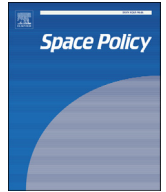




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Viewpoint

The explorer's complex

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ABSTRACT

It is time to think about the rationales of space exploration, more than 50 years after the beginning of human space flight. Between J.F. Kennedy words (“landing a man on the Moon and returning him safely to Earth”) and the Mars One, what means today the dangers of exploration, or the concept of “representative of mankind” applied to the astronauts? Beyond the financial, technical and human risks, exploration, and today space exploration, belongs always to the human identity, the way to confront human nature (especially imagination) to the reality of time and space.

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“What would you say to a one-way ticket to Mars?” The person who asked me this question is not a fantasist, insane or a lunatic, but a NASA engineer specialising in safety issues on board manned spacecraft. He was aware of both the economic and human cost of the space adventure taking place just a few kilometres from the bar in which we were sat, at Cape Canaveral. This place has witnessed the launch of the tiny Mercury and Gemini capsules, the monstrous Saturn rockets, the impressive space shuttles and the Apollo mission astronauts heading for the moon knowing they had only a fifty per cent chance of returning safe to Florida soil. This place has witnessed the death of two entire crews during a ground test and just a short distance away in the sea. My contact knows all this. Yet, over a drink and with a simplistic frankness that sometimes arises between those driven by the same passion, he was all too ready to shake up our friendly evening chat, to raise the question that has haunted the minds of space pioneers for more than fifty years: what do you think about a mission of which the aim, admittedly, would be to place a human being on another planet without guaranteeing him/her or even giving him/her the possibility of being able to return to Earth? What do you think about a mission that would place a human being in the seat of Laïka, the small Russian dog which was sacrificed?

1. The dangers of exploration

At the dawn of the space era, John Kennedy clearly imposed boundaries on the space dream to be lived, the technological and

diplomatic challenge to be raised. On 25 May 1961, in front of the American Congress, he stated: “I believe that this nation should commit itself to achieving the goal, before this decade is out, of landing a man on the Moon and returning him safely to Earth.” There was no question of aiming for or authorising a one-way trip to the Moon, even to get one step ahead of the Russians in the new space battle. Kennedy wanted heroes, not martyrs.

Fifty years later, it may seem surprising, even shocking, that a no-return journey to space is still being talked about to reach the new destination of the red planet Mars. Yet, that evening, my acquaintance didn't look like a space *aficionado* who had lost his mind, nor did he speak like a manned flight die-hard ready for action and narrow-minded. His extreme, excessive and exorbitant question forces us to remember, to specify boundaries and constraints at the same time as the meaning of space exploration with its unique possibilities.

Let's begin with a brief look at some of the major and smaller human exploratory ventures with their endless boundaries that merge with the very odyssey of our species. Let's dig deep into this treasure chest of ventures and start with the expedition of the Chinese man Zheng He, known still as the “Admiral of the Western Seas”. His flagship was a nine-mast, 130 m-long and 55 m-wide ship and his fleet included as many as 317 vessels and 37,000 crew members. He had maps and use of a compass. Having reached Hormuz and the Persian Gulf and having stopped in Jeddah and visited Mecca, the Chinese admiral explored the coasts of Somalia and Zanzibar. One more expedition of the imperial fleet, the eighth since 1405, would have taken him to the Cape which later became baptised the Cape of Good Hope. However, his emperor, Xuanzong, had other ideas. In 1433, an edict signed by the emperor forbid the

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Chinese to leave their country, commanding the destruction of the naval fleet and shipyards and making the building of a junk with more than two masts punishable by death. Following the example of its sovereign, shut away in the Forbidden City, the Chinese empire retreated inside its walls. Lucien Bodard describes this as the greatest drama in the world ... What would have happened if these Chinese sailors had continued their expeditions, set up trading posts and imposed their authority not only in the Indies and Malaysia, but as far as the African coast? What would have happened if they had reached the Straits of Gibraltar and the Iberian Peninsula before Christopher Columbus and Vasco de Gama dared to leave them to travel westward? What other “drama” would our world have lived through if China had not shut itself away in 1433 and for several centuries to follow?

Rather than attempting to answer these questions, it would doubtless be better to determine why Xuanzong made such a radical decision. Was it down to excessive arrogance and self-importance, considering that the distant world had no right to know of China's power and authority? Was it out of concern that the land explored and conquered would become too great for China? That these expeditions boldly initiated far from his empire would lead to dislocation? Was he afraid of no longer being the centre of a land whose borders would no longer be walls, but capes? Was he afraid of meeting another as powerful as himself, another sovereign, another Son of Heaven? Did he worry what would become of his City, faced with the mysterious black stone of Mecca? Would his Muslim subjects still have honoured him if the expansion of China had brought closer the centre of their faith and the horizon of their prayers? Would the emperor have accepted that China was no longer the only centre of the world? May be Xuanzong experienced these fears and concerns. It could be that he simply asked himself whether it was necessary to continue these expeditions, what their purpose was and why they were important; and unable to find a satisfactory answer, had decided to put an end to them.

It is worth looking at this chapter of human history when space adventure shows, at least in historic figures, signs of dwindling interest. Whilst the Chinese continue to make progress making their country one of the leading international space powers (control of manned flight, introduction of a core space station, preparation of a moon-landing mission, etc.), Europe, the United States and Russia are struggling to give space a resolutely exploratory dimension in view of their own future perspectives. European managers have managed to define the outlines of a future space exploration programme over the last three years, specifying the programme content, means required to succeed and anticipated results. However, they are struggling to define the reasons and conditions, the meaning and outcomes associated with supporting such a programme. It is important not to confuse the above with the consequences and repercussions that can reasonably be expected with regard to space exploration, in particular in terms of technological innovation or international cooperation. “Why explore?”: Europe must now think along these lines. In terms of space exploration, Europe has until now, rather than think about this question of purpose, established itself by bringing together countries enclosed by the same frontier, rather than deciding to or attempting to travel beyond it.

Common exploration programmes have without doubt helped to establish the European space community and to establish Europe's identity. Space has always fuelled and continues to fuel a deep feeling of pride among nations mastering the technologies used. Exploration provides or rather demands. It leads explorers to encounter borders of the known world, those of their habitual environment and land, those of their identity and their society as it requires these borders to be crossed to establish new ones.

Exploration can contribute to the constitution of an identity, whether individual or common. Exploration can also reveal weaknesses and the insignificance of the explorer ... “Know thyself, and you will know the universe and the gods”, taught Socrates.

Was this the main reason why the emperor of China put an end to and prohibited maritime expeditions from his country? These expeditions would have jeopardized the identity, cohesion and unity of his empire, resulting in its dislocation as already suggested. Is it not better to stop before reaching the point of no return? Similarly, is the dwindling interest that today hangs over the European space exploration programme not a sign and yet another symptom of the European identity crisis? Why would Europe explore deep space when it is not even at ease in its own borders?

2. Representatives of mankind

Before undertaking space exploration, what is required of a space power may be the same as is required of those who claim to become cloud riders, astronauts, cosmonauts and taikonauts. A Socratic awareness of themselves, without a doubt, but also an awareness of the mission entrusted to them by the whole of mankind. Developing this awareness could make it possible to answer my American colleague's provocative question.

The first space treaty was signed by Governments on 27 January 1967. Article 5 stated: “States Parties to the Treaty shall regard astronauts as envoys of mankind in outer space and shall render to them all possible assistance in the event of accident, distress, or emergency landing on the territory of another State Party or on the high seas ...”

As we know, the etymology of the word “envoy” is far from insignificant. The Latin expression in fact evokes images of the path (*in via*) and sending/travelling (*inviare*), in other words space and time, starting and stopping, the path and the end, and also the journey out and the journey back. This is important because the act of sending necessitates all of these dimensions, all of these nuances and many other aspects that are part of, if not specific to, the identity of the human species. Is the bee which flies off in search of a flower sent by its colony? Is the bird which hunts insects sent by its hungry offspring? Are they conscious of this act? The answer is not fundamentally important. The United Nations decided to make those journeying to space envoys, better still, representatives of mankind. In 1967, and for the first time in the history of our species, a physical person was assigned and continues to be assigned the mission to represent the whole of humanity. This constitutes a way of implementing what the 1967 Treaty introduced in its first article: “The exploration and use of outer space, including the moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind.”

What does ‘province’ mean? When France had a royal family, the term ‘apanage’ referred to the share of the royal kingdom granted to the younger sons of the royal family in compensation for their exclusion from the throne. Since then, the term has become more generalised, meaning property, inheritance. It retains a notion of elitism. It is worth looking at the notion of ‘apanage’ in terms of space law. On the one hand, it offers mankind a rightful position: neither that of domination (man is not the ruler of the universe), nor that of submission (man has some, limited, control and a real responsibility). On the other hand, mankind is not initially assigned a territory, but a mission to exploit and use this outer space, for its own benefit and for the benefit of future generations. Appointed representatives of mankind, astronauts have the sole mission of implementing this ‘apanage’, not only for the good and for the benefit of space powers, but for the whole of humanity. Forty five

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