Great Projects Are What the World Needs

Pierre Chiquet is the founder of the space centers of Bretigny and Toulouse, and the rocket-launching platform of Kourou. He spoke on "Great Projects and High Technology: Rediscovering the Voluntarism of the Postwar Reconstruction Period." His speech was translated from French, and subtitles have been added.

The organizers of this conference have asked me to present my testimony here, and I thank them, in particular, Mrs. Helga Zepp-LaRouche.

He cannot truly consider himself an expert, who has not achieved something himself, and who has only conducted investigations, thorough as they may have been, because experience is acquired through "guts." From that standpoint, I should explain that my whole life has been dedicated exclusively to projects, whether small or large, across the most varied domains and countries, and I have always strived to remain a free man.

I have never joined any particular camp, and although I have always held that a country or a company should have institutions, I also believe that those institutions must be at the service of a project, and not vice versa. All the choices I have made in my life have been based on projects, and not institutions. "Projects" means men and women, and that is what interests me.

Projects are the achievement of teams, not institutions, teams who must know how to motivate these men and women. It is the sum of the multiple successful projects, small or large, that makes the world progress, because the possibility to react and be flexible in the face of often-unexpected, outside constraints, is a quality of these men and these women, and not of institutions which are perforce rigid, such that everyone, no matter who, should participate in the necessary progress of mankind.

If institutions, rather than aiding men and women to develop (because people most often underestimate their own limits), stand in the way of their growth, they are doomed to disappear.

The Soviet leadership, which declared that God does not exist and which gave power to man, while denying him speech, forgot that man has a soul that draws him toward God, even if only in the last moments. That hegemony has collapsed. Its financial bankruptcy fully masked its moral bankruptcy.

A certain American leadership that made money its God, while claiming God for itself; that adulates the "winners" and scorns the "losers"; that is outraged at the destruction of its Twin Towers and those working there, but never sought to find out who had created bin Laden (apparently more useful alive than dead), and that use it as a pretext to massacre, or to allow the massacre, of tens of thousands of innocent people—that leadership is headed towards a doom that, hasty repentance aside, could be fatal for civilization.

The Chinese leadership, based on egocentrism, will go under, perhaps before another takes its place.

Thus, as the old proverb goes, "Who sows the wind, shall reap the whirlwind," but until then, how many disasters will fall upon this Earth, that belongs to all strictly equally?

In any case, nationalism can never supersede spirituality, and God, Who has given us freedom in handing over the Earth to us, watches with the greatest interest how we make use of it. Animals struggle to survive. Men who have no problems living, and who act in that way, conduct themselves in a manner worse than beasts, and are thus unworthy of the name of man. The gifts that each has received are not our own. We have the duty to put them at the service of the other. One can be proud of what one has done, but one can not be vain about what one is.

Man has been put on this Earth to husband it as a good head of the family, whence the burning necessity for science as a means of acquiring knowledge, for how is it possible to manage the Earth without understanding it? We know so few things about it, and about man, and even less about the celestial environment on which it closely depends, yet science must be at the service of the mind and not vice versa: It is only a means, not an end, for we shall never learn the secret of the world, which does not belong to us.

De Gaulle, Kennedy, and the Conquest of Space

Throughout my life, I have been shaped by two men, who had their qualities and their failings, but who were outstanding. Whereas there were many great figures among men and women throughout the centuries, who, transfigured by the spirit, consecrated their whole lives to their faith, there are few of them in the temporal world. De Gaulle and Kennedy had the talent of putting themselves above their condition.

Another proverb goes, "No man is a prophet in his own country."

Both were admired and followed by those to whom they again gave hope, and hated and fought by those who did not want to be challenged, to the point that one of them escaped an assassin, and the other did not. Their memory remains in the minds of all peoples. Since they have gone, nothing stands in the way of the world's suicidal course.

I had the inestimable luck to be there when the conquest of space was launched in a concrete way.

De Gaulle, when he returned to power in 1958, wished to return France to the role its past had assigned it, after 2,000



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Pierre Chiquet, one of the original team at President Charles de Gaulle's National Center for Space Study, called for a revival of Europe's commitment to great projects such as returning to space, as an assurance of mankind's long-term progress, and an inspiration to the youth.

years of persistent battle in its long line of kings, good or bad: to unity in France and influence in the world, which goes back a long way, but I will limit myself to the recent period: the century of Louis XVI, of the Revolution whose generosity must be acknowledged as much as its excesses condemned.

In this context, I recently had occasion to dine with the Count of Paris, the main pretender to the throne of France: "What do you think of royalty?" he asked. I responded: "I have nothing against royalty, but I do reproach it for having allowed the Revolution." He replied, "You're right. But Louis XVI tried to do something." "Yes," I said, "but he failed!"

Then there was philosophy, the technological revolution, social advances, a universally acknowledged culture, absolutes permanently questioned, even if such questioning is disconcerting most of the time. And then there was that unique path, remarkably led with no real clash, toward secularization, which allowed France, by freeing herself from the temporal tutelage of the Church, to take on a universal character while preserving the values the Church had supplied.

For the Catholic Church was certainly in the forefront of generosity (health, education, charity, missions), and also supplied the elements of canon law that—coherently assembled over more than 1,000 years—served Napoleon as a basis for establishing the Civil Code. Not to be confused with those who, in the name of the Church, forgot the great innovation brought by Christ who changed the slogan "an eye for an eye, a tooth for a tooth," into "love one another"; the latter alone



French President Charles de Gaulle (center) and U.S. President John Kennedy were both visionaries in space exploration. Chiquet reports that his entire life has been influenced by these two men.

leads to peace and respect for mankind.

To underline France's independence, de Gaulle decided to give France the nuclear *force de frappe*, solely as a deterrent, which was at that time the only means to be respected. Then, he decided, relying on the launch technology that had been developed at the time, to become a partner in the conquest of space, which had been undertaken concurrently by the Soviet Union and the United States. From the beginning, he engaged in peaceful cooperation with all countries that wished to, beginning with the two great protagonists, on equal footing, letting all of Europe take advantage of France's technological advances, after she had succeeded in becoming the third space power, with far less means that those deployed by the two great countries, but in counting, above all, on the enthusiasm of her young people.

De Gaulle had understood that to do something new, he needed new men, around a new project, in structures newly adapted. Thus, he created in 1945, the Atomic Energy Commission (CEA), and in 1961, the National Center for Space Study (CNES), because, although he thought that France could do nothing without Europe, and without cooperation with the two great nations, he was also convinced that without France's initiative, nothing would be done. Still today, the CNES has no equivalent anywhere in Europe.

France's CNES: Doing the Impossible

At the time the CNES was launched, under the authority of its President Pierre Auger and of its remarkable director-

general Robert Aubinière, who was the soul of these beginnings for ten years, there were three of us:

Prof. Jacques Emile Blammi played a major role among those who convinced General de Gaulle to create CNES in the image of NASA, on a purely scientific basis (he was only 35 years old), and he was the scientific inspirer of CNES.

Michel Bignier was his diplomat, especially in forming many types of cooperation, such as those which, after many difficulties in Europe itself, were to lead to the creation of the European Space Agency (ESA) in 1975.

I was the youngest; I was 31 years old. We had no money, and we didn't know at the outset, what we should do or where we were going to go. But we had unshakable faith in our country, and were supported by a lucid and determined President. And to the extent we succeeded beyond our hopes, it was because we didn't know it was impossible, contrary to what almost everyone else thought.

That's always how it is in research. Contrary to those who count all the obstacles before moving their little finger, and more often than not give up, we pushed obstacles aside any time they arose, or, if that were not possible, we went around them without a thought.

I often hear this imbecilic question: "Why do research if we don't know where it will lead?" Even recently, that was the position of the European Commission in Brussels, of those who don't get their hands dirty, and know nothing about the resources of mankind. But, if we engage in research, it is precisely because we don't know what we will find; otherwise it's not research. And to establish research on predictable profitability is utopian.

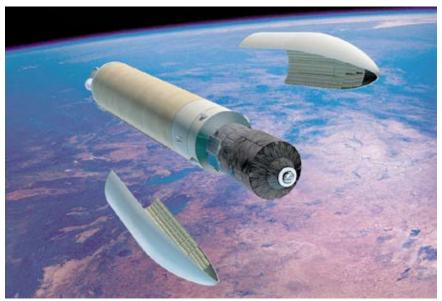
Progress in the world is made by pioneers who don't have this widespread attitude. Are they not considered madmen?

If you take a glance back to the century that just closed, we have *a posteriori* the proof of research's profitability, on a level that could not have been imagined.

I progressively put into place all the operational structures of CNES, on which Europe is still based, its various research centers, the one at Brétigny in the Parisian region and then Toulouse, which replaced it ten years later, in the midst of a national decentralization policy; and the first teams who developed satellite technologies (for example, we had two years to upgrade electronic components from a dependability of 1 in 1,000 to 1 in 10 million); and who trained all the French industrialists in their laboratories as well as the first German teams, in the context of the Symphonie experimental communications satellite project (the Germans gave it that name to establish the link to music).

Then, we had the first teams that were responsible for Ariane (which is today the most powerful satellite launch vehicle in the world), and for Arianespace—once I had assumed the task of convincing the government to take the civilian launch vehicles away from the military and give them to the CNES, as NASA had done in the United States. There was the network of tracking stations and telemetry, and the major space

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ESA-D.Ducros

The Jules Verne, the first Automated Transfer Vehicle, will be launched next year by the Ariane satellite-launch vehicle. It will probably be the only vehicle capable of servicing the International Space Station.

center at Kourou, which brought French Guiana out of its imprisonment, in memories of past prisons. Today, this center is the best space launch center in the world. This is where the veteran launch vehicles for Soyuz, which sent the first man into space, will begin their new career in 2008, by integrating its proven capacities (more than 1,700 launches) and its low cost, with the essential advantage that the Equatorial position of Kourou adds a 35% weight reduction of the satellite, compared to the Baikonur [Kazakstan] site.

Steer for the Stars!

It was this uplifting adventure of men and women, even more important than the exceptional technological progress they promoted, although they were crucial, that I wanted to relate in my book *Cap sur les étoiles* (*Steer for the Stars*). Today, Europe has kept up with the greatest powers in space, even if it has done less. It is probable that in the next years, its entirely automatic network of 20 tons, the *Jules Verne*, launched by Ariane, will be the only one capable of resupplying the International Space Station. (Those who are interested in this chapter of the glorious history of Europe in space, and in the men and women who wrote it, will find my book on amazon.com, or by writing to me directly, since my editor went bankrupt.)

What lesson can we draw from this? This is certainly a project that drew young people of all origins, most of them just out of school at the age of 25 to 30 years old, without career plans, into the enthusiasm of impossible challenges, into a true adventure for mankind, for those who understand that the future of humanity lies in surpassing oneself.

I wanted to relate all of that, so that young people of today

understand what they can do if they refuse to listen to those who repeat to no end, that the world is ineluctably headed towards collapse, and nothing can be done about it. In fact, man has such a strong ability for adaptation that he can reverse trends, if he believes that love is preferable to hatred.

Then, the book of planetary conquest for man closed on this last page of the dream, when man did not return to the Moon.

Kennedy tragically disappeared. De Gaulle left the scene he had so majestically occupied. Mediocrity took over. Finances, trade, and war have taken the high ground. Some have continued to fight in the shadows, but the leaders were thinking differently. The people themselves lost interest, for man was no longer on the front line, after the famous short hop in a plane of Clément Ader in 1890, near Paris (at that time, my grandfather was 30).

That feat began to revolutionize the world 127 years ago, barely more than a human lifespan, although unsuspected at the time. If Clément Ader had said, after his short hop, "In less than 90 years, man will set foot on the Moon," all the nice and clear-thinking folk would have said "he's mad!" as when Copernicus, and then Galileo, declared that the Earth rotated around the Sun and not vice versa (that polemic should have definitively ended the opposition between science and religion, because they are not of the same nature and hence, neither demonstrate nor oppose each other).

A long, 30-year parenthesis was then left open: And it is the Chinese who closed it on Oct. 15, 2003, when they sent their first man into space. A new conquest of space is going to set the world upside down and kindle the enthusiasm of the peoples of Earth.

During that time, I went into other passionate adventures, although less prestigious, with the same confidence in young people, but I never lacked a project to lead, and I always could count on the youth for their enthusiasm.

Today a new consciousness appears to be shaping up, that places man once again in the center of concerns, everywhere in the world. That is true both for his spiritual aspirations that surpass the conditions of his Earthly stage, and for the Earth on which he must be able to find his role. He is supposed to husband the Earth as a good head of family, while the worst of policies is being carried out. It is time that we understood that the energy deployed in fighting, most often for highly debatable causes, and to satisfy ambitions that will vanish ineluctably with us in the grave, should be reoriented toward a great project for humanity, for a world open to all where solidarity must be the rule.

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A Great Project for Humanity

Several great European leaders have understood that, to avoid the wars that have bled our continent for centuries, we had to unite around concrete projects. That was the beginning of Europe of the Six [after the original Treaty of Rome] and its success.

But those initiatives are dead, their successors have forgotten the reason why they were initiated, and the enlargement of Europe was based on criteria that give the priority to financial considerations. Confrontation in war was replaced by confrontation for money, which might well be superseded, if we don't watch out, by religious confrontation, the third wing in the will for power, along with war and money.

Those men of good will, who rightly point out the ills of the world, must be helped to remedy them through projects:

• water, food, energy, education, health care, pollution.

By taking up these great projects at the necessary level and tenacity, we will also deal with the project of insecurity, which flows from injustice.

 One of the great continents of the world, Africa, which will soon have a population of 2 billion, is going to accumulate all these problems and deserves specific large-scale action.

The evolution of the Earth's climate, in spite of the experts who continuously contradict themselves because we know so little about it, depends very little on man, as preceding millennia have shown. Thus, while alleviating excesses, in terms of wasting energy and growing waste, it is urgent to prepare our societies to adapt to this evolution which, as in the past, will overturn our geopolitical analyses,

The West must rethink everything, and urgently so.

A necessarily multipolar world demands large-scale common action, that is dominated by no single state, but is vigorously advanced by those who have the ability to make the greatest contribution, with respect for plurality.

We now know—and this is recent in the history of the world—that the Earth is not the center of the world, but we also know more and more, day by day, that the Earth depends strictly on its celestial environment. What are the roles of the Sun and the planets in the evolution of the terrestrial climate? We have already attributed the disappearance of the *diplodocus* to a meteorite.

The space adventure, such as Kennedy hoped for, will anew play a key role in preparing man for the evolution of his environment, for protecting him against all dangers that await it, natural or other catastrophes, expected or not. Otherwise, they will continue to devastate populations.

Hence, we must put special effort into space research. The information it supplies is enormous, and challenges many accepted ideas; we cannot afford to do without it, even though our political leaders do not take it sufficiently into account.

Space research is also an ideal outlet for channeling man's energy for conquest, which is necessary for the species to sur-

vive. It is peaceful, in essence. It also allows the spread of culture into the most remote places, provided this culture not be placed under tutelage, which is why the Earth has financial problems that result from the lack of moral rigor.

If we think about the trillions of euros wasted on machines of death and destruction, that are destroyed in the destruction they cause, on the massacres of millions of innocent men and women, that make humanity regress with shame rather than progress, there is no justification for that, other than that of financial profit on behalf of a few, despite the financial abyss they open beneath the feet of everyone else.

Therefore it's stupid, in the face of this waste, to ask about the profitability of measures the world must take on behalf of mankind, in particular: a grand plan for investment in basic infrastructure to allow men to live more decently and at peace. In particular, with more unified land-based links, whose future is secured by electricity, and nuclear energy, which is associated with it; links which will never replace air links to the necessary level, whose future is also problematic since, beyond doubt, we are using the last generation of petroleum-consuming aircraft. (Experts consider that hydrogen is the next we must use, but how can we produce stocks that are made safe?) Nor replace maritime links, which maritime countries always favor (and we see, are poorly supplied with all nuclear-powered vessels).

Further, Internet links will never replace physical contact, and to the contrary, the dialogues they allow will constrict contacts and increase misunderstanding.

The banner of absolute Liberalism is the arm of the strong against the weak, and we are mistaken if we thought that open development of world trade would solve everything, insofar as it does not take place in the context of a joint project that puts mankind and justice at the center of its deliberations.

Come Together Around Great Projects

I think that the Europe at its beginning should be considered as an example: To give priority to projects rather than institutions that inevitably, over time, generate a counterpole to action, they must be conceived of as functions of the projects and follow their destiny.

These are concrete projects that bring men to work together for a common aim, which is not conflict, but to personally know one another, to appreciate one another, even to love one another, and to proclaim that working together truly increases its effectiveness the most, and could perhaps become a sort of osmosis, thanks to a wealth of different insights, in a sort of multipolar stereophony.

So, let us first come together around the great projects of the world: Their profitability is assured in the medium to long term, as long as we put money at their service, and not the other way round.

It is thus necessary to support those who, with the highest responsibilities, have understood everything I've just expressed.

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