

Moon rush – Key ideas

DOCUMENT 1	DOCUMENT 2	DOCUMENT 4
- What is the « moon rush » and who “is rushing”? The moon rush is a competition between several countries to land on the moon and settle there. It is a race between the actors because they want to be the first there. The main actors are the USA, China, Japan, India and private companies in Western countries - What is the difference with the first race to the moon? And what is likely to remain the same The first race to the moon took place during the cold war between the USSR and the USA and the main goal was to improve their soft power. Now the context is different; China is opposed to the USA and they are still doing it for soft power but also for space dominance and the extraction of resources such as minerals. Moreover, it's not just about countries but now companies are also joining the race. Yet it still creates tensions and rivalries - Are there any international agreement setting the rules for travels to the moon? There are two main agreements: - The Outer Space Treaty from 1967 which claims that no country can own the moon and its exploitation has to be in the interest of all humankind (ratified by more than 100 countries) - In 1979, another international treaty claimed that no nation or company could own lunar resources (BUT only 17 nations not directly concerned by the moon rush signed it) - What are the “prizes” offered by the space race? The main prizes are the resources like water, metals and rare-earth elements. But beyond / In addition to those tangible prizes, there are the space dominance and fame. It is also a huge advantage to be able to stop on the moon to go to Mars - What are the Artemis Accords? What are their limits? The Artemis Accords were suggested by the USA and claim that the exploitation of the moon's resources should be done in a way that respects the Outer Space treaty which means it should be conducted in the interest of the whole of mankind. But it still needs to be updated. The treaty is limited because not all countries signed it and	- What happened 60 years before the article was published? Why does it matter symbolically? In 2022 it was the 60th anniversary of a major event in the history of space race: John Glenn was the first American astronaut to orbit Earth. American people were very proud of this feat and it was the start of a series of very famous space flights. It was a significant symbol because it broke a barrier in the space conquest; it showed that the space frontier, the limits could always be pushed further and that technology could accomplish anything - Who is Bill Nelson? What is he endeavouring* to do? What difficulties / resistance / arguments does he face? BN is NASA's administrator. He wants to start a new space program including more women and more people of color. He also wants to put humans back on the moon and set up a moonbase (“more boots”) Yet he had difficulty getting the funds and didn't manage to convince the Biden government and Congress. Indeed, they would rather work on saving earth from global warming than funding space missions - According to Jeff Shesol, the essayist, what is the strong argument that should be used to convince? There is growing competition. So the US has to continue space exploration to show the rest of the world that they are still the best, they are still leaders in this field - Who are the “determined competitors” that he focuses on? For both of them pick their “strong points” as well as the doubts and questions their power raises. 1/ China (and Russia) China has the technological edge and the support from Russia 2/ ... - Explain the following two passages in your own words: A) “<i>Unlike the US, China gives no reason to doubt its resolve</i>” (l 20)	- Who wrote the text? Joseph Aschbacher, The European Space Agency's director general - What shows that a “new space race is under way”? Even though Space X is currently the leader in the space industry (reusable boosters for ex), China has made huge progress; it is planning to send people to the moon by 2030. The same goes for India, which has the same goal for 2040. Besides, Europe also has ambitions to stay in the race - Why, according to him, space is more important than ever? He emphasises the fact that space plays a major role in several fields such as satellite navigation, the understanding of climate change, the economy, security and industries (such as agriculture and parole delivery) The ultimate goal of the space industry is to improve the living conditions on earth - In this space race, what are Europe's strong points and weaker points? There is much evidence of Europe's capacities. Indeed, it has demonstrated high skills and resourceful programs such as Copernicus and Galileo. Moreover, many countries all over the world depend on the European systems which contribute to better collaborations between space agencies. For instance, the ESA helps NASA to power the Orion spacecraft. However Europe is still lagging / running behind several countries in some fields. It is particularly due to the lack of funding (12 billion against 73 billion for America) Hence, Europe's loss of leadership on rockets - Explain the sentence “But Europe cannot just play catch-up; it must leapfrog head” It is true that Europe is still falling behind other countries in the space race. Instead of aiming at shortening / bridging the gap, Europe must try to overcome its competitors. - What are the four necessary conditions for this to happen? List them and for each of them, identify what has already been done, what needs to be improved, what the author has tried to do. ● Funding Already increased but still insufficient ● Speed Even though the speed of commercialisation has been reduced in Europe, it needs to improve the support of start-ups and reduce the administrative load and the time-consuming administrative process.

those that didn't think it shouldn't be on the initiative of a single nation - What could cause a clash? Not all parts of the moon are interesting and countries may want the same territory which could cause a showdown because no nation can own any part so any nation could claim a territory already occupied by another country (especially areas near water-filled craters) - Explain the expression "first mover advantage" The expression refers to the benefits related to being the first actor to land on the moon and to build a base. It includes the choice of the spot, with the highest quantity of resources without consulting the other actors, who then would have to choose another one.	B) " <i>but they are easily the most powerful people on this planet to speak with a straight face about colonizing other ones</i>" Contrary to most people who think that conquering space is science fiction, billionaires are really at it because they have huge funds - What is the final argument to justify space conquest made by the essayist? The final argument is that we don't know what will be found up there so we have to go because that's precisely the nature of science: to discover the unknown	●Talent Innovation needs to be boosted. New technologies need to be developed ESA is already helping ●Collaboration is key. Europe has the edge: - collaboration of 22 member states - collaboration with other countries
Key ideas in one sentence	Key ideas in one sentence	Key ideas in one sentence
Moon race is back and it creates tensions between countries even though there are rules about it		
Useful vocabulary	Useful vocabulary	Useful vocabulary
•Moon rush •Race for resources •Space dominance •Lunar exploration •Military battleground •First-mover advantage •Competition between nations and companies		

<https://www.state.gov/bureau-of-oceans-and-international-environmental-and-scientific-affairs/artemis-accords>

<https://www.youtube.com/watch?v=dCnpOpMNmpw>

https://www.youtube.com/watch?v=tRMZ_5WYmCg&t=146s&ab_channel=DavidBowieVEVO

« Space Oddity », conquête spatiale et perfection pop

Emblématique d'une pop sophistiquée « Space Oddity » de David Bowie accompagne les premiers pas de l'homme sur la Lune. Découvrez le premier volet de notre série « 69, année musique... ».

Nathalie Lacube, **La Croix**, le 15/07/2019

Artiste débutant, David Jones, futur Bowie, s'enthousiasme en 1968 pour *2001, Odyssée de l'espace*, qu'il revoit plusieurs fois. L'espace, les extraterrestres, la conquête de la Lune, marquent l'imaginaire du jeune homme de 21 ans. Il écrit en décembre 1968 *Space Oddity* au titre clin d'œil, « Curiosité spatiale ».

La chanson n'emballa ni Tony Visconti, son producteur, ni celui des Beatles, George Martin, approché pour la réaliser. Mais la maison de disques veut la sortir vite, car la Nasa a annoncé qu'un homme marcherait sur la Lune mi-juillet 1969, et il faut profiter de cette actualité. Bowie l'enregistre sous la houlette de l'assistant producteur Gus Dudgeon en janvier 1969.

Le générique lunaire de la BBC

Avec une pochette futuriste signée Vasarely, *Space Oddity* sort le 11 juillet 1969, neuf jours avant le premier pas sur la Lune de Neil Armstrong. La BBC la choisit pour générique de ses émissions du 20 juillet 1969 consacrées aux exploits de la mission Apollo 11. Le titre devient indissociable de la conquête spatiale.

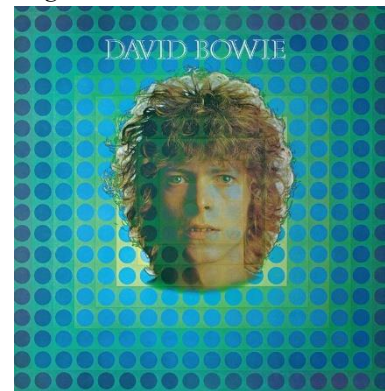
Space Oddity fait communiquer un astronaute, Major Tom, avec son poste de commande sur Terre. Commencé par les consignes techniques d'une voix désincarnée – « *Prenez vos pilules protéinées/Vérifiez la mise à feu...* » –, le dialogue devient de plus en plus personnalisé au cours de la mission. À « *Puisse Dieu être avec vous* », succède « *Il est temps de quitter la capsule si vous l'osez !* », après quoi Major Tom répond : « *Dites à ma femme que je l'aime/Elle le sait.* »

Une rupture de rythme annonce la perte de contact entre l'astronaute et sa base, qui répète : « *M'entendez-vous, Major Tom ?* », en un crescendo dramatique. Dérivant dans l'espace, il observe avec fatalisme que « *La planète terre est bleue/Et il n'y a rien que je puisse faire* ». La poésie des étoiles, la splendeur des paysages qu'il décrit révèlent la fascination de Bowie pour l'espace, en miroir de celle de son époque.

Une « perfection d'orchestrations »

Un environnement sonore mystérieux se déploie au fil de la composition, avec ses bourdonnements, la scansion de la batterie, la sonorité du mellotron et la voix théâtrale d'un

Anglais de 22 ans qui exagère son accent britannique pour mieux servir son intrigue. Une « *perfection d'orchestrations* », selon Patrick Eudeline (1) qui détaille « *ce mix brillant de folk façon Simon & Garfunkel, de dylanisme (l'harmonica !) de tics rock progressif (la flûte !) et de guitare 12 cordes* », aboutissant à une « *chanson mémorable* ».



Pochette de *Space Oddity* d'après un tableau de Vasarely / David Bebbington/Retna/Dalle. *Space Oddity* permettra à David Bowie de faire en octobre 1969 sa première apparition dans l'émission « Top of the Pops » et sera présent sur son deuxième album. Il ne se vendra pas beaucoup en dehors du Royaume-Uni, échec relatif qui conduira l'artiste à enregistrer un disque de heavy metal...

Bowie devra attendre *Ziggy Stardust* pour vraiment décoller, en 1972. Mais *Space Oddity* devient un classique. En 2013, l'astronaute Chris Hadfield l'interprète depuis la Station spatiale internationale.

Outre ses harmonies sophistiquées et son rythme mouvant, *Space Oddity* a permis à David Bowie de se créer un premier alias, le Major Tom, à qui succéderont Ziggy Stardust, Aladdin Sane et le « Thin White Duke ».

Le Major Tom reviendra hanter l'œuvre de Bowie, dans *Ashes to Ashes* (en 1980) et *Hallo Spaceboy* (1995). Il sera présent dans son tout dernier disque, « *Blackstar* », sorti deux jours avant sa mort le 10 janvier 2016. Le clip du sépulcral *Blackstar* montre en effet un astronaute gisant au sol. Derrière la visière de son casque se cache un squelette.