

The development of man and society — The importance of common sense

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The title of my presentation reflects an ambition that goes far beyond its content. I hope you don't expect me to provide you a scientific or philosophical dissertation since the organizers did not invite me here as a scientist or philosopher. I consider myself a layman in all the fields in which I am involved and about which I state my opinion, and that is how I would like to be considered at this BrainFair.

More than 30 years ago, I rebelled against my father's insistence that I pursue a career in engineering at this academic institution that is devoted to the sciences, just as he had done 40 years earlier. In my youth, my activities revealed an inclination towards technology. However, I was not interested in studying this field in depth at the university for four years. Instead, I chose to study law at the near-by law school, even though I knew I would never earn my living as an attorney.

Finally, going very much against my own convictions as a youngster, and with my father's approval, I became a man devoted to finances. Nevertheless, even in that area, I did not work as a number-crunching professional executive, since I was essentially drawn towards issues related to the sphere of psychology, politics, and social sciences.

In terms of my personal ambition, I could define myself as a "generalist," even though that ambition entails a claim that I cannot fully meet. Therefore, I prefer to simply consider myself a contemporary and perceptive man, a citizen of the world who has the privilege and the pleasure of observing the events that take place around him with keen interest and of reflecting on them.

In general, my thoughts on current events begin to seriously concern me when they conflict with *general and current* thinking, with the topics and trends that are in vogue. Then, trying to think them through to the very end, if possible, I often arrive at surprising and unexpected conclusions. Please forgive me if I tend to become ironic or cynical during these moments I share with you. Do not take me too seriously because I do not want to take myself too seriously either, although the subject matter of my reflection would probably demand it. After all, I, like all of you, and about six billion other individuals along with us, am merely an actor in the great theater of the world, as Calderón de la Barca so magnificently described it.

*I frankly admit that I find both irony and cynicism to be useful tools for psychological hygiene, especially if I start from the assumption that we human beings, as Arthur Koestler asserted, represent an evolutionary flaw. In his book *Janus, a summing up*, Koestler, basing himself on the works of McLeans, arrives at the conclusion that man should be considered a discontinued evolutionary model since humans did not succeed in satisfactorily connecting or coordinating the *neocortex*, "the thinking cap" of human beings, with the archaic structures of the cerebrum: the limbic system, inherited from reptiles and lower mammals. As a result of this flaw, we are sometimes unable to bridge the gap between reasonable thinking, on the one hand, and deep-seated instincts and emotions, such as fear, aggression, or sexual behavior, on the other.

As a layman, I do not know the extent to which this hypothesis remains valid or has been refuted or revised by research conducted in the scientific discipline that is so well represented in this prominent audience.

Personally, I like using Koestler's theory because it helps me explain observations related to my social and human environment that would otherwise remain incomprehensible to me.

My thoughts today are primarily concerned with *duality*, with the dichotomy that exists in human behavior, which is determined in part by reason, and in part by instinct and emotions. The consequences of this dual behavior tend to be at times creative, frequently amusing, and not infrequently destructive. However, they are especially blatant when we see them in the light of the two major trends that characterize our historical era: the *acceleration* of all developmental processes and the *increasing aging* of individuals and societies with high standards of living.

Duality in human behavior

In their daily lives, both men and women naturally adopt behavior that reveals the duality that is inherent in human beings. I am going to use two random examples in order to demonstrate how these situations abound in our lives. First of all, let us consider the contradiction that exists between the policy of guaranteeing ever greater safety based on continuous technological development and the growing demand for risk, which is demonstrated by phenomena such as the practice of extreme sports and the excessive consumption of any type of substance. Now let us consider the case of societies made up of persons from different ethnic groups who coexist in an orderly and peaceful manner for centuries until all of a sudden, one day they begin to assassinate each other cruelly and mercilessly, as we have observed in Rwanda and the former Yugoslavia, to mention just two dramatic examples.

In my opinion, cases such as these cannot simply be made to fit into the field of psychopathology. Instead, they represent the different layers that coexist inside of us and determine our behavior. We must live and learn to live with this duality (which is understood to be the result of evolution), even if its consequences sometimes seem absurd and terrifying to us and therefore unworthy of civilized human beings.

An obvious duality, whose effects could be tragic and far-reaching, can also be seen when we approach the same issue from a *partial* or *sectoral* standpoint and from an *all-encompassing* or *all-embracing perspective*. Medieval man, imbued with magic and the mystique, felt he was part of a Universal Whole and needed the Renaissance and the Enlightenment to become a rational being in the Cartesian sense - one who no longer perceives the world as a Universal Whole but as the sum total of numerous bits of knowledge and partial and linear developments. Based on the Cartesian method, scientific research and knowledge have made extraordinary progress. And the truth is that things are going very well for us if we consider the criteria used by our medieval ancestors with respect to our quality of life.

However, we do not seem to be in a position to benefit from our fortunate situation. Neither the individual nor society functions exclusively in a linear and rational sense; rather, they also function horizontally by interweaving their effects into an uncoordinated and often chaotic blend of reason, instinct, and emotions. The society of Enlightenment, in which action is exclusively dictated by reason, has remained in the real world just as it was conceived then: as fiction, a mere postulate.

If the current trend to subdivide the pursuit of science into ever smaller offshoots of complex sets of problems at an ever faster and ever steeper pace, we would gradually come to a point at which the expert would know more and more about less and less, until in the end, he would know practically nothing about everything. This trend, like any form of extremism, leaves victims behind in the middle, which is precisely the spot where we should establish a "standard" to go by. One of these "silent victims in the middle" is sound judgment, that part of our comprehension of the world that the French describe as "good" in the expression "*bon sens*" and the English language calls "generally valid" in the expression "*common sense*," although it is well known that in reality, it is the least common of all senses.

In my opinion, common sense is one of the possible bridges between the two poles of duality. It is not a scientific term, and perhaps that is why I feel so comfortable using it. Instead, it comes from the world of intuitive comprehension. I like to define it as "the search for balance between reason, emotion, and instinct."

An equilibrium, in which none of the individual factors can prevail over the others, since each of them generally functions independently from the other and the reciprocal influences that they exert on each other tend to be limited.

When this equilibrium is disturbed and any of the mentioned factors evolves on its own, without interacting with the others, something we could describe as a “rational absurdity” is born. This absurdity arises from analyzing social subsystems from a logical, and consistent standpoint, studying them to the most minute details, and considering them to be independent from each other without taking into account that their constituent parts have been organized from a sectoral standpoint. The results obtained from this analysis are only of value within the bounds of the same discipline and cannot be horizontally connected with other approaches.

Let us look at two examples, about this subject, also within a contemporary framework. Last summer, certain European Union government ministers met to discuss the subsidies that were to be paid professional fishermen in return for suspending their activity one day a week, leaving their boats moored in port to preserve stock of fish that are in danger of extinction. At the same time, however, other ministers of the same governments pay out astronomical subsidies for building much more efficient new fishing boats thanks to modern technology. On the other hand, fishing boats that are considered obsolete or uneconomical for use in the European Union are included in the “Development Assistance Plan” and, along with monetary aid, are sent to Third World countries, where they will continue to contribute to the destruction of fish stock. If governments had a “Ministry of Common Sense,” this type of subsidies would appear on its long list of pending items.

Another example is evident in the *War on Drugs* (the expression officially used by the White House in Washington), a war being waged internationally and involving an ever increasing use of military resources with ever greater devastating effects. This war is based on the premise that the consumption of drugs, on which American citizens spend approximately \$100 billion each year, must plainly and absolutely be considered a criminal issue that must be fought with police and military forces. The slogan reads: “*We want a drug-free America.*” The results are well known: the drug market — whose figures are comparable to the global petroleum market! — has all the characteristics of a giant oligopoly that has been forged through none other than that war itself, with profit margins higher than those of any other market. Encouraged by the extremely high margins offered by this oligopoly, millions of drug traffickers use all available means to win new clients to continue increasing their market potential and profits. Part of these profits goes toward corrupting officials and citizens at all levels around the world. Entire countries in Latin America have been destroyed by the after-effects of the War on Drugs. Today, many more people suffer as a result of the laws of the drug market and of the war that has been declared on it than suffer because of the consumption of narcotics.

And what are the results of this war in the nation that leads it? Drug consumption continues unchecked, and prisons, which are now packed, have become virtual breeding grounds of drug traffickers: the rate of prisoners convicted of this crime is the highest in the world and has quintupled in the past 20 years, now totaling 1% of the adult population of that country. Add to this the tremendous cost of the war and the expense for surveillance equipment developed to combat money laundering and the reinvestment of profits by the oligopolies. The clearer the failure and the negative after-effects of this bellicose policy become, the more resources the government appears to place at its disposal.

I understand that viable alternatives are not readily apparent and that they are certainly not easy to find. However, common sense should at least stimulate open discussion about this war that is as futile as it is relentless, and about alternatives that promise to be more successful. In terms of a drug policy, we Swiss are several steps ahead of the nation that leads the world, since we have managed to establish a relationship between two phenomena, one sociopathological and the other economic, which other countries consider and approach separately.

The phenomenon of acceleration

My observations regarding contemporary reality would seem to indicate that the duality inherent in human behavior is underscored by the acceleration of the evolutionary processes. Ever wider and deeper gaps are opening up and multiplying faster and faster every day between the two forms of comprehension and behavior, one of which is determined in a rational way, the other in an emotional-intuitive manner. In recent generations, human capacities that are based on emotion and instinct have not only failed to develop substantially but apparently, and at least in certain respects, have regressed. At the same time, the capacities based on rational knowledge have expanded geometrically: in the past 50 years, there have been more scientific discoveries than in the preceding two thousand years, and these discoveries have enabled us to achieve a great deal of progress — regarding such things as health and the quality of life — which would have been inconceivable just a few years earlier.

However, the deeper this type of knowledge progresses in the various fields and disciplines, the more clearly we can discern the lack of a globalizing vision capable of transmitting from individual incidents elements that may contribute to the optimization of progress in a global sense. Let's use a contemporary example: as a result of scientific discoveries, we now know with an acceptable and plausible margin of certainty that we are on the verge of doing an experiment with our earth atmosphere and our climate that probably cannot be repeated. This is so because within just a few generations, we have used up the fossil fuel reserves that took millions of years to form, and we are storing carbon dioxide (CO₂) in an uncontrollable manner, which is now being released into the atmosphere.

For its part, economics — another discipline that is also considered a science — teaches us that when prices are low, demand increases and the efficiency of consumption ceases to be optimal. The potential of improving efficiency — which in and of itself is possible and known — in reality applies only in part, since the corresponding price signals are lacking. In this case, we would need a globalizing vision capable of connecting both approaches so that a political decision could be made on the matter, such as to tax energy and not manpower. The result of not establishing this link is an ill fated and very obvious development, not yet in terms of its temporary dynamics, but certainly in terms of its orientation, a development that accelerates because of the increase in the world's population and standard of living.

The present-day individual, one six-billionth part of humanity, overexerted to the point of not being in a position to even so much as identify the interrelationships that determine its life and environment, would be in even less of a position to understand them rationally. (And every hour that goes by, another 10,000 individuals are added, 90% of them in the world's poorest countries). Taken as a whole, society, too, is in no position to design environmental conditions in such a way that our current behavior will not harm our future opportunities. According to Darwin's laws, society's inability to plan based on long-term general interests leads to control by individual and group interests.

Following the collapse of the former Soviet Union's centralized economy, many contemporaries who have the privilege of living in the wealthy part of the Earth believe that a market economy is able to solve the world's problems thanks to its optimized general efficiency. I also see extraordinary — but not necessarily unlimited — possibilities in the market. Adam Smith's "invisible hand," with its beneficent efficiency, cannot reach that sizeable sector of humanity that lives on the verge of subsistence due to a lack of resources and, therefore, does not participate in the events that take place in the market. Nor does it reach those places where prices do not reflect the costs of consuming resources and destroying the environment. Or where current decisions degrade future values to such a point that they lose their true significance.

Common sense should advise us to be measured by our consumption of resources with a view to economic growth, considering not only macroeconomic indicators but also human beings' ability to adapt to the changes, as well as natural ecosystems' capacity to regenerate. However, in the economic globalization programs, I

have yet to come across a chapter dedicated to behavior that is “measured with a view to preserving the balance.”

Increasing ageing

We, the people of today, must become accustomed to changes of an ever-widening scope that are occurring at a breakneck pace. Young people always manage to adapt in a surprising way. However, one of the problems faced by wealthy countries is that as life expectancy increases, these countries age more and more each day, thereby diminishing their capacity to react and adapt. I would like to cite some figures in this regard, which appear in the book *The Grey Dawn* by Peter Peterson, which is worth reading:

- In the last 50 years, the global life expectancy increased more than in the preceding 5,000 years. In first place is Japan, with an average life expectancy of 80 years, and the trend is on the rise... In 1970, 2% of the Japanese population lived beyond age 75; today, 6% of the population is above that age, and within 10 years, that figure will be approximately 10%.
- In all the developed countries, the birth rate fell below 2.1 births per woman, which is the coefficient that ensures the preservation of the current population. Italy and Spain, two countries that were “packed with children” during my school years, lose 1% of their native population each year because their current birth rate hardly exceeds one birth per woman.
- Among other effects, this process will have serious economic consequences. In the countries of the European Community, the ratio of economically active taxpayers to retired persons continues to be 3 to 1 at this time. However, within 30 years, the trend will be 1 to 1 in some European countries as long as no major demographic changes take place in the interim that would alter this data drastically, such as massive immigration.

The general conclusion is clear: in the decades to come, senior (“third age”) citizens will play an increasingly important role in our society. Their influence on political decisions will be greater and greater and will tend to be fairly conservatively oriented. As a result, we can expect there to be tensions in this world of rapid changes. The two major political poles will no longer be the left and the right, as was the case during the intense discussions while I was a student in 1968. Instead, there will be a progressive and newness-oriented, pole on the one hand, and a preservation-oriented pole that defends what has been shown to be efficient and effective, on the other. If humankind is going to age faster, it is to be expected that greater value will also be placed on the wisdom of old age. That wisdom may help us maintain the balance between preservation- and newness-oriented factions so that we can avoid extremism of any kind.

I do not know how to interpret in this context the lack of a relationship between the *neocortex* and the limbic system that I mentioned in the beginning. Perhaps research will be conducted in the future, taking into consideration ethical and human aspects, to establish that connection, in order to link reason and emotions in a better way. I am speaking to you as a layman again, and I won't hold the ironic look on your faces against you, though scientists who are preparing to work for a better world should also be allowed to dream about the future.

The global world

We humans are growing closer and closer together. Every day, there are more of us in the same amount of space. We travel more and we travel farther. Our communications and trade with other countries is increasing at exponential rates. Those who view this world as a sort of road to paradise call it the “global village.” Others, however, consider globalization a road to hell. Unfortunately, there are increasingly fewer nuances in the phenomenon of globalization. Nevertheless, within the framework of this road to globalization, we are only going to find optimal solutions for all human beings and the planet if we work hard at rethinking our daily reality.

A current example of this type of work is offered by the Alliance for Global Sustainability, a research council made up of the ETH (Swiss Federal Institute of Technology), MIT (Massachusetts Institute of Technology), and the University of Tokyo. The researchers that have come together to form this alliance, to which I made a sizeable donation five years ago for its foundation, search for concrete models and paths that will lead to sustainable development.

They work in close cooperation beyond the confines of the various universities and disciplines. The workgroups are made up of representatives from three continents and three different cultures. For their research, they select issues that are relevant in daily life. One example of such research involves looking for technical and practical alternatives that will enable China's consumption of such a highly used mineral as coal to be achieved through processes that are more efficient and less harmful to the environment.

Another particularly ambitious research project investigates ways to cut energy consumption by half in metropolitan Tokyo simply by implementing a series of political, economic, and social measures but without sacrificing much mobility or comfort. The Alliance researchers are committed to reporting the results of their studies to decision-makers world-wide. In doing so, they meet the basic requirements that were established three weeks ago precisely here at the ETH during the "International Conference on Interdisciplinary Work," the theme of which was the solution of problems jointly by science, technology, and society.

Initiatives of this type are certainly not very common even if they are indispensable, especially in the so-called "global village." We must learn to establish the relationships that are lacking in the traditional division of society. We need to look for synergies between fields that until now have been optimized independently. All of us, physicists and attorneys, engineers and economists, physicians and sociologists, we all have a common denominator: we are representatives of one species and coexist in an ever-smaller space with reserves that are being depleted because of over-exploitation. With our sights set on this globalized world, that common denominator seems reason and cause enough to reflect on designing the future and to work together more closely than in the past.

Common sense

True to myself and my limitations, I will conclude my thoughts with a defense of common sense. Even if the basic elements of my program are widely known, they virtually never come up in the daily discussions of businesspeople, entrepreneurs, scientists, and politicians. As mentioned in the example of the Alliance for Global Sustainability, this involves establishing better reciprocal relationships between sectors, subsectors, and disciplines. The objective is to find connections that also link them on a horizontal, intersectoral, and cross-disciplinary level, as occurs in our neuron system, where both vertical and horizontal connections contribute to achieving optimal involvement of a greater number of regulatory circuits. We must not allow the branches to confuse us into losing our global vision of the forest. The global vision helps us avoid rational absurdities, or at least temper them, because, as it makes them known, it enables everyone to comprehend them so that the necessary corrections can be made through the democratic process.

The checks and balances that are necessary for maintaining a minimum social consensus can be lost in the rapid pace of modern development. If we researched every specific field down to the most minute detail in an unconcerned and indifferent manner, and if we left the results of the knowledge acquired at the mercy of the power struggle that exists in the world's markets, one day, the price of learning will become too high because of the negative feedback generated by a continuously rising rate of change. I believe we are approaching that level by financing part of our standard of living with bad checks drawn on our children and grandchildren's generations.

At times, the horizontal connection and the democratic processes associated with it might slightly reduce the speed of new discoveries and developments in a progressively aging society. However, we could accept that cost if it gained us time to reflect on the consequences before they occur so that humanity would have a chance to become better prepared to face them. Neither man nor society has the ability to react that is demanded by the constant application of scientific discoveries and technological progress. They need more time. And we inhabitants of Switzerland understand that need for time all too well... Even today, we are still wondering whether or not we are part of Europe, when actually, we are located at the very heart of it!

My personal search

Ever since I committed to working for sustainable development at the Rio Earth Summit in 1992, in the eyes of public opinion, I have been wearing a little green poncho. I am getting used to that label, even though the color green does not suit me very well. I am seriously worried not only about nature, which we destroy without even thinking about it, but also about the human potential that is not being utilized because of a lack of opportunities for development, and about human suffering that results from this situation. I learned from the inhabitants of shantytowns in large Latin American cities that it is not only the absolute level of poverty that is crucial to the quality of life, but that the prospects for the future are also important. Those who have hope that tomorrow will be a better day are the happy ones. Those who look on as their chances of having a future are destroyed are the ones who are miserable.

The commandment that admonishes us to love our neighbor as ourselves, just like our sense of solidarity, which is a strong emotional impulse, motivates us to help those who are not as well off as we are. And reason obligates us to offer the less privileged real opportunities to develop their abilities instead of simply helping them out with gifts that spring from our affluence. In a globalized world, this means acquiring the ability to participate in the market with competitive offers. Only when the billions of people who currently live in poverty are no longer considered to be another part of the world's problems but a key part of their solution can the global perspective of humanity become brighter. For massive poverty, there is no salvation from above: it can only be overcome by personal effort and equal opportunity.

A combination of instinct, feelings, and reason led me to create a foundation called AVINA in Latin American countries a number of years ago, and I have been devoting much of my time, as well as considerable financial resources, to it. We want to partner with human beings who are committed to the sustainable development of their communities and are in a position to create genuine opportunities for many people. We want to support their work by providing them with resources and tools that enable them to be more efficient and to accomplish more as they serve their fellowmen and nature. We march together in search of solutions aimed at sustainable development under the slogan of "*The path is the goal.*"

Occasionally, certain observers will comment on my efforts by expressing their recognition for my moral and ethical stance. This, of course, makes me happy. However, I do not know whether I deserve such recognition since in reality, I am doing something that I believe is completely normal: simply being human. My most important *leitmotiv* is something I have described as lacking in today's society: common sense! I do not want my existence to be like that of a reptile, whose behavior is determined by its limbic system, nor for it to pass as a mere living expression of changing reason. Nor do I think that being constantly dragged between the two poles of that duality would be a desirable lifestyle. That is why I look for intermediate points, interfaces that will serve as pillars for building bridges across the chasms.