Space exploration is the best investment for life on earth and beyond

Jérémy Saget is a doctor and a candidate for a non-governmental inhabited mission to Mars. He was also a Maddy Keynote speaker in 2019, he has come back to Maddyness to explain his vision of space exploration.

Where does this passion for Mars and space exploration come from?

My passion for space started when I was little. I clearly remember wanting to travel in space when I was four years old, just like many other children. Yet my dream was very persistent and never really went away, even as an adult when pure reason, noting the scarcity of spatial travellers to-date (560, but that's about to change), the absence of any marked course, and the improbability of actually going should have changed my mind.

Yet, the future is often uncertain and is never linear. Space has certainly been among some of our most intentional collective dreams and Mars has been a key step in space exploration since the beginning. I realised about 20 years ago that our generation was seeing a technological window open, one that might allow us to learn how to live on another planet and carry out a potential transition for civilisation. It was a sudden realisation that actually made sense and that I wanted to fully contribute to.

What was your reaction to the announcement of the Mars One mission launch?

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In regard to the media coverage of the adventure, from the team selection up until the mission itself, passing by the training, which of course is part of the space exploration mission today, it not only helps its development but also inspires people globally through one large positive event and shows the constructive values of all space exploration programs that the world needs. It is bigger than reality TV which doesn't include anything real and only shows negative events that discourage people today.

Be that as it may, because I was curious and passionate about the question, I tried to understand what was so intriguing about the Mars One project and space exploration, going farther than first impressions.

How does it feel to be the only French person to be part of the 100 preselected people for the mission?

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How have you prepared for the different steps of selection? How do you plan on preparing for the next ones?

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Secondly, the simulated missions allow you to put yourself in those conditions, to identify with the other team members and test everything that is necessary. That said, some aspects of the mission, like the unprecedented distance that grows between us and our precious planetary home, cannot be tested beforehand. It's a big gamble that humans will be capable of adapting to the restrictions of the "extra-terrestrial" life. You could be optimistic about it like me, or not.

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If the trip becomes a reality, what are you expecting? How are you going to prepare for this type of trip?

Finding and training teams that have a good chance of responding to all the numerous problems implied in such a trip is a challenge in itself. This is why the most important tool of Mars One is human resources. Space engineering which is, of course, a necessary secondary tool with regular reconfiguration of the roadmap, along with indispensable agility. However, starting with human resources allows the project to take off flying from the beginning.

The main challenge being the group's behaviour, the first thing to do is to preselect the teams and train them for 10, 15, or 20 years in all the important domains (maintenance, operations, astrobiology, planetary science, medicine, etc.) all while regularly testing isolated missions and putting acquired skills into action. The particularly long duration of the assignment suggests that the first groups chosen won't necessarily be operational teams if the space exploration program succeeds, which is the opposite of normal logic because it is an international team training for a very specific mission. The members of the team are selected as a group, not as individual astronauts who will lead long multifaceted careers.

In order to be able to solve unexpected problems more efficiently and to increase collective intelligence, diversity is vital. It is important to make sure that team members are very different in terms of backgrounds, culture, and how they work. In doing so, the conflicts that arise from cultural differences year after year will allow the members to get immersed in the culture of the team itself. The path leading to the trip is a passionate one!

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For you, what is the intrigue of such a mission like Mars One? How many programs like Mars One were already attempted? Why do you think it is so difficult to launch such projects?

The way we have approached Mars One is what allows an inhabited mission to Mars not let its 30-year goal keep getting pushed farther into the future. We could ask ourselves what is the rush of climbing the cosmological ladder so soon, but if the technological window is open now (we are closer to going to Mars now than we were at the beginning of the ’60s of going to the moon), it could close sooner than we think (the catastrophism of Musk, Hawkins, massive human extinction to the era of the Anthropocene, a large environmental catastrophe, near-Earth object asteroids, etc.).

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You are a qualified aerospace doctor; do you think that we will be able to live on Mars in 2084? Could we modify our physical qualities and our genes to be able to live better and longer?

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Be that as it may, years go by, we help the same movement of democratisation of space exploration just like what took place last century in aviation, which space is an extension of. There is an entire range of space exploration experiences that are emerging (zero-G flights, suborbital flights, orbital flights, hotels in orbit, even lunar and Martian villages are on the horizon). The ticket prices are still clearly high, which shows the inaptitude of such trips, but will see a price drop throughout the decades. Let's not think linearly anymore. This working democratisation of space exploration should be thought about today because it contributes to revolutionising the world tomorrow, not like a geo-anthropocentric continued present but a large step for civilisation.

Exercise, nourishment, meditation. For you, what will be the driving forces of our well-being in 2084?

Our well-being, as I see it, is being consciousness of the four circles of what we do: "I take pleasure in what I do," "I have skills in what I do," "I can use these skills," and also "I contribute to changing the world into what my idea of an ideal world is." This is the Japanese Ikigaï, which is similar to entrepreneurial "purpose" but goes much deeper than that.

Well-being goes hand in hand with the perception of good health, and it's true that the most important and natural pillars in order to achieve good health are good eating habits, physical activity, and altered states of consciousness. Nutrition has always been the first healing method and today is comprised of macronutrition, micronutrition, chrononutrition, functional nutrition, and nutriomics. Nutrition will follow with the evolution of medicine, which is changing from evidence-based medicine, which is a little reductive, to medicine driven by the P4 (for preventative, predictive, personalised, and participatory), AI, and Big Data that takes into account the complexity of health and not just causes. I see nutrition being very personalised and sophisticated, yet it still recognises the importance of pleasure, the togetherness of sharing a meal, and the act of cooking.

This joins together all the altered states of consciousness that many cultures haven't forgotten to continue practising and uphold many virtues like meditation, full consciousness, self-hypnosis, cardiac coherence, binaural sound, lucid dreaming, and even "work naps." Physical activity is indispensable and is much bigger than sports or high performance. It can include a contemplative function (walking, running, etc.) but should also include

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These fundamentals are already in place in 2018 and have been for a long time. History is often more useful than anticipation in order to predict the future and I think that we will find these pillars still in place in 2084. That said, the future is often unlikely and the best way to predict it remains to create it together!

*This article was originally published in French as *L'exploration spatiale est le meilleur investissement de l'humanité pour notre vie sur Terre* in August 2019 on Maddyness.com.

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