# ASTRA NEWS

First issue
May 22, 2021

Hello everyone!

Congratulations on the first issue of our magazine “Astra News”!

I want to thank everyone who contributed to this issue!

In the future we will develop “Astra News” more. We could have sections, like Space Travel, Philosophical Discussions, Ideas for The Future, How-Tos, Discussion About like NUKE MARS, Short Stories, Book/Movie reviews, Interviews etc. We could decide who our designer would be, who our science editor would be, who our art editor would be etc.

I hope that we will have more authors for the next issues.

Congratulations to everyone again, and enjoy!

Yours,
Leonid Vishnevskiy

*The cover picture is Nikolay Koltchinskiy's “Atomic space rocket in flight”, from Children’s Encyclopedia, Volume 2, published in 1959 by the Academy of Education of RSFSR.*

# Table of Contents

# Rover Ideas For The Future

**By ALV**

In July 2020 the Perseverance rover left Earth to go to Mars. Seven months later it landed on Mars successfully! My family and I always have snacks while watching rocket launches or rover landings. It was fun to watch the rover land on Mars and all the exited people on the NASA team. I love inventing so watching the Perseverance was cool because rovers are big inventions. In this article I will tell you some of my ideas for inventions future rovers.

My first Idea is a rover that can fly in the air and drive on land. To do this you would probably have to make a smaller rover so it's not as heavy. I would put a camera on the bottom so it could capture stuff while it's flying, and a camera on the top for when it's on land. Both of the cameras would have to be able to move side-to-side and up and down to capture all directions. When it flies it would have the wheels tuck inside so the bottom camera can see while it flies and have nothing blocking it. When it goes back to the ground the wheels come back out and then it is able to drive on land. As a side idea, it could have a needle on the bottom that comes out once you land so you can collect soil samples.

My second idea is a special VR headset that can connect to a rover. It will almost be like the I.S.S. (International Space Station) game in VR, but instead it is controlling something in real life. This might not be possible because of how far all the planets are, but since we are able to get pictures from Mars, we can make technology that can connect a VR headset to a rover one day.

My third idea is a rover that can bring supplies to Mars once it is colonized. If no supplies are needed then it can also go to collect any of the science that people will work on, or it can even collect soil samples. (side idea) It can have a comm on it so people from SpaceX or NASA can talk to the people on Mars.

It is important to share our space ideas so we can colonize on other planets as fast as we can. It is also important to share our space ideas because if you don't have the supplies to create your idea then other people/companies can make them instead!

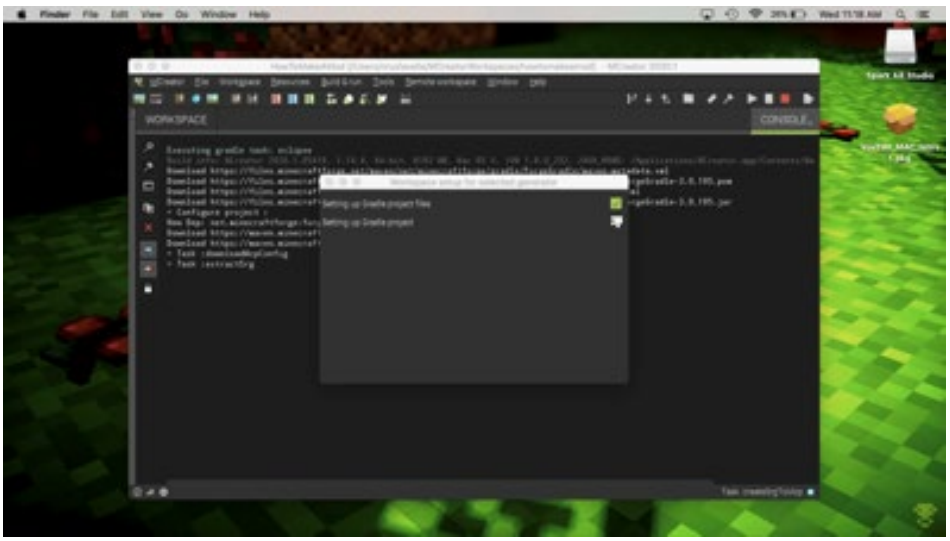
# THE END.

# Beginners Guide To Making Mods In **Minecraft**

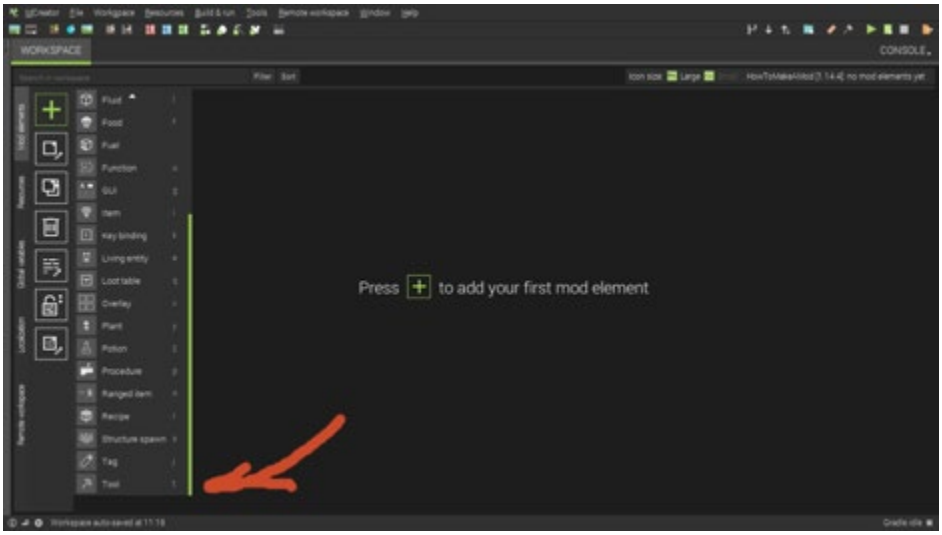
**By Cruz La Vella**

Have you ever wanted to add anything you want into Minecraft? Have you ever wanted a custom sword or armour? WELL NOW YOU CAN! I took an entire class on making mods and now I will teach you. The first step is you will need to download this: https://mcreator.net Please don't click anything that looks suspicious so that you won't get a virus on your computer. Once you download it and open it up it should look something like this:

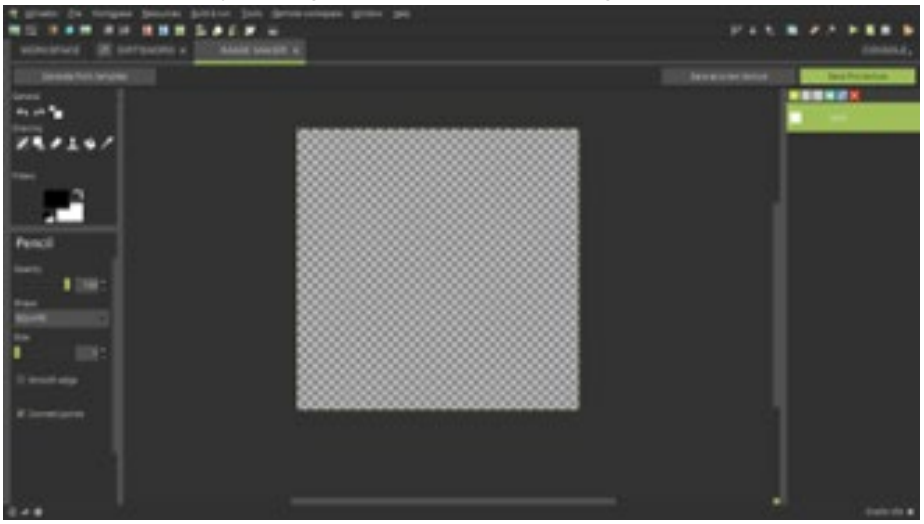

Press on the new workspace button and then create a name for it. Once you do that and confirm it it will do this:



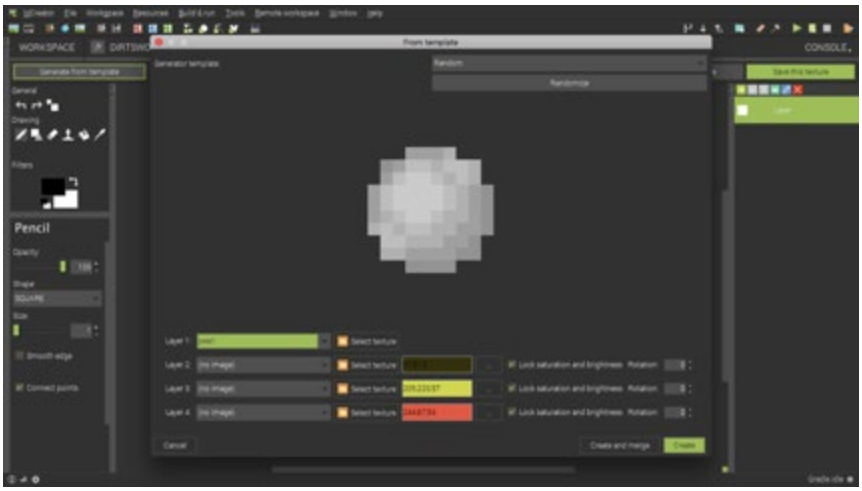
This will take about 3 to 10 minutes to load. Once it is done loading click on the workspace button at the top and it will pull up your main page. Press the plus button and then scroll down to find the tool page.



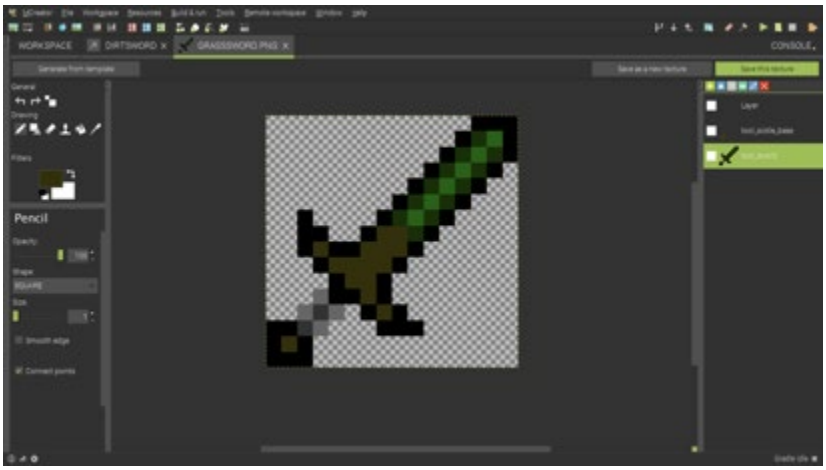

It will open up something where it asks you to name your item but you can't put spaces so instead of spaces do _s. We will be making a sword today so name it something about a sword. I called mine Grass Sword. It will ask you about the texture of it. Click on the texture button and it will pull up another page. It will ask you if you want to import a texture or make one from scratch. We will be making one from scratch today. Doing this will pull up this page:



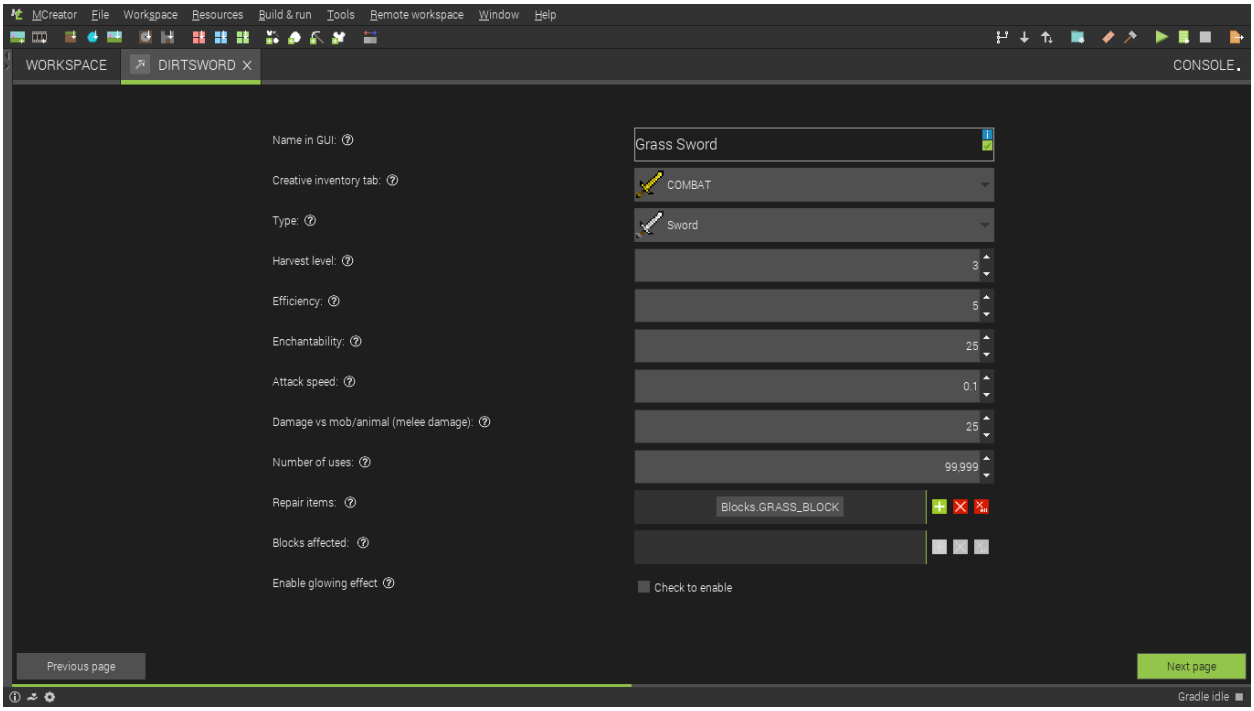
Below the workspace button there will be a button that says generate from  template. Click on it and a page will pull up showing something like this:



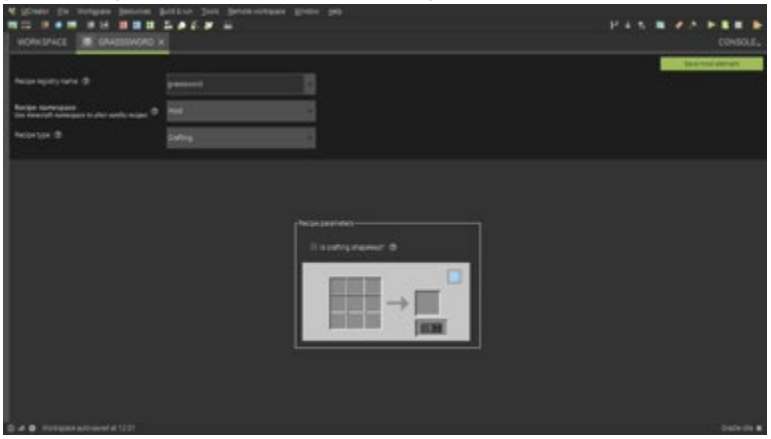

Where it says layer 1 click on the select texture button and it will pull up another page (there are a lot of pages). Scroll across that page and find the sword. It won't be the entire sword it will just be the blade and the pommel. On layer 2 try to find the grip for the sword. Once you do that make sure there is nothing on layer 3 or 4 and then press the create button. Now you can start colouring it. This is what I made:



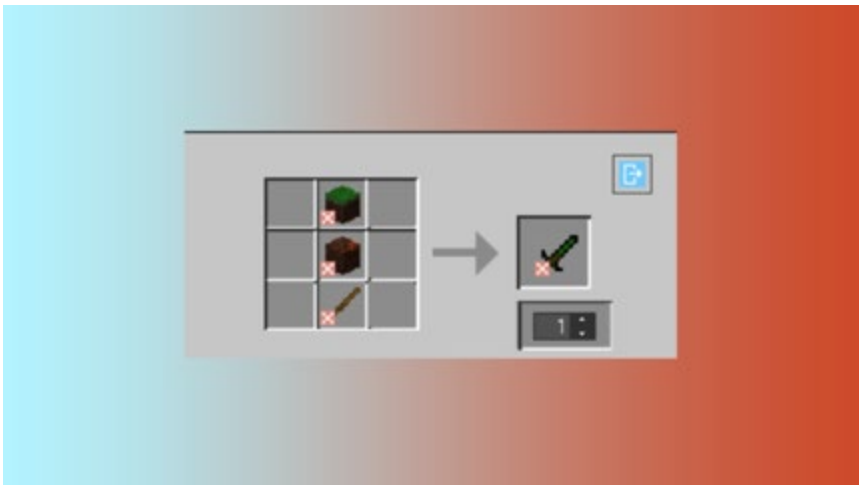

Once you are done making your texture save it as an item and then go back to your sword and put it in the texture slot. After that press "Next Page". It will pull up a page where you can edit what the sword does. You can mess around with it and do whatever you want with it, but this is what I did:




After that press “Next Page” but don’t do anything with that page because that is advanced stuff. On that page there will be a button where the next page button should be and it will say save mod element. Click it. Now it will bring you back to your workspace. Press the plus button again and then find the recipe button. Click on it and then name your recipe whatever you want. Once you do that it will give you a page that will look something like this:



You can put anything you want in the crafting table and then on the other side where it gives you the item, put your sword there. That will be how you craft your sword. This is what I did with mine:



Save that and then press the green play button on the top right of the workspace to test your mod out. I hope it works correctly. Thank you for taking time out of your day to read this. Goodbye!

# Quantum Talk

*Idea by Howard (HyGuardian)*
*Realization by Howard and Leonid Vishnevskiy*

Alright then. I have taken it upon myself, with Leonid's help, to chronicle our conversation on quantum physics and the implications therein (with some minor edits). This was, I think, very enlightening for both of us, and good gravy am I glad we had this whole experience. Although it does get wordy at times, so brace yourselves. And now, I suppose let's get started. Happy reading, and let this someday be used to discover more secrets of the world by real scientists.

***HyGuardian****:* If quantum mechanics states that a thing only exists if observed, does that mean that if you observe something that does not exist, it begins existing? If it were possible to observe not the idea but the actual, nonexistent, impossible-to-observe thing.

***Leonid****:* I like the topic that you put forward. But I think we should try and define what we mean by a "thing" and by "observing". Let's try to define them ourselves without textbooks, other people, the internet etc., that is just from our own experiences.

***Leonid:*** For me, I think a “thing” can be anything and it does not have to exist. A thing is a word that we made to define everything, so why should it not be that? By “observing” I think that it means getting information about a thing. You can get information about a thing in any way, whether it be by thinking about it, seeing it, hearing it etc.

I think that if we observe the thing, then it exists. Even if we just make up something in our minds that did not exist; it does now, but in a “thought” state. It exists in that form. I like to think of it as file types in a computer. There is a type “thought” which is incompatible with many programs (meaning that there are many things that you cannot do with it, like see it) other than the “brain” program. But even though the file is incompatible with so many programs, it still is compatible with one program as mentioned earlier. The “brain” program is just as the name suggests: a brain.

***HyGuardian:*** But then the question becomes, what is the difference between this “thought” reality and, let’s say, the “classic” reality? Because if it is possible to receive information and therefore observe this thought version of the thing, how does that differentiate itself from the classic version of the thing? And since it is possible to thought-observe something from classic reality, does that mean that everything is multiple things, and that the universe exists both in classic reality and in all sentient being’s minds?

***Leonid:*** Thoughts can be thought of as a “compressed” classical reality in my computer analogy. What is compression? As I know it, it is basically the reduction of data in a file, although the file has to remain openable. But that does not mean that the some of the programs that could open it (the classical reality programs) will be able to open the now compressed file. In this case, no new programs would take that job, but other programs that could open it (the thought reality program). But why is it that way though? Because if you reduce data enough, then those original programs of the classical reality will not have enough data to feed off of. But the thought program runs the data through a more complex algorithm, but it can work with less data.

But where do we get these thought types? Do we just grab them from somewhere, or do we create them? I support the “creating” idea more, although I am still not completely sure. If we get thoughts without much effort, then surely we are grabbing them. But maybe we just are able to create thoughts fast. But another obstacle meets us here: dreams.

In dreams we have thoughts which we could not even begin to understand when we are not dreaming. So, are we locked out from a room with extra thoughts when we are not dreaming, or can we just create thoughts better in dreams? The second option seems more likely, but not by much.

***HyGuardian:*** My take on this is that in dreams, we no longer need to "compress" our thought observations, as we are using almost 100% of our brain. So we can create a thought universe much closer to classical reality than at any other time. That explains why we can’t comprehend these thoughts at any other time. We simply are incapable of devoting the amount of brainpower necessary. But how are thoughts created? I think it’s a mix of both your theorems. I think we grab parts of memories of the classical universe, and then assemble them into, or create, this new thought from there. If that is true, it was probably developed over all the time humans have been sentient to be the most efficient way yet to develop new thoughts. But why? Why do we have to be so close to classical reality in dreams? And why are we evolving to think so well? I’m afraid I have simply no idea.

***Leonid:*** I think that the reason why we can use more of our brainpower in dreams is because we are relaxing our muscles in dreams, and letting the mind be able to have more power available to itself. But a question rises up: Why does the mind have to think in dreams, why does it not just rest? I think I have an answer to that, and it is that during the day, our mind rests, while in dreams it works. In other words, it is active when the muscles rest and it rests when the muscles are active. The day is the mind’s sleep.

But the mind does work during the day as well, right? So then does that mean that it does not sleep during the day? That is true that it works during the day, but muscles do also do work at night, just less so than during the day, and the brain works during the day, just less so than it does during the night. In other words, sleeping does not mean no work, rather it means less work.

But there is another question (about the available power to the body): If during the night the brain can work more because the muscles are tired and the other way around during the day, then does that mean that brainpower directly affects muscle-power and vice versa? i.e., They

share a common power source? Scientifically, this is a pretty easy answer: Yes. But purely philosophically, this "Yes" comes as a surprising answer, as the mind and muscles are such different things. The muscles are strong, but they do the mind's bidding and probably only one of the exceptions to that rule is when the nervous system tells the muscles to pull away (instincts). An interesting thought comes up however from that, and it is that the nervous system apparently can supersede the mind's orders.

"Why are we evolving to think so well?". Now we can observe that around us there are not many smart/intelligent animals; but we also notice our inferior physical capabilities. Sure, we may be stronger than snails, but what about lions, tigers, dogs and the like? Plus, bringing me to my next point, snails have a capability that we do not have: climbing into shells that they grow on their back. For some of the animals that are not stronger, they have other physical capabilities just like snails have other physical capabilities: climbing well, flying, swimming underwater for long periods of time etc. But we are more intelligent than them. Since we did not go extinct, long ago we found that we do not need strength and our intelligence is/was a success, so we kept evolving our intelligence. But, why has no other animal done this?

Firstly, animals that are not growing intelligence have probably not had time to adapt (that is, to grow intelligence to overcome humans, as mostly strength apparently has not been able to save them, and humans, which have mostly intelligence has made them powerful) to humans and secondly, monkeys are catching up, and monkeys are another animal. Thirdly, that it's only in recent years that animals have actually been threatened by humans, so that strengthens my first point about animals not having had enough time to adapt. This point applies to less animals, but still the first point stands for those longer-threatened animals: They have not had time to adapt.

And there it was. Congratulations to anyone who has made it this far. This has been Howard, and once again, props to Leonid. See y'all in the future!

(P.S. Hey, it was published in a reputable paper!)

## Martian Stone Age (as part of NUKE MARS)

by Leonid Vishnevskiy

Outline:

To colonize Mars, we need to expand not only our technical capabilities, but also our philosophical capabilities.

Humankind has dreamed of going to Mars one day or another. To a different world, where at night we could look at the Earth going over the Martian horizon, and during the day we could watch the Martian plants bloom. And who knows, maybe it won't be plants that are blooming, but rather something else!

We are dreaming to be in cities that are unlike any city on Earth, to be on a planet unlike our soon-to-be previous home for some of us, Earth.

However, the Red Planet is hostile. It has radiation around 50 times more than that of Earth and toxic dust. And currently, without waiting for possibly decades, these problems cannot be solved. This isn't even mentioning the even harder problem of radiation during space travel.

People will most definitely have a higher disease rate on spaceships or on Mars than on Earth; and if they don't, then each disease would be deadly enough to make it worse than on Earth.

Then let's also not forget that it is impossible to settle a planet and already have a city with plenty of supplies ready for us. The real process would be just like settling a new land in the past: First, you build a settlement which will probably live very harshly and who's inhabitants will eventually leave or die. Then, more prepared for the land, you go in and make an outpost that will not be self-sufficient but will probably survive. And only after that do you achieve self-sufficiency.

A problem of the first stage is not being able to start with a lot and the only thing mass-produced being death. Especially since going back home is no easy task. And some of the problems of the

first stage will probably leak on to the next stages. Even if we do make Mars somehow protected from radiation, would it be a perfect protection? And then we would still have the dust left, including the dust storms.

Another problem is that to get to Mars from Earth, you need to have the lowest distance possible. And that only happens about once every two years (when their orbits are closest), which makes the transport of supplies rare. And that's not even counting the amount of time that it would take to actually launch from Earth and land on Mars (several months). And if an emergency happens, nobody from Earth would be able to get to Mars soon enough.

One of the biggest achievements of our civilization is a long human life expectancy. But it is impossible to have the same life expectancy on Mars until many and many years go by, and even then, it would probably still be impossible. There will be diseases, crisis's, and other bad things on Mars for a long time, and they are inevitable to settle the Red Planet.

But not all is so dark.

In the beginning, we were a sort of monkey with knowledge about practically nothing when compared to today (although in hunting we may have been more advanced than the average modern Joe). But nonetheless, we survived and advanced. And while we may think that Mars is more hostile to us today then Earth was in the past, imagine how Earth was for those people of old: There were many animals hunting them, disease and death appeared at the scratch of a finger, and nobody knew the dangers of some seemingly innocent things like poisonous plants. But yet we overcame all that and thrived. And this is exactly what we will do on Mars: overcome and thrive. However, we must not forget that it will not be easy, just as it was not easy for humankind to become what it is today.

Nonetheless, we will succeed!

In the past we lived very short lives when compared to today's modern developed countries, and in general that comparison is true for everyone today as well. Now we have taken for granted our doubled if not already more than doubled life expectancies on Earth. But on Mars, our life expectancies will be just like those in the ancient past or even worse. However, we must not just accept this, we must change the course of our philosophy for this. We must change it to make us accept this as a non-negative fact. It must become our new norm, our new "taken for granted" Martian life.

# Myth. What is Inside black holes?

*Written by Leonid Vishnevskiy, student of Astra Nova*
*Illustrated by Alice Gladkova, 9 years old*

**Introduction to the myth:**

Black holes are little objects in space with such a huge gravitational force that they even gravitate light towards themselves. Once it's close enough, it cannot escape. The speed of light is the fastest known to us in the universe. If light cannot escape a black hole, nothing can. In the myth there is a reference to the story "The Last Question" by Isaac Asimov. (1956)

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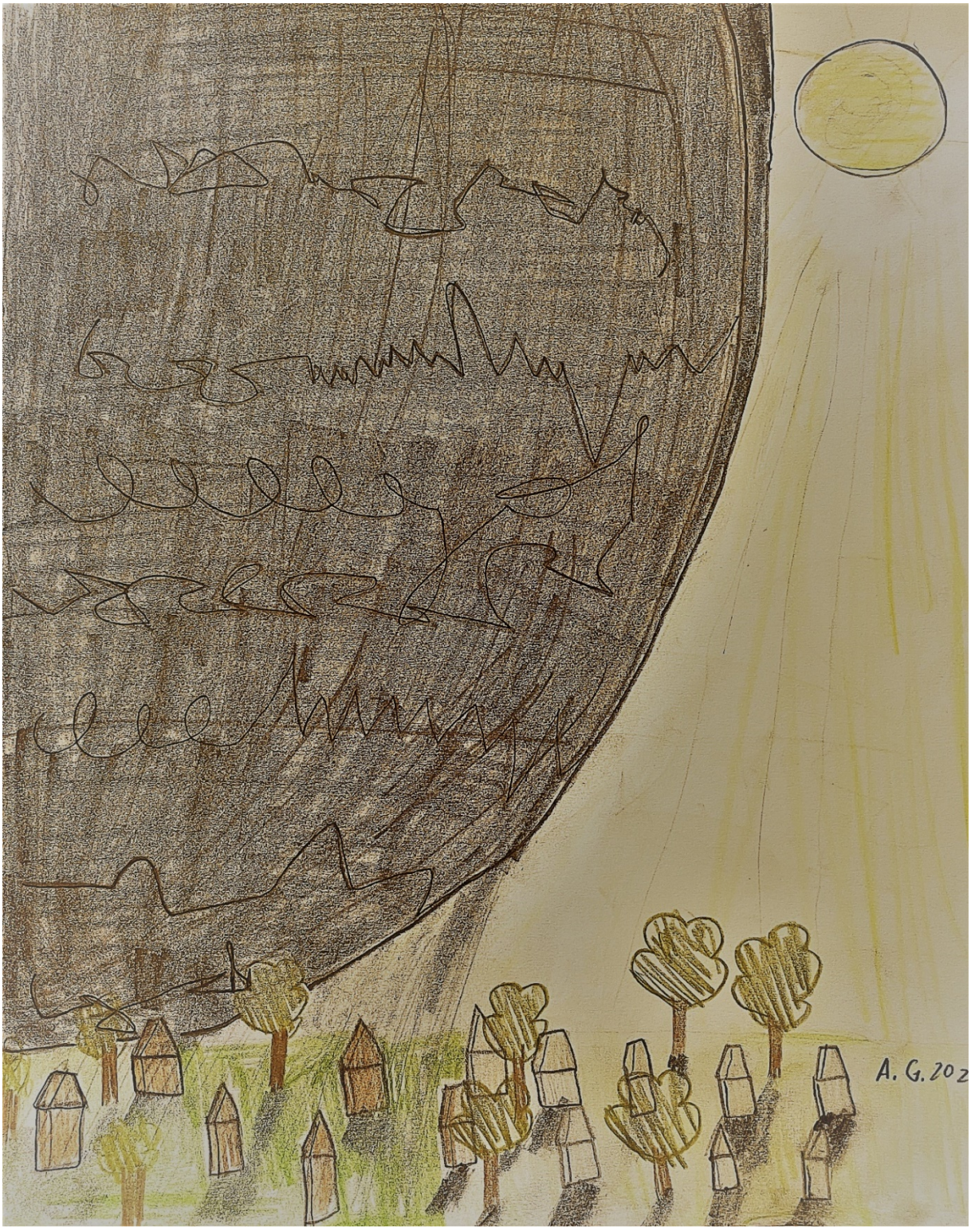
Very long ago, before life on Earth, a civilization was born in black holes, and by the time that life appeared on Earth, there was already a huge number of these little beings, or aliens, living in black holes. The beings of the black holes have their own language, and they talk in it so much that it goes outside of the borders of the black holes, and is understood by everything that exists in our universe within a very close radius, by humans, animals, and even non-living things.

In black holes you can get answers to any questions, all questions, like "How can you reduce the amount of entropy in the universe", or "Why am I not a living thing?". Yes, even non-living things can talk, but on Earth we can't hear them, because outside of black holes they have a lot of potential, but it can only open in black holes. And we people, we can get answers for questions to which we couldn't get answers for on Earth. And this is why no one and nothing canescape the force of black holes.

But the language of the black holes goes through the universe, and reaches the Earth, and, since it's not understandable by us, it becomes the reason for our fears and nightmares.

Illustration to the Myth. *But the language of the black holes goes through the universe, and reaches the Earth, and, since it's not understandable by us, it becomes the reason for our fears and nightmares.*



# The Great Fear

*Written by Leonid Vishnevskiy, student of Astra Nova*
*Illustrated by Alice Gladkova, 9 years old*

***"The only thing we have to fear is fear itself."***
*Franklin D. Roosevelt*

It was recently found out that on another planet far away there was an extremely advanced civilization. In fact, they were so advanced that they could build anything they wanted to on Earth without having to fly to Earth, as so they built a communication machine here.

They promised peace and almost everybody was happy. However, some people were scared. Not because of the fact that the aliens could stop being peaceful, but of the Great Filter. These people spread their fear as quickly as they could, and soon everybody was in a panic. People became irrationally insane, crime rates raised, wars began and soon the destruction of humanity was happening. Or maybe more specifically, the destruction of everything on Earth. Nuclear bombs were unleashed. The world was burning. Humans had destroyed themselves.

While humans destroyed themselves with nuclear weapons, the fear of the Great Filter itself caused it. The Great Filter was, in fact, the fear of the Great Filter. And soon the last heartbeat of a human, or maybe it was the last heartbeat of an animal, had stopped it's beating, essential for life as we know it, stopped by the nuclear winter and radioactive waste. Then and there life ceased to exist on Earth. The feeling of fear had us engulfing ourselves into mass panic and violent actions against each other.

***The end***