundation. It found it in the myth of the nation, a mystic cultural and blood union among the members of a political community the history of which goes back time immemorial (in Europe, time immemorial dates from the Middle Ages). The myth of the sovereign nation State has become so deep-rooted in the souls of contemporary societies, that in its name it was possible, and it still is, to ask the masses to sacrifice themselves on battle

fields or to organise extermination camps against enemy “races” or “ethnic groups.” Belonging to a nation is perceived as a natural state or a biological inheritance. The nation is a myth that moulds characters and justifies the conviction that a human being is totally different (even of a superior race) from other human beings. Nationalism is the ideology of the sovereign nation State, which does not recognize any other power above it.³⁵

In contemporary politics, the myth of the sovereign nation State justifies the existence of an anarchic international order, in which several sovereign entities cohabite without acknowledging any laws that might limit their power, in particular the power to wage war. The anarchic international order is mitigated by the fact that the absolute sovereignty of each State is also limited by that of another more powerful State. Hence, the international situation is structured like a hegemonic hierarchy, but with a strong tendency towards anarchy in so far as the hegemonic order is challenged by the other small and medium-sized powers allied together. The doctrine of political realism, the point of view mostly shared by the scholars of international relations, recognises this situation, but it is not able to suggest the necessary remedies to overcome the state of anarchy, because it assumes the nation State to be an eternal and undisputable reality.³⁶

The point of view that we shall use here, to single out the world political institutions required for humankind to implement an effective plan for sustainable development, goes back to the tradition of political realism, but it refuses the myth of the sovereign nation State. This political thought goes back, in some aspects, to the authors of the *Federalist*, who first theorised the possibility of overcoming the anarchy between independent and sovereign States thanks to the creation of the first federation in history, the USA. However, since the American Federation also asserted itself as a sovereign State in world politics, the American federalist tradition is not much understood or studied. Only in Europe, during the second world war, federalism took a stand, even though partially executed, as a supranational project; as an alternative to the state of war and anarchy created by the mortal struggle between the European sovereign States.

It is within the perspective of overcoming absolute sovereignty of the nation States, thanks to the building of a supranational federal government, that it will be possible to conceive a coherent political project for a sustainable future for humanity. History has taught us that a state of anarchy can be overcome if a political community adopts a civil consti-

tution. The modern State was formed on the basis of constitutionalism as a movement and as a political thinking. The same path must be followed for international relations. In order to overcome international anarchy a cosmopolitan Constitution is required. It should establish what powers are necessary to govern world trends and what powers can be maintained at national level. The freedom and independence of the national peoples can be guaranteed by law. Supranational integration is the only reasonable alternative to international disorder and war.³⁷

The supranational government must develop an ecological policy that should regulate the inter-specific relationships between human beings and other living species. The relationships between peace, the fight against poverty and the safeguarding of the environment are to be discussed together. The abolition of anarchy among sovereign nation States that recur to war (the just war) as a legitimate means to solve international controversies, is the crucial issue; it is the condition for the implementation of other policies. Current international law acknowledges the right to war for each State, but it does not guarantee the right to peace for the people. It must therefore be profoundly reformed. Law is incompatible with the use of force as an instrument of self-determination of its will for power. There is a need for a legal system in which the sovereign States yield the power of guaranteeing peace among the nations to a democratic world authority. A similar system is already on the way among the European nations. The European Union does not yet have all the powers typical of a Federation, but it already guarantees the peaceful management of several common policies, thanks to the creation of a Court of Justice, of a European Parliament and of a Commission, the executive power of the Union.

Even so, at world level, the issue of constitutionalizing international relations is more complex. The high degree of differentiation between national societies — with their millennial traditions, their different religions, the variety of political regimes and, above all, the unequal level of economic development — at this stage of the historical process, makes the institution of a world federal government, acceptable to the Planet's populations, much more difficult. Yet, no matter how difficult it is to find a solution, the problem of war and peace must be faced and solved if one wants to plan an effective ecological policy at world level. The constant threat of war obliges national governments to consider the problem of national security as a priority, which in the age of atomic energy and weapons of mass destruction, implies the concentration of huge resources, both economic and military, in the hands of political power,

which must be capable of deploying them promptly. The environmental issue cannot, as a consequence, become a priority of the governments. Ecological policies have preventive features. They often try to prevent catastrophes that may occur in the next decades or centuries. International terrorism or a war threat are incumbent. The electors are called to vote for a government which lasts a few years and which will be induced to pass on the responsibility of making unpopular decisions to the following governments. Those who govern a nation State must defend national interest, not that of humanity. The voice of those who intend defending the environment is easily silenced when national security is in danger. No nation State will feel responsible for considering the survival of the human species and of the biosphere as a priority. The right to life on Earth must be guaranteed by the authority of a world government, if not, it will remain a vain hope.

The second great issue that a world environmental policy must address is that of poverty. The ecological problem is so intertwined with that of the wealth gap between rich and poor countries that it is impossible to think they can be dealt with separately. More and more tragic choices are forced and will be forced upon us. Technologies and production methods used by the developing countries, such as China, India, Brazil and African countries, are a legacy of the European and North American industrialisation. Furthermore, the population rate of growth in these countries has caused chaotic urbanisation as well as the devastation of the natural environment. These local environmental problems, due to their importance, take on global significance. Tropical forests shelter the greater part of living species, and their maximum territorial density is concentrated around the equator. The world wealth disparity makes it very difficult to pin point an environmental policy that is both effective and fair. For example, let us consider a policy to reduce carbon dioxide in the atmosphere, in order to fight the greenhouse effect. If it were necessary to reduce the CO₂ emissions of a total quantity X, quantity X could be divided by the volume of production (GDP) of each country. But, in this case, an African country with a per capita income at the limit of survival, and with very limited rates of pollution, would have to make the same effort in percentage, as the richest and most polluting country in the world, the USA. A second criterion could be that of dividing the total amount X by the world population and assigning to each country the objective of an x reduction per head. In this case, a densely populated country like India or a continent like Africa would be assigned a much higher quota compared to their rate of pollution, whereas the USA would

have a much lower quota for their rate of pollution. This obstacle could be avoided if India and Africa can sold tradable permits to the United States. In this case, important transfers of wealth from rich countries to poor ones would occur. But the rich countries, for the time being, have no intention of accepting this drastic imposition. Another environmental policy could be that of introducing a tax on CO₂ emissions, but even in this case the tax would affect, in the same percentage, the productions of rich and poor countries, which obviously have different levels of per capita income and a different ability to replace polluting technologies with clean ones. Moreover, the problem of how to use the tax revenue would have to be solved. The revenue could flow into a world budget. The destination of these funds cannot be defined beforehand. They could be used for the research of less polluting technologies, or for an investment plan for infrastructures in Third World countries, to accelerate their economic growth.³⁸ It is impossible to solve these problems without a world government which should foster a public debate thanks to democratic institutions to favour the creation of a collective will. Since a democratic world government does not exist, it is inevitable for the crucial guidelines of international ecological policy to be decided by the military and economically stronger countries. And, it does not necessarily mean, for the reasons discussed previously, that the final decisions made will have the right amount of regard for both sustainable development and the just division of the world wealth.

The last problem that should be addressed concerns the institutionalisation of the right to life on Earth, by means of laws that make sustainable development possible and efficient. In short, it means outlining the necessary institutions to guarantee the cohabitation of the human species with other living species. The centuries-old history of constitutionalism has shown how the initial absolute power of the sovereign can be limited by applying the principle of the division of powers. The constitutional issue, which must be resolved to guarantee an effective right to life on Earth, is, nevertheless, different. In this case, the absolute power of the human species to destroy other forms of life on the Planet must be limited, in a situation in which scientific knowledge does not allow us to accurately foresee what the long term consequences of a period of increasing pollution will be.

Animals and plants naturally cannot defend their right to life. It is the responsibility of human beings to take the burden of ensuring their survival. Thus the principle of responsibility must be converted into a limitation of the power to pollute and to kill.³⁹ Humankind must consider

itself the guardian of life on the Planet. The solution to this problem requires greater attention from the politicians to the indications given by scientists and by civil society, active in the defence of the environment. Hence, the international order must assure that political projects, supported by world public opinion and embedded in legitimate world organisations, be converted into a world Plan for sustainable development and into international legislation which must be respected by both individuals and States. Furthermore, the creation of a new constitutional organ must be envisaged: a world Council⁴⁰ for sustainable development, made up of nature scientists, social scientists and environmental organisations. The function of the Council is that of being involved in the drafting of the world Plan for sustainable development, the implementation of which will be assigned to the world democratic executive (or world government). The Council for sustainable development must not have powers of final say, because politics cannot give up its role and its responsibility. The destinies of the world cannot be entrusted to a technocracy. However, the voice of the scientists and of the environmental organisations must be listened to both in the preliminary stage of the formulation of the Plan for sustainable development, and in the stage of approval. The Council must have the power to reject the Plan (once only), motivating its decision, should measures openly in contrast with the conservation of life on Earth be included. The main task of the Council is to fix “limits” to the exploitation of the environment. Of course, politics must have the last word. It is inevitable for the human species to be in a position to have to choose among dramatic alternatives, such as the increase in one’s personal welfare, or the slowing down of economic growth, or an imposed saving of polluting energy, or the renunciation of certain dangerous technologies, or the drastic protection of some species on the verge of extinction, etc. The responsibility arises from the possibility of free choices that can lead to different and contrasting directions. Humankind has a history because individuals and populations of the past were able to make responsible decisions. These choices were mostly motivated by the survival instinct. Humankind will have a future if it does not endure the tyranny of the technology and institutions it has produced.

In a world governed by a cosmopolitan Constitution there will be no sovereign, except for a legislative body legitimised to amend the Constitution. The national governments will have to yield part of their powers to superior levels of government, to continental Federations or to the UN, converted into a Federation of great continental States. However, even a

world government will not be able to consider itself an absolute sovereign, because it will have to listen to the cautious advice of scientists and implement them in a Plan for sustainable development.

7. Ecology as the Science of Sustainable Development.

The socio-historical sciences took shape in the modern age, starting from the Renaissance, when the differences and the historical background of the various groups of the human family, spread across the various continents, were observed. The social reality was investigated using scientific criteria, on the basis of typologies, models and theories that claim to have an empirical basis. Every social science, which differs from philosophy, singles out a specific point of view from which to observe the action of individuals in society. With regard to this, economics and politics represent two privileged points of view, since the economic and political institutions were consolidated and clearly differentiated from each other from the beginning of the modern age. The action of individuals is not easy to describe, if not in abstract terms, if it is analysed outside the institutional context in which the individual acts. The economic *Homo* does not exist, but we can observe individuals who operate on the market. The political *Homo* does not exist, but we can observe individuals who fight to conquer power within the State. Of course economics and politics do not comprise the universe of socio-historical sciences. The other disciplines, such as sociology, psychology, anthropology, urban studies, pedagogy, etc. each have a specific field of study. Though almost none of these disciplines can go without also defining their relationships within the economic and political context in which the subjects under study interact.

If we now attempt to give an answer to the question we asked at the beginning, that is if ecology can become a socio-historical science, the answer must be a positive one, even though the field of study of this humanist discipline has a more restricted meaning of the now common use of the term ecology as the “science of ecosystems,” the approach of which remains fundamentally interdisciplinary. The reason for studying a human “ecological” behaviour depends on the fact that a specific point of view with which to analyse human action can be singled out. The already consolidated socio-historical sciences study relationships among individuals, i.e. the way in which different individuals regulate their relations within society. Ecology, as a socio-historical science, claims it will become the science of human sustainable development. Hence it

must investigate on the behaviour of individuals towards nature: how they exploit the natural resources, how they see to their reproduction and conservation, how human society organises itself to better regulate relations with the other living species. Some ecologists, who tried to focus on the particular point of view of ecology, maintain that ecological *Homo* should have “a personal emotional and rational relationship towards nature and moral responsibility for future generations.”⁴¹ On the basis of the ecocentric approach to sustainable development we can state, more simply, that human behaviour is sustainable when it does not endanger the survival of other animal and plant species, obviously including the environment (or ecosystem) necessary for their reproduction.

One may try to go beyond this general definition of ecological behaviour. The attempts of some socio-historical sciences, such as anthropology and psychology, to define a clear dividing line between nature and culture, or between innate or acquired breeding in the course of human evolution, both in individuals (ontogenesis) and in the species (philogenesis), have not yet achieved any appreciable result. On the contrary, the conviction that these distinctions should be abandoned is more and more widespread. It can be claimed that human beings have a particular genetic set that allows them to live and develop on the basis of their culture. Humans are naturally cultural beings. According to some anthropologists, the specific human cognitive ability consists in “the capacity to understand conspecifics as intentional/mental agents like the self”, as a child’s cognitive development shows compared to that of other non-human primates.⁴² Ecology as a socio-historical science must as a result try to focus its attention on the formation of cultural processes (the myths, the religions, the first socio-political institution such as tribes, the hunting initiation rites, etc.) which allows for the understanding of how humankind conceived its relationships with nature, how these primitive forms of culture changed in the course of history and which culture of nature is necessary, today, to produce a sustainable behaviour. The approach to cognitive sciences is useful from this point of view, but it is just a starting point. The understanding of others as mental agents like the self allows for the explanation of the mental evolution of a child compared to that of adults, but it is obvious that animal and plant species cannot be considered as mental agents like the self. There is a problem of cognitive asymmetry, since the cognitive functions of animals and plants differ, even though along an infinite scale, from the human ones. It is from this cognitive asymmetry that the issue of responsibility arises.

There are two methods, not competitive, but complementary, by means of which an ecological behaviour can come into being and be structured. The first method is education, that is the capillary spreading of knowledge. The investigations of anthropologists, of palaeontologists, of biologists and numerous nature scientists have allowed the reconstruction, with growing accuracy, of the origins of the *homo sapiens* species, starting from the separation of the first hominids from the other non-human primates, up to ancient history, which we can learn about with greater precision thanks to preserved written documents. The reconstruction of the progressive emancipation of humankind from the natural environment, thanks to the primitive hunting and fishing techniques and, subsequently, agricultural and animal breeding, allows for a better comprehension of how the current position of predominance of our species came about, how the first successes as regards the fight for survival occurred, but even the costs of this in terms of environmental destruction.⁴³

The awareness of the need to preserve and respect the natural environment must not, however, create the illusion that the ecological issue can be solved only through education. The development of religions, of ethics and of the civil institutions has not eliminated criminal activity. The police and court houses continue to be needed to enforce the laws. An effective ecological policy requires the attribution of legislative and executive powers to a world political authority, because even nation States can behave like “criminals” (the term *Rogue State* has after all become part of the language of international politics). The second method is therefore that of reforms, by means of the creation of institutions, at all levels, from the small remote mountain village to the world government, that should define the limits of tolerance of human activities on the environment and the laws that must be observed by all individuals and all governments so that sustainable development becomes possible. Ecological behaviour will emerge in the course of time in so far as individuals will take up a “sustainable” behaviour towards the environment and new laws will regulate, possibly supported by sanctions against environmental crimes, social activities, and in particular industrial and commercial activities, which may cause environmental damage.

The evolution of individual behaviour, triggered by education and by the spreading of a more and more shared environmental culture, will develop sustainable consumption models. These consumption models will then also condition the business activities, which will be impelled, without excessive legislative constraints, to plan clean productions or, at

least, much less polluting ones. The change in consumption models requires an intense and prolonged debate at world level. One should not forget that a lot of environmental damage, such as the destruction of tropical forests, is caused by the senseless demand for valuable timber from the richer populations. Moreover it is these populations that cause some species to be on the verge of extinction due to their nutritional traditions. For example, the populations in North Europe and the Japanese continue to hunt whales, threatening the extinction of some of the species. If the hunt for whales cannot be stopped by appealing to reason and to self-control, it is necessary to intervene with international legislation that should apply heavy fines to the culprits, be they individuals or national governments. Then an urban culture revolution should be encouraged. The medieval city was, from many points of view, sustainable, because its main craftsman activities were integrated with those of the surrounding countryside, with which it lived in symbiosis. The modern city has been de-humanised, with gigantic sleeping districts, with commercial districts that empty at night time, and working activities more and more alienating, because they deprive the citizens of the great metropolis of the daily relationship with nature. It is necessary to return to the village community, within the natural environment. The sustainable city is a group of villages. The new city requires not only a profound renovation of town planning, that must become the science of the human habitat within nature, but also a reform of the local governing powers.

The creation of natural parks will be complex and difficult. Parks can guarantee the conservation of biodiversity, especially in the tropical area, where the greatest number of animal and plant species survive. In these cases, the right to the property of “national” goods has to be reformed. The defence of biodiversity depends on the creation of intangible public goods, which only the authority of a world government can guarantee. The institution of protected parks is urgent. The creation of great natural parks, defended and administered by the local populations, is the simplest and most immediate way to guarantee biodiversity. But it collides with the will of the local populations to achieve the lifestyle and wellbeing of the richer populations and the negative attitude of the latter to bear the costs for environmental protection, with suitable indemnity to the local populations. It has been calculated that the global cost for the defence of biodiversity amounts to *a thousandth* of the world income.⁴⁴ The world supranational government should be held accountable for the environmental catastrophe: it must inform the world citizens of the cost and possible remedies. It means financing policies that cost less than a daily

cup of coffee for the citizens of rich countries.

Sustainable development can become a priority only within the context of a world political policy which should strive to abolish war and poverty. The citizens of the world must be aware of the fact that the safeguarding of life on Earth is strictly their responsibility and that they must face this problem with the same determination and passion which they dedicate to the government of their town or nation. Planet Earth is our greater fatherland. If we put the fragile equilibria of the biosphere at risk, even the smallest fatherland, in which our most intimate affections are rooted, will not survive.

NOTES

¹ E. O. Wilson, *The Future of Life*, Abacus, London, 2003, p. 43.

² This definition was taken from *Atlas zur Ökologie*, Deutscher Taschenbuch Verlag, München, 1994. As the science of ecosystems, ecology can be placed next to the other sciences of nature, such as biology, physics, chemistry, geology, etc. However it is not the science of nature, in the sense that it can provide a universal explanation of natural phenomena, including the human species. Each science, as per definition, has the goal of explaining only some aspects of reality. Furthermore, nature has its own history, much more extended in time compared to the history of the human species, which will continue should the human species be extinguished. Therefore, there does not exist, if not in our imagination, an eternal and immutable nature, which can be represented by a stationary model, which reproduces itself without significant variations. Nature changes continuously, not only as a consequence of human activities.

³ I have attempted to define a “cognitive-critical” conduct, typical of the human species, compared to the simple evolutionary behaviour of all the other living beings, in *Ecologia e federalismo. La politica, la natura e il futuro della specie umana (Ecology and Federalism. Politics, Nature and Future of the Human Species)*, Istituto di studi federalisti “Altiero Spinelli”, Ventotene, 2004.

⁴ Many ecologists are aware that the ecological problem cannot be addressed outside the institutional frame. For this reason, growing attention is paid to the role that the institutions can carry out in forming and conditioning individual behaviour. These studies have allowed us to criticise and show the limits of the neoclassical economic approach, founded on a model of interaction between individuals in which the institutions play a completely marginal role. Nonetheless, even a more explicitly institutional orientation, inspired by social constructivism, underestimated the State’s function as a collective institution, which holds the monopoly of coercive force, internally and externally. Thus one runs the risk, as it actually happens when one generically takes the social man into consideration, of ignoring the negative role of the sovereign nation States in environmental policies. The environment cannot become a global public good because the nation States claim to maintain absolute sovereignty on their territory and on their internal environmental resources. Within the sociologic perspective of the constructive theory, the distinction between international cooperation and a supranational government of the environment does not emerge at all. For an interesting debate on these issues, though unfortunately limited to

the national sphere, see A. Vatn, "Rationality, Institutions and Environmental Policy", in *Ecological Economics*, n. 55, 2005, pp. 203-17.

⁵ Both ecologists and anthropologists are aware that there is a close relationship between individual behaviour and the institutions. For example, Emilio Moran claims that "values and attitudes are very important in shaping individual choice. It appears that favourable environmental behaviour lies at the end of a long, casual chain involving both individual and contextual factors" (E. F. Moran, *People and Nature. An Introduction to Human Ecological Relations*, Blackwell, Oxford, 2006, p. 35).

⁶ World Commission on Environment and Development, *Our Common Future*, Oxford University Press, Oxford, 1987, p. 8.

⁷ World Commission on Environment and Development, *Ibidem*.

⁸ A recent study (P-M. Boulanger and T. Bréchet, "Models for Policy-making in Sustainable Development: The State of the Art and Perspectives for Research", in *Ecological Economics*, n. 55, 2005, pp. 337-350) points out five methodological criteria of sustainability. The first requirement concerns the need for an inter-disciplinary approach. It is in fact necessary for social scientists and nature scientists to work side by side to establish how a certain territory and certain ecosystems are altered by human intervention. A second requirement concerns the evaluation of uncertainty inherent to some relationships and some variables which, inevitably, depend on imponderable factors on the basis of the scientific knowledge available. The third requirement concerns a long-term forecast, because the concept of sustainability implies the evaluation of the consequences of current policies on future generations. The fourth requirement concerns the relationship between the impact of policies at a local level and on a wider scale, at global level. Many human activities, for instance activities that generate the greenhouse gases, actually have an impact on the biosphere which must be taken into consideration even if the region which causes pollution is not affected. Finally, but not less important, the need to assess the consequences of political intervention on populations (the subjects involved or stakeholders) by involving them in the project as much as possible, and by revealing the goals and the means necessary for their fulfilment. It will then be the task of a team of social scientists to establish a model, or models, necessary in order to consider the interdependent group of these variables so as to provide the quantitative indications necessary for the decisions of the governments involved.

⁹ Apropos of this, see the review by B. Hopwood, M. Mellor and G. O'Brien, "Sustainable Development: Mapping Different Approaches", in *Sustainable Development*, vol. 13, 1005, pp. 18-52, in which the various notions of sustainable development advocated by different groups, organisations and political line-ups, are discussed. The anthropocentric approach has generated a long series of ambiguities within it, starting from the vague notion of intergenerational needs. The present confusion runs the risk of discrediting the idea itself of sustainable development, to such an extent that a phase of "post-sustainability" is beginning to be suggested (cf. M. Radclift, "Sustainable Development (1987-2005): An Oxymoron Comes of Age", in *Sustainable Development*, vol. 13, 2005, pp. 212-227).

¹⁰ See the review on a series of studies on these issues in H. R. J. Vollebergh and C. Kemfert, "The Role of Technological Change for Sustainable Development", in *Ecological Economics*, n. 54, 2005, pp. 133-147.

¹¹ B. Lomborg, *The Skeptical Environmentalist*, Cambridge University Press, Cambridge, 2003, p. 330.

¹² For example in B. Hopwood et al, *op. cit.* p. 46, they claim that James O' Connor launched the Review *Capitalism, Nature, Socialism*, in 1998, to support the thesis of "a second contradiction" of capitalism that links the environment and the socialist crises in a materialistic vision and class analysis.

¹³ According to the World Bank (World Bank, *World Development Report, 2004: Making Services Work for Poor People*, 2004, pp. 2-3) the aim to halve the world population that lives below the poverty threshold of one dollar a day is about to be achieved thanks to the industrialisation of China and India. In Africa, on the contrary, a continent where industry has not yet taken off, the number of poor people has almost doubled in the last twenty years.

¹⁴ See H. E. Daly, *Beyond Growth. The Economics of Sustainable Development*, Beacon Press, Boston, 1996, in particular the *Introduction*.

¹⁵ G. O. Carvalho, "Sustainable Development: Is It Achievable within the Existing International Political Economy Context?", in *Sustainable Development*, vol. 9, 2001, pp. 61-73, cit. a p. 62 and p. 70.

¹⁶ R. Huetting and L. Reijnders, "Sustainability is an Objective Concept", in *Ecological Economics*, vol. 27, 1998, pp. 139-147, p. 140.

¹⁷ In environmental literature sometimes the term "weak sustainable development" is used to describe the anthropocentric point of view, and "strong sustainable development" to describe the ecocentric point of view (for a description of these two points of view see C. C. Williams and A. C. Millington, "The Diverse and Contested Meaning of Sustainable Development", in *The Geographical Journal*, vol. 170, n. 2, 2004, pp. 99-104). Nonetheless, the distinction between *weak* and *strong sustainable development* in our opinion does not allow for a clear understanding of the two definitions. Actually, one could think, as many claim, that simply a more or less radical concept of sustainability is being questioned. Our aim is, on the contrary, that of elaborating a definition of a new type of human behaviour in order to establish whether or not ecology can be considered a new socio-historical science. Therefore we must erase all the intra-specific issues, in so far as it is possible, from the notion of sustainability.

¹⁸ D. H. Meadows, D. L. Meadows, D. Randers, J. Behrens, *The Limits to Growth*, London, Pan, 1972.

¹⁹ Human progress, as far as the relationships of the species with nature is concerned, as well as for many other aspects of civil and political life, does not appear as a straight lined path which advances towards a radiant future. There have been some regressions and crises that have put in danger or even caused the disappearance of entire civilisations. The crisis that caused the decline of the populations of Mesopotamia, which in the ancient ages gave life to the first thriving cities and empires, in which writing developed, appears to be well comprehended. Because of the intense and rash exploitation of the soil, the Sumerians caused the progressive salification of the land, the desertification of the region and the disappearance of their civilisation. A similar disaster was caused, in a later period, by the Maya population, who exploited the tropical region of centre and southern America to its extreme potential. Another documented case is the extinction of the population that colonised Easter Island, in the Pacific. If cases of unsustainable development occurred in the past, one cannot exclude the possibility of history repeating itself. No "spontaneous" sustainable behaviour can be surmised in the human species. Nonetheless, today, it is not a single isolated civilisation that is in danger, but humankind together with all the other living species. Some scientists, indeed, assert that present development has gone well over the limits of irreversibility of the degradation of the biosphere. (The documentation of some of the historical precedents of unsustainable development is to be found in C. Ponting, "Historical Perspectives on Sustainable Development", in *Environment*, 32, 9, November 4-9, 1990, pp. 31-3; now in P. M. Haas (ed.), *Environment in the New Global Economy*, vol. I, Edward Elgar, Cheltenham, 2003, pp. 3-12).

²⁰ The physicist Richard P. Feynman writes that "The principle of science, the definition, almost, is the following: *The test of all knowledge is experiment*. Experiment is

the *sole* judge of scientific ‘truth’ ” (in R. P. Feynman, *Six Easy Pieces*, California Institute of Technology, 1963, p 2). James Buchanan dwells upon the distinction between scientific activities and political activities with interesting observations, (“The potential for tyranny in politics as science”, in *Liberty, Market and State*, Brighton, Weatsheaf Books, 1987, pp. 40-54), in which, however, his curtailing of political action to a “market of interest and values” is questionable.

²¹ I have briefly described the classical economic system as a point of reference for the modern reconstruction by P. Sraffa, *Production of Commodities by Means of Commodities*, Cambridge University Press, Cambridge, 1960; David Ricardo, in the chapter concerning the land revenue, approvingly quotes the following observation by J. B. Say: “Land ... is not the only natural agent possessing productive properties; but it is the only one, or almost the only one, which man has been able to appropriate, and turn to his own peculiar and exclusive benefit. The water of rivers and of the ocean has the power of giving motion to machinery, affords a means of navigation, and supply of fish; it is, therefore, un-doubtedly possessed of productive power. The wind turns our mill; even the heat of the sun co-operates with human industry; but happily no man has yet been able to say, the wind and the sun’s rays are mine, and I will be paid for their productive services.” (D. Ricardo, *On the Principles of Political Economy and Taxation*, Cambridge University Press, Cambridge, 1966, p. 69).

²² R. Solow, “An Almost Practical Step toward Sustainability”, in *Resources Policy*, vol. 19, n. 3, 1993, pp. 162-72; cit. p.164. Now also in M. Munasinghe (ed), *Macroeconomics and the Environment*, Edward Elgar, Cheltenham, 2002, pp. 45-55.

²³ Common and Stagl observe that: “where the resource is non-renewable, there is no constant rate of use that can be maintained indefinitely, no sustainable yield ... With no possibility of substituting capital for resource, growth is a transitory phenomenon even with technical progress” (cf. M. Common and S. Stagl, *Ecological Economics. An introduction*, Cambridge University Press, Cambridge, 2005, p. 235).

²⁴ The market was formed and developed on the basis of rules that did not envisage environmental sustainability. In Sumatra, Borneo and Malaysia, the rhinoceros of Sumatra, is on the verge of extinction because of the intense poaching activity sustained by an insatiable demand for its horn which, it is rumoured, should have therapeutic and aphrodisiac properties. The demand for the horn of the rhinoceros of Sumatra comes from the entire Asian area, but especially from China. Save a miracle, the fate of the rhinoceros of Sumatra, an authentic living fossil, whose origin goes back 40 million years, is extinction. From this example, however, one should not infer that the market economy and ecology are necessarily incompatible. Economists have shown that the market of tradable permits can guide businesses towards the use of sustainable technologies. Another example concerns the conservation of tropical forests. Some environmental associations, such as the WWF, successfully transformed natural tropical reserves into an economic good, spurring the local population to accept the collective role of guardians of the park. These populations can thus earn their income not from selling timber, but from tourism and other conservation activities. In other cases, environmental associations bought logging rights to prevent the commercial exploitation of forests by multinational companies (I drew these examples from E. O. Wilson, *The Future of Life*, *op. cit.*).

²⁵ The property of a good to satisfy certain vital functions, such as the need for calories, do not allow to single out any precise relationship with its market value, or price. The amount of calories contained in a chocolate bar bought in the supermarket is, for example, the same as that contained in a cake in a confectioner’s or of a sweet that appears in the menu of a refined restaurant of a great metropolis. Yet the prices of these three goods may be different. An economist has the task of explaining these differences. From the ecological

point of view, only the nutritive properties of the good are of interest (one could remark that a similar problem is at the basis of the intense debate, which lasted about a century, between Marxist and marginalist economists, on the relationships between the labour theory of value and of prices of production).

²⁶ Concerning the market of tradable permits, cf. M. Common and S. Stagl, *Ecological Economics. An Introduction*, *op. cit.*, p. 425.

²⁷ For example Costanza, Daly and Bartholomew assert that “to achieve sustainability, we must incorporate ecosystem goods and services into our economic accounting. The first step is to determine values for them comparable to those of economic goods and services. In determining values, we must also consider how much of our ecological life support systems we can afford to lose. ... For example, could we replace the radiation screening services of the ozone layer which are currently being destroyed?” (R. Costanza, H. E. Daly and J. A. Bartholomew, “Goals, Agenda and Policy Recommendations for Ecological Economics”, in R. Costanza (ed.), *Ecological Economics: the Science and Management of Sustainability*, Columbia University Press, New York, p. 1-20; now in P. M. Haas, *Environment in the New Global Economy*, *op. cit.*, 2003, vol. II, pp. 280-99, *cit.* p. 288). R. Costanza and the other economists, coherent with their anthropocentric approach, tried to assess the biosphere in economic terms in “The Value of the World’s Ecosystem Services and Natural Capital” in *Nature*, 387, 1997, pp. 253-60.

²⁸ On these issues see J. R. McNeill, *Something New under the Sun. An Environmental History of the Twentieth-century World*, W. W. Norton and Co., New York, 2000; Penguin Books, 2001, pp. 111-15.

²⁹ For criticism concerning the attempt to give an economic assessment to ecological goods, see also M. Sagoff, *Price, Principle and the Environment*, Cambridge University Press, Cambridge, 2004, ch. 6, “On the Value of Wild Ecosystems”. The attempts to make the citizens appraise environmental goods have shown that either the citizens do not even understand the problem or they react indignantly to the attempt to give market value to a good the value of which is mainly esthetical and ethical, as when the survival of an animal is at stake. All that is an indirect confirmation of the opportunity to consider environmental goods as public goods. See apropos of this A. Vatn, “Rationality, Institutions and Environmental Policy”, *op. cit.*, which rightly states that “if people have problems with perceiving environmental issues in monetary terms, it may be because they invoke rationalities that differ from market logic when thinking about environmental issues. For them invoking this market logic when dealing with the environment may be a category mistake” (p. 215).

³⁰ Nonetheless, the *Charte de l’environnement*, approved in 2004 by the French national Assembly, asserts that the environment is the common heritage of humankind.

³¹ Sometimes, the suspicion that economists develop policies based only on the market appears to be legitimate, because they dare not doubt the absolute sovereignty of the nation States, which consider it their exclusive right to exploit the existing natural resources within the national boundaries.

³² W. Leontieff, *The Future of the World Economy*, United Nations, 1977.

³³ This is the title of a fortunate text on the history of economics, cf. D. S. Landes, *The Unbound Prometheus*, Cambridge University Press, Cambridge, 1969.

³⁴ K. Popper, *The Myth of the Framework. In Defence of the Science and Rationality*, Routledge, London, 1994, p. 195.

³⁵ On the myth of the sovereign nation State cf. M. Albertini, *Lo Stato nazionale (The Nation State)*, Guida, Napoli, 1980; and the collected essays in *Nazionalismo e federalismo (Nationalism and Federalism)*, Il Mulino, Bologna, 1999.

³⁶ The literature on political realism is massive. Hence one cannot but make reference

to some anthological collection such as, for example, R. O. Keohne (ed), *Neorealism and its Critics*, Columbia University Press, New York, 1986; J. Donnelly, *Realism and International Relations*, Cambridge University Press, Cambridge, 2000; D. A. Baldwin, *Key Concepts in International Political Economy*, Vol. I and II, Edward Elgar, Cheltenham, 2000; e M-C. Smouts, *Les nouvelles relations internationales. Pratiques et théories*, Presses de Science Po, Paris, 1998.

³⁷ For a more profound study of these aspects I refer to my book *Ecologia e Federalismo (Ecology and Federalism)*, *op. cit.* in which I talk about the right to peace, to right to international solidarity and right to life on Earth, as fundamental rights which must be guaranteed by a cosmopolitan Constitution; as far as the European process is concerned, in order to overcome absolute national sovereignty, I refer to my essay “L’Europa, la sovranità nazionale e la costituzionalizzazione delle relazioni inter-nazionali” (“Europe, National Sovereignty and the Constitutionalisation of International Relations”) in M. C. Baruffi (ed), *La Costituzione europea: quale Europa dopo l’allargamento?*. CEDAM, Padova, 2006, pp. 29-78.

³⁸ For a more detailed analysis of these issues see M. Common and S. Stagl, *Ecological Economics*, *op. cit.*, ch. 13.

³⁹ “To kill” in this context means the will to wipe out a species, not a single individual or an animal or vegetable species.

⁴⁰ It should be clear that the World Council for sustainable development that we propose here, has nothing to do with the *World Environment Organisation* which from time to time is suggested within the UN framework as a possible remedy to the lack of an effective world environmental policy. The proposal of a WEO is justified by the fact that the national governments do not intervene to address global environmental problems and they do not want to attribute government powers to a world authority in respect of the taboo of absolute national sovereignty. It is obvious that, presented in these terms, the problems have no solution and the debate — if the institution of the WEO does not coincide with the devolution of national powers to a world authority — will last forever. With regard to this, see P. Newell, “A World Environment Organisation: the Wrong Solution to the Wrong Problem”, in *The World Economy*, vol. 27, 4, 2004, pp. 609-24.

⁴¹ B. Siebenhüner, “Homo Sustinens – Towards a New Conception of Humans for the Science of Sustainability”, *Ecological Economics*, 32, 2000, pp. 15-25, *cit.* p. 23.

⁴² I drew these indications from M. Tomasello, *The Cultural Origins of Human Cognition*, Harvard University Press, Cambridge, Mass, 1999, p. 53.

⁴³ On this subject, J. Diamond’s investigation is exemplary J. Diamond, *Guns, Germs, and Steel. The Future of Human Societies*, New York, Norton & Co., 1997.

⁴⁴ Cf. E. O. Wilson, *The Future of Life*, *op. cit.*, ch. 7.

Notes

THE EUROPEAN VANGUARD

Introduction: at the Root of the Failed Referendum.

The “Yes” campaign in the French referendum on the Treaty establishing a Constitution for Europe was conditioned by two misconceptions, one generational (concerning the vision of Europe) and the other a result of political hypocrisy. First, the argument used, which focused on the prospects of peace and prosperity, is now largely superseded. It no longer reflects modern aspirations and strikes a chord only with the populations of the new member states and with the older generations within Europe’s founding member states; indeed, the younger generations in these countries consider war in western Europe no longer possible. Meanwhile, the argument that the process of European integration leads to prosperity has in fact been disproved, over the past quarter of a century or so, by persistently high levels of unemployment and slow growth in the countries that constitute the heartlands of western Europe. The second misconception derives from the insincerity of the governments when they talk about Europe. While on the one hand they extol, in saccharine terms, the virtues of European integration, on the other, they never miss an opportunity, whenever it is necessary to push through some unpopular liberal reform, to level accusations at Brussels, often forgetting that their own representative on the Council has approved them. By dint of use, this ambiguous language has given the European peoples the impression of a Union that holds, illegitimately (given that it is considered technocratic), an occult, supreme power.

In truth, the “democratic deficit” derives not from the Commission’s technocrats, who are actually few in number, but rather from the weakness of European integration. The principles on which a confederation is based are, by definition, less democratic, given that they rest on the power of the states, or rather, the power of the direct and indirect representatives of the governments (ministers on the Councils, but more often commis-

sioners). The decisions are thus taken by individuals who are representing the peoples at second- or third-hand. What is more, the Treaty Establishing a Constitution for Europe, unlike the Maastricht Treaty which contained the project for the single currency and thus touched an important aspect of sovereignty, has no solid core. This intrinsic weakness attracted strong criticisms on the part of those opposed to it, and left its supporters able to offer only the weakest defence of it. A further handicap, finally, was the lack of a clear objective for the EU: according to the official line, the federal objective is too vague, a prospect too remote to allow any of its benefits to be felt, while the lack of geographical limits — the Turkish problem strongly influenced the electorate — with indefinite enlargement as its corollary, inevitably weakens the cohesion of the whole and foments fears.

Realisation of the impasse to which the so-called Monnet method (which tends to give priority to “practical achievements”) leads opens up the way for another form of construction. This means planning a federal entity, a structure built around its own internal cohesion. But this project for a federal state must nevertheless take into account and be coordinated with the continued existence of a confederal European Union.

The Limits of the “Monnet Method”.

Jean Monnet proposed that the construction of Europe should start with “practical achievements” that would lead to the creation of “de facto solidarities” whose accumulation, it was believed, would trigger an irreversible process. But the creation of cooperations in the absence of political leadership has left Europe sinking in quicksand. This approach has undoubtedly had its successes (the European Coal and Steel Community, the customs union, the Common Agricultural Policy or CAP, projects in specific fields outside the ambit of the Community institutions, such as Airbus and Ariane, and so on), but these are achievements that remain scattered in different sectors and that are not, through the creation of a single political will, exploited politically. And all this, often, is the source of provisional or unsatisfactory situations: the Economic and Monetary Union (EMU) is defined as “a currency without a state.” Paradoxically, some of the progress made merely reflects, in part, a return to the situation that characterised the years up to 1914 and thus should not be overemphasised: in the period of *La Belle Époque*, after all, there were already fixed exchange rates and free circulation of people in Europe.

Although the spirit of the “Monnet method” was right in order to set

Europe on its journey, Europe today no longer needs to “get started.” It was implicit that subsequently, once a certain level of integration had been reached, it would be replaced by a more direct method. Today, if we look at all that Europe shares, it is objectively an enormous amount: Union law or common European regulations affect nearly all areas of daily life, yet without ever (with the exception of monetary policy) casting doubt on the sovereignty of the member states.

The current malfunctioning of the European institutions, which is due to their essentially confederal nature, creates two opposing obstacles. On the one hand, there is the problem of the paralysis of the Union’s decision-making mechanisms. Without consensus, the Union cannot take decisions and as a result, issues are postponed and never resolved — we may cite, as examples, the constant CAP reforms, the question of British concessions, and EU budget limits — and with regard to many of the great issues, this is, frankly, a real problem. On the other hand, consensus is sometimes obtained by forcing the hand of the weaker states and this “tyranny of consensus” clearly damages the smaller states and works to the advantage of the larger ones. Austria, for example, was recently forced to drop its opposition to the process of Turkey’s accession to the EU so as not to damage Croatia’s chances of joining, Croatia being much closer to Austria both historically and economically.

These difficulties linked to the confederal principle — and aggravated by the failure to deepen the Union, a deepening that was proposed unwisely after its great enlargement — make it necessary to get the process of European integration back on track through integration in key areas of sovereignty: integration from the top, and no longer just from the bottom, is the very condition of federalism.

The Federal Design.

The federal entity must be able to operate independently. Obviously, this federal “hard core” will not be as large as the current Union, given that today there is no consensus on the ultimate European objective; it is, in fact, clear that the United Kingdom has its own design and that this design is not federalist. In these conditions, the narrower entity mentioned above must be able to operate, in the areas within its sovereign competence, without being impeded by the decisions, or non-decisions, of the states. This is why this federal entity must respect the democratic principle according to which legitimacy is based upon the election by direct universal suffrage of leaders, or of the assembly before which these

leaders are answerable. The need for effectiveness also demands the presence of a head: experience has shown that joint leadership of a sovereign state, even a federal one, is ineffective and, in fact, such situations are exceptional. With regard to the question of sovereignty, the Swiss Confederation, on account of its traditional neutralism, is a peculiar example of such a collegiate executive. In any case, the federation will have to have its own institutions, distinct from those of the Union both in their workings and their composition.

The federation must be made up of states that have relinquished their sovereignty in the sphere of foreign policy relations. In line with the Austro-Hungarian model of the period 1867-1918 — even though the European federation is based on a rationale of association and not division, a difference that distinguishes it from the state born of the *Ausgleich* agreement —, the very minimum federal basis must include at least three ministries: a defence ministry, a foreign affairs ministry and the relative finance ministries. The first naturally rules out neutral countries that are not part of the Western European Union (WEU), while the third closes the door to those that reject EMU. While the presence of these three pillars obviously does not prevent the federation from extending its competence to other spheres, they are enough, a priori, to guarantee its existence. There remains the question, which is more cultural, of the unifying myth. In Austria's case, it was the Emperor, the dynastic legitimacy of the hereditary states, the Catholic religion, the shared history. As far as the European federation is concerned, of course, there is no likelihood immediately of any manifestation of sentiments arising from a collective consciousness as deep-rooted as this. But wouldn't it be true to say that it is the destiny of all federal projects to forge their own unifying myth, able to create an indissoluble bond? Anyhow, in the case of the United States the federation did not become indissoluble until very late, after the victory of the northern states in the American Civil War.

The obstacles are not insurmountable, since public opinion in Europe is ready to receive the federal argument. In the wake of two the World Wars that left the continent in ruins, and of the disintegration of the colonial empires, it has become much easier to let go of national pride and many Europeans have accepted this. The resistance will be much stronger within the state bureaucracies and in particular within the departments responsible for key areas of sovereignty. The ones likely to find it hardest to renounce their status as international powers are the big countries: Germany, Italy and particularly France, which, as a permanent member of the United Nations Security Council, holds the right of veto. For

France, it would mean giving up its privileged position within the concert of nations. Germany has little prospect of obtaining a seat on the Security Council and would do well to give up on its efforts to do so, while Italy needs only to accept that it is time to stop trying to ensure that Germany is not assigned such a seat. The smaller European states are under no illusions as regards the power they wield and are happy to settle for the advantageous protection of the Atlantic Alliance. On the contrary, provisions need to be made for practical forms of integration, such as the merging of military commands and diplomatic corps, moves bound to encounter the resistance that is typically mounted whenever separate organisations merge. Finally, widespread misgivings have to be set aside: it will certainly not be easy for German public opinion, pacifist and entirely opposed to civil nuclear energy, to accept a European federal state equipped with its own nuclear weapons.

Functioning separately, the federal state and the Union — since the purpose of the former is obviously not to eliminate the latter — will have to find a way of coordinating their roles.

The Role of the Federation Must Be Coordinated with that of the Confederal EU.

This need to coordinate the role of the narrow federation with that of the larger confederation is satisfied by the very principle of the “hard core.” The federation is characterised by more solid integration than the confederation. Obviously, EU membership is an essential prerequisite for joining the federal core, as is membership of the Union’s most advanced forms of integration, such as EMU, WEU, the Schengen area, etc. The outlines of the core are thus traced, on the basis of these conditions, by exclusion: in fact, these conditions exclude the British and the Scandinavians. The final selection among the remaining countries will be determined by the will, or the lack of it, of the different populations to take part in the project. This will would have to be ratified by the citizens and a referendum clearly seems to be a necessary step for a decision as vitally important as this. Finally, the creation of a federal core presupposes the reaching of a critical mass through the participation of two or three of the large founding member states, and by implication of a larger number of small countries, regardless of how long they have been members of the Communities or of the Union.

The federation replaces, by full right, its single members with regard to EU policies, while also retaining the federal competences that have

been assigned to it. This inevitably produces two effects. First, the critical mass of the hard core effectively imposes, as priorities, its own positions, while the member states that are not part of the core find themselves sidelined, if not actually marginalised. These countries, of course, are in no way obliged to take part or to join, but by not doing so they lose any real possibility of opposing the important choices made by the federation; against that, however, they stand to benefit from a clear protection whose costs they are not required to sustain. All this is destined to give rise to some form of dissociation, given that the confederal policies of the Union in areas that fall within the competence of the federation, such as the Common Foreign and Security Policy (CFSP), will naturally tend to become void as a result of the loss of autonomy of the marginal countries. These two processes — convergence of Union and federation policies in the sectors that fall within the competence of the federation and disappearance of autonomous confederal policies in these sectors — will naturally advance at the same rate, without it being possible, apparently, to avoid this.

However, the fact that the other states of the Union conserve their independence implies that the members of the federation should, in the areas of confederal competence, also be represented singly within the bodies of the EU. In fact, were the federation to be considered a single member state within the Union institutions, this would reduce excessively its demographic weight but also create a situation in which, in view of the weight of the critical mass, the other member states would be completely silenced, given that they would never be able to reach a majority without aligning themselves with the European federal state that they have chosen not to join. This last hypothesis would lead to an antidemocratic and absurd situation, which, for the federation, would turn the European Union into a means of dominion over the marginal states, and it would be in no one's interests to be a part of it. To prevent the EU from being thrown into such a crisis, it is important to ensure that, in those sectors outside the competence of the federation (and thus, a priori, in most of the sectors that do not concern its foreign policy), the federated states are not replaced by the federation but instead continue to be full partners of the confederation. This situation, unusual as it may seem, is certainly not the only question relating to the danger that the imposing EU construction might crumble in the wake of the birth of the federation. It does however have the advantage of ensuring that the governments of the federated states conserve a role — albeit limited to the sphere of “intra-confederal” diplomacy — in the conducting of foreign

policy within the bodies of the EU. In this way, the federation will become more acceptable both within and outside its own borders.

In the meantime, the creation of this federation, independent but in symbiosis with the Union, will be more than sufficient to exert a force of attraction. In reality, joining the federation will be in the interests of all the countries in the confederation whose peoples want to be heard in the areas of federal competence. Meanwhile, it will be in the interests of the federation to expand progressively, given that its *raison d'être* as regards its external sovereignty will naturally lead it to want to increase its weight. The limits of this expansion will be dictated by the federation's concern not to undermine its internal cohesion by allowing itself to become, culturally, too heterogeneous. This question of limits will have to be considered quite early on, in order to avoid the paradox of the current EU, which considers the question of limits only after it has promised or agreed to enlargements without having first formulated the essential principles of cohesion.

In addition to all this, the progressive extension of the competences of the federation, in line with the trend shown historically by many federations, would strengthen the other EU member states' interest in joining the core. It is this logic of progressive enlargement of an initial federal core that makes it a true European vanguard.

Conclusion: what Method Should Be Adopted?

There is an increasingly widespread awareness of the need to take the process of European integration further and to overcome the obstacles that the European Union currently places in its way. Having outlined the federal core, and appreciated the need for close coordination with the European Union in order to guarantee the maintenance of its *acquis*, the supporters of the federal project must naturally ask themselves by what means it can be achieved. This process of creating a federal vanguard can be started only if an important section of the political class and of public opinion can be convinced of its worth. In short, the crucial decisions will have to be based on electoral majorities.

The task of militant federalists today is thus to convince, and there are two complementary courses of action before them. First of all, it is necessary to align the European citizens and their leaders, getting them involved in a problem that is certainly familiar, but whose solution, which lies in federalism, is not yet clear to everyone. It is necessary to make the project public so as to stimulate debate, and it will be up to the federalists

to broadcast their solution through the media, before politicians and commentators, and within the political parties to which they belong. Only by so doing will they succeed in winning the support of leaders and political parties for the federal project. Second, it is their responsibility, within their respective political parties, to press for a political evolution of the Union whose current confederal *modus operandi*, rather than the fruit of an institutional framework, reflects its having inherited a method of European integration conceived as the implementation of a form of international cooperation, in which everyone conserves, at national level, their own ideas, values and political affiliations. On the contrary, Europe needs to operate within the field of real democratic political competition and therefore must stop being, above all, a framework for decisions based on consensus. This is the only way in which to arouse the interest of the media and public opinion in the political competition and power games that concern Europe. To this end, every effort must be made to dissolve the “great coalition” between the European People’s Party (EPP) and the European Socialist Party (ESP), which neutralises, politically, the European bodies of a federal nature, such as the Commission and the European Parliament. Breaking this taboo of consensus — let us remember that consensus is necessary only on questions of a constitutional nature — would not only restore some weight to the European institutions, but also constitute the precondition for the existence of a fully democratic European Union, making it possible for the European citizens to choose, through a modifiable parliamentary majority, a political team and its leader, the President of the Commission. In this way, the Commission will cease to be made up of representatives of the EPP and the ESP, a state of affairs that keeps the representatives of the states in the foreground. Paradoxically, abolishing the criterion of consensus over the content of European policies is without doubt the best means — given that it opens the way for political competition and true debates with the European electorate — of creating the conditions for the emergence of true consensus over the institutions needed for the creation of a federation.

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