Shira Hoffer

Hanover High School

Space and the Environment

A little more than fifty-five years ago, no man had ever been in outer space. Today, we

will be discussing many issues including space commercialism and weaponization of outer

space. Just think how far we’ve come as humankind! However, despite this incredible progress

that we have made, we have created some problems in our trails. One of these problems is how

our outer space presence is contributing to climate change. A main factor in this issue is the

emission of black carbon. Black carbon comes directly from the rockets launched into outer

space, and, as space activity is only growing, so too is the amount of black carbon being

released. When black carbon, also known as soot, is released, it absorbs the light and heats up

the earth, much like one feels warmer outside in the sun wearing a black shirt as opposed to a

lighter colored one. It is widely believed that black carbon is the second-highest contributor to

global warming, second only to carbon dioxide. Just as space travel is an advancement that has

many potential benefits, it is important for us to think about what we can do to prevent the bad

things that come along with it, especially because we are very much at the beginning of an era

when it comes to space travel.

The Democratic Republic of the Congo is located in Central Africa. The DRC has a

small but growing rocket program. It began when Germany set up an agreement with the DRC.

Rockets launched into space must bear a country’s flag (UN Outer Space Treaty, 1967, which

we have signed), but Germany was not allowed to launch any rockets (1954 Treaty of Brussels).

So the company Orbital Transport und Raketn Aktiengesellschaft (OTRAG), a company

interested in peaceful and cheap rocket launch, signed a deal with what was then Zaire and is

now the DRC so that they could launch rockets under their flag. This kickstarted an interest in

the DRC about rockets, and they have since launched their own series of rockets, though none

into orbit.

The Democratic Republic of the Congo, along with the rest of the world, is directly

affected by this because we are directly affected by climate change. We believe that we must do

what we can to stop the continuation of black-soot emission before we continue sending more

and more rockets into outer space. This is a solvable problem that the world at large could get

behind. It is a relatively uncontroversial topic as most major countries agree that climate change

is a real issue, and having countries get together to fight this issue could be a template for

international cooperation around bigger issues.

Another issue that is connected to climate change indirectly but still has a huge influence

when it comes to outer space is the issue of space junk. Space junk is defined as anything

floating around that has no function. It can be man-made, such as pieces of broken satellites, or

it can be naturally occurring, such as meteors. Over 500,000 pieces of space debris are

currently orbiting the earth. This causes a safety issue because any collision between a

functioning ship and a piece of junk can be harmful and potentially fatal. Even small pieces can

cause a problem when travelling at high speeds. Although most junk can be tracked, the most

dangerous is junk that cannot be tracked, because collisions can generally be avoided if junk is

being followed but not if not. Besides being a safety issue, when junk crashes, it creates more

junk, creating a domino effect of flying space debris. This issue is connected to climate change

because the warming and cooling of different layers of the atmosphere is causing the upper

atmosphere to contract. This removes some of the friction in it that makes space junk fall back

to earth after some time, and the more space junk in space, the more opportunities for crashes

and potentially dangerous situations.

This affects the DRC because, as we develop our space program, we want to make sure

we are exploring outer space in the most sustainable and and safe way. e.Deorbit, the current

plan for removal, headed to be launched in 2021 by the European Space Agency, would

remove the largest (and most dangerous) pieces of space junk, and we support this plan to use

either a net or mechanical arms to gather up debris, especially if the final mission approval

scheduled for next month passes.

In conclusion, the DRC would support research done to come up with alternative power

sources for rocket launches that would reduce the emissions of black carbon, and proposes to

do it in the near future, because the effects of climate change are only getting worse. Although

this may be costly and temporarily halt further progress of space exploration, in the long term it

would slow down climate change and quite possibly have a major positive effect on the world.

The DRC is also committed to supporting in any way possible feasible initiatives to remove

space junk and make space travel as safe as possible for all future generations.

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Shira Hoffer

Hanover High School

Militarization/Weaponization of Outer Space

As much as war in outer space seems like something out of a science fiction book, it is

moving into the realm of possibility very fast. There are two issues: militarization and

weaponization of outer space. To put it simply, militarization of space means making outer

space into a battleground and weaponization means manning and arming it. Indeed, outer

space is already being used in battle. Militaries use their outer space capabilities, such as

satellites, to locate the enemy. Turning space into a war zone is very problematic for a few

reasons. The first reason is that it would turn into an arms race. Because some countries have

more space capabilities than others, the imbalance would lead to an arms race, which is bad

even if it doesn’t lead to battle because it wastes resources and make for strained relationships

for long periods of time. Second, many countries rely on satellites for day to day functions such

as the internet. A satellite with both military and everyday functions that is damaged could

destroy the military function, but it would also render those relying on its everyday usage

helpless. Third, outer space battle would lead to more space junk, which would lead to more

collisions and damages, which would lead to more space junk, on and on. This could lead to

involuntary destruction of potentially civilian technologies that are very important, such as GPS

and the internet. This is also a very complicated issue because there is no definite international

law regarding outer space war. For example, war on earth is governed by international

humanitarian law, or IHL. IHL says that civilians are not to be targeted, but in war soldiers are.

Applying IHL to outer space could work, but in the Outer Space Treaty, all astronauts are to be

protected and helped at all times, including military ones. More concrete laws must be set.

The Democratic Republic of the Congo has a developing space program, and we are yet

to send a satellite into space. We would very much like space to still be a safe place to send a

satellite when we reach that milestone. This affects us because we don’t want the opportunity to

be in space compromised by the time we get there. We have devoted scientists who are

working very hard to develop newer and more advanced rockets, and we would very much like

for their work not to be in vain.

We agree with the Treaty on Prevention of the Placement of Weapons in Outer Space

and of the Threat or Use of Force against Outer Space Objects (PPWT) that essentially

prevents the weaponization of space. We would like for outer space to be a place of peace. This

is not to say that the world is fully cooperating. In fact, the world’s superpowers are not in

agreement. Russia and China proposed a ban on weaponization that the USA rejected.

However, there is much international agreement about keeping space peaceful (on two 2014

UN General Assembly resolutions that said that countries should do their best to prevent an

arms race and also that placing weapons in outer space should not be tolerated, there were 178

votes, none against, and two abstentions, and 128 votes for, four against, and 46 abstentions

(EU States)), we would like to see this topic be an example for how the international community

can cooperate on other issues. Although we think that using satellites for benefit in war, such

as location of the enemy, is permissible, no weapon should be fired in outer space. We also

think that more concrete and definitive laws need to be put in place before we can move forward

in space exploration and usage.

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Shira Hoffer

Hanover High School

Outer Space Industry

As technology advances, people and businesses are turning to outer space for new

business and tourism opportunities. There are many ambitious ideas out there, such as space

travel just for fun, an international moon village (being advocated for by the European Space

Agency, or ESA), new research, asteroid mining, especially for energy options, and collection

of valuable metals. However, there are, like in all frontier-pushing projects, many things to be

considered. First and foremost there is the issue of safety. There are a few private-sector

spaceflight companies such as Spaceport America and Virgin Galactic, but their trips keep

being postponed, and a Virgin Galactic flight crashed in 2014. Besides that, nothing is

“launched,” but concrete safety guidelines and procedures must be set in place before this can

continue. Second, there is the issue of what guidelines are already in place and what to do

about them and future ones. For example, the Outer Space Treaty (OST) of 1967 says that no

celestial body can be claimed by any nation. However, the USA passed a law giving companies

permission to “possess, own, transport, and sell” (Background Guide Topic 3 p9). The

international community needs to come together to rethink the laws in a more modern way.

Third, although these initiatives and also scientific research will be beneficial for countries with

the means to participate, this will widen the gap between the haves and the have-nots in the

world, and that should be considered. It may also lead to a “space race,” which could lead to

unsafe and harmful things happening in the interest of getting there first. There is also the

question of subsidising. Should, for example, space tourism be paid for by the government?

Finally, there is the issue of international cooperation. The International Space Station, or the

ISS, is in orbit for the purpose of hosting international scientists while they study in space, which

scientists from 18 countries having visited. As international relationships can sometimes get

tense, the international community must do its best to keep the ISS a place for simple science

and not international political disagreements.

The Democratic Republic of the Congo is very worried about space colonization, as it

was once a colony itself. We are yet to be a main player in space exploration, but we have

strong ambitions and, as signatories of the OST, stand firmly behind the idea that space

exploration is open to everyone. Many of the issues directly affect us, such as mining, the ISS,

and the moon village, because we need to be sure that when we do become more advanced in

the space field, there will still be places for us to explore and to benefit from, especially as a

country considered to be in the category of the have-nots. Last but certainly not least, we are

very concerned for the citizens of our country, especially of the rocket scientists, of which we

have very few. Our first and only space casualty was a rat in 2008, and we hope he will be the

last.

The first thing we believe needs to happen is the establishment of more concrete laws

that will evolve with the evolution of the space program; laws, for example, regarding safe space

travel for non-trained astronauts (civilians). We should also consider the risks of commercial

space travel. Besides safety risks, one could imagine security risks as well with civilians so

close to technology that controls things such as the internet and GPS systems. Regarding the

issue of a potential space race, we recognize the importance of patience over speed and hope

that the international community will recognize that and make sure that they are making safe

choices that will not only save their lives but also prevent more space junk from coming into

existence. We, again, still stand firmly by the OST and feel that it is very important that no piece

of legislature should be made that allows for the colonization or possession of celestial bodies.

In terms of subsidization of space programs, we don’t believe that the government should invest

large sums of money into this, as governments have more pressing problems to work on, but as

a third-world country recovering from issues of corruption, we would welcome gratefully

international help and support and we would support other up and coming nations in this field.

The DRC may be small in size and economy, but we have lofty goals and would like very

much if, when we get into outer space, for it still to be a safe place of international cooperation,

scientific progress, and unprecedented discovery.

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