Speak Out

NOVEMBER ISSUE - NATURE & WILDLIFE



What Happens If We Lose Them?

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Golden Spirals and Innate Sequences in Nature

In nature, one can easily find several innate geometrical patterns which are mathematically proven to be purposeful for the benefits of reproduction and efficiency in growth. These patterns, or sequences actually, are also referred to as the Fibonacci Sequence. (Full article on page 8)

De-extinction

De-extinction, also known as resurrection biology, is the method by which extinct organisms are brought back through genetic engineering and cloning technology. To be able to de-extinct animals would be a scientific breakthrough, and much should be done for the procedure to succeed. (Full article on page 19)







Table of Contents

What Happens If We Lose Them?
Golden Spirals and Innate Sequences in Nature
Ecopsychology
Poem: "Mankind's beauty"
Environmental documentaries/ movies
Instagram polls
De-extinction
How to be a young environmentalist
Poem "Autumn"

Credits

12

14

15

17

19

21

23

Adviser: Mr. Chadi Nakhle Editor-in-Chief: Adriana Goraieb IB2 Co-Editor: Gabriel El Khabbaz IB2 Contributors: BHS Students

What Happens If We Lose Them?

The Endangered Species We Shouldn't Ignore

NATALIE ASHKAR - IB2

Endangerment of Species

When a species is "endangered," it is threatened by extinction either due to loss of habitat or loss of genetic variation.

Loss of habitat can be directly or indirectly due to human activity (urbanization, industrial or agricultural development), increased encounters between wild species and people (poaching, pesticides), or natural causes (asteroid strike, natural disaster). Loss of genetic variation, or loss of diversity within a species, can also occur naturally or as a result of increased human activity. Inbred species cannot develop resistance to diseases which spread easily among them, and struggle to adapt to changes in their environment as quickly as more diverse animals, meaning these species are at risk of extinction. Overhunting and overfishing reduce animal populations and opportunities for breeding, and consequently genetic variation. Similarly, monoculture – the agricultural method of growing a single crop – also reduces biodiversity. Naturalist E.O. Wilson has said that "Humans are the first species in the history of life to become a geophysical force." In this age, we are the asteroid.



Categorization of Threatened Species

The International Union for Conservation of Nature (IUCN) has created the "Red List of Threatened Species". Species are categorized into seven levels of conservation based on their range, habitat, and actual population; the species can be labelled differently in different areas.

- 1. Least Concern
- 2. Near Threatened
- 3. Vulnerable
- 4. Endangered
- 5. Critically Endangered
- 6. Extinct in the Wild
- 7. Extinct

Of the 106,000 species assessed by the IUCN, 28,000 of them are threatened with extinction (meaning they are in categories 3-6). The loss of species has dire impacts on the functioning of our planet as a whole, as well as on our food, water, environment, and health.



Understanding the Impact of Loss Through Case Studies

1. Ecosystem Imbalance (featuring the wolves of Yellowstone Park)

Yellowstone Park was once inhabited by wolves which preyed on elk and deer, who in turn grazed the grass around the park. By 1930, however, the wolves were hunted to near extinction. As a result, elk and deer populations thrived without predators and grazed grass along the streambanks, making them susceptible to erosion. The erosion then caused plant life to deteriorate around the streams. Beavers died without plants to feed on, trees such as willows and aspens began to fall and die along with the songbirds that they nested. Without songbirds, there was no one to eat the mosquitoes and other insects – the park had turned from a hub of biodiversity to a barren land occupied by mosquitoes, all because of the uncontrolled poaching of wolves. Although wolves were reintroduced to the park in 1995, and balance was restored, the Yellowstone Park remains a strong reminder of the dangers of biodiversity loss and incessant poaching.



2. Wildfires (featuring the buffaloes of East Africa)

In the 1800s, plains of East Africa were occupied by grazers – herbivorous buffaloes that ate the grass and small plants. However, the late 19th century saw a sudden spread of rinderpest, an infectious virus which wiped out the majority of wildebeests and buffaloes in the region. Without these grazers, plants and weeds flourished and served as kindle during the dry season.

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There was an enormous increase in wildfire rates which spread wide and far due to the thick shrubbery. Fortunately, after the rinderpest virus was eliminated through vaccines in the 1960s, the wildebeest and buffaloes returned and restored the ecosystem from thick shrubbery to smooth grasslands, decreasing the flammable vegetation and dangerous wildfires, and order was restored.



3. Pollination (featuring the butterflies and the bees of the U.S.)

Bees pollinate over 250,000 plant species, including most of the crops that we rely on for food (almonds, apples, cucumbers, and 85 others). In the United States, bees are responsible for 15 billion dollars' worth of crops produced each year. Unfortunately, large populations of bees and 90% of butterflies have disappeared, and there are 75% less flying insects than there were 25 years ago due to climate change, herbicides and pesticides, and habitat degradation. Without pollinators, not only is biodiversity and crop production lost, but also the main source of food for insect predators like fish, birds, and small mammals. Losing birds, butterflies, and other pollinators will (and has already started to) cause a major loss of food, biodiversity, food chains and webs, ecosystems, and other species.



Most Endangered Species Today

Endangered Species	Remaining Number	Main Threats	Impact
Javan rhinoceros	58 - 68	Poaching for horns and habitat loss due to the Vietnam War	Lack of grazing, increased combustible vegetation and

			wildfires, imbalance within ecosystems
Vaquita	10	Fishing nets, chlorinated pesticides, irrigation, inbreeding	Increase in small fish and crustacean populations, decrease in plankton and small fish, decrease in whales and plankton-dependent species, public outcry in Mexico
Mountain gorillas	1,063	Illegal poaching, pollution, deforestation, diseases caught from humans, war and civil unrest	Ecosystem disruption, reduced seed dispersion, crocodile extinction, loss of tourism
Tigers	3,900	Habitat destruction and fragmentation, poaching	Increase of herbivorous mammals which destroy forests, habitat disruption reducing fresh water and protection against natural disasters
Asian elephants	< 50,000	Fragmentation, deforestation, industrialization, poaching	Reduced freshwater, lack of pathways in forest habitats, habitat disruption, lack of widespread seed dispersion and forest reduction
Orangutans	100,000 (800 Tapanuli orangutans)	Logging, forest fires, deforestation for palm oil extraction, illegal pet trade	Lack of widespread seed dispersal and forest reduction, unhealthy forests, loss of tigers, elephants, and rhinos
Leatherback sea turtles	26,000 - 43,000	Habitat destruction, lack of protection, climate change, plastic pollution	Unhealthy seagrass beds and coral reefs, imbalance in marine food webs, poor nutrient cycling from water to land, increased soil erosion
Snow leopards	4,080 - 6,590	Herders who kill them to protect their livestock, poachers	Forest destruction, uncontrolled mountain sheep and goat populations, loss of resources such as food,

			medicine, and water for local communities
Irrawaddy dolphins	< 100	Fishing nets, chlorinated pesticides, irrigation, inbreeding	Unhealthy freshwater resources, imbalance in aquatic ecosystems
Atlantic bluefin tuna	82% decrease over the last 40 years	Overfishing, farming (they are taken away from the wild before reproducing)	Bycatch, imbalance in marine food webs, destabilized marine environment, increase in squid which leads to a decrease in sardines, planktons, and plankton- dependent species

What can we do about it?

Although we might struggle to comprehend the magnitude of this loss, there is much that can still be done to protect endangered species and prevent their extinction.

The most important thing is to put pressure on those in power to created more sustainable urban development, land management, and waste disposal policies that will protect biodiversity. Where this is not possible due to tense political climates, it is just as important to mobilize grassroots initiatives such as local NGOs to produce faster change by <u>donating and signing petitions</u>. You can also:

- Eat less meat and diversify your diet. (One of the main causes of deforestation is the production of soybeans, which are mainly used to feed cattle. Consider these 50 foods: <u>https://www.wwf.org.uk/sites/default/files/2019-</u>02/Knorr_Future_50_Report_FINAL_Online.pdf)
- 2. Buying organic produce. (Organic farmers do not use synthetic pesticides which are toxic for insects and other organisms.)
- 3. Choose sustainable seafood. (A list of which seafood is sustainable to eat around the world can be found here: <u>https://www.msc.org/what-you-can-do/eat-sustainable-seafood/fish-to-eat</u> and a list that is more specific to the Mediterranean can be found at <u>www.onethousandonewaves.com</u>)
- 4. Compost food waste (The compost provides habitat for pollinators, and also reduces food waste which increases greenhouse gases.)
- 5. Buy wood and paper if they are harvested from responsibly managed forests. (Recycle and reuse if possible.)
- 6. Do not buy products made from endangered / threatened species such as corals, tortoise shells, or animal skins.)
- 7. Set up a beehive / birdhouse.
- 8. Plant diverse gardens instead of lawns of monocultural gardens.
- 9. Avoid palm oil in food and cosmetic products, or make sure it is from a deforestation-free plantation.
- 10. Reduce plastic consumption

With hope for our planet, the IUCN plans to create a "Green List" which will contain conservation and species restoration success. Although this list will be much shorter than the Red one, we all have a common mission to help fill it out.

Golden Spirals and Innate Sequences in Nature

JAD EL GHOUL – IB2 & AYA ZEIN – 10IP

In today's world, having access to knowledge is easy, using resources such as the World Wide Web, encyclopedias, religious and spiritual books, and so on. With this variety of knowledge, the broadening of horizons and minimization of limitations in each field by the minute, one can easily expand their understandings of concepts, no matter how general or specific, and can easily make connections across different domains and areas of knowledge. Mathematics, being a subject of different foci, depths, and interpretations, is a universally spoken language which can easily be rendered as a base behind every field. It is found in Politics, the Human and Natural Sciences, the Arts, and not to forget, an unfortunately endangered field due to inhumane factors, Nature. In nature, one can easily find several innate geometrical patterns which are mathematically proven to be purposeful for the benefits of reproduction and efficiency in growth. These patterns, or sequences actually, are also referred to as the Fibonacci Sequence.

Leonardo Pisano Bigollo, an Italian mathematician, developed the concept of Fibonacci numbers in the year 1202. It was inspired by a mathematical problem regarding rabbit reproduction given a set of control variables:

"Beginning with a single pair of rabbits (one male and one female), how many pairs of rabbits will be born in a year, assuming that every month each male and female rabbit gives birth to a new pair of rabbits, and the new pair of rabbits itself starts giving birth to additional pairs of rabbits after the first month of their birth"

But what people seem to forget is that Fibonacci did not discover the sequence: it's actually a rather ancient one, utilized by civilizations in order to mathematically prove concepts and understandings around them. Early Sanskrit texts that referred to the Hindu and Arabic ways of numerical script were able to prove so, and those were centuries before the sequences were brought up.



However, Leonardo of Pisa did in fact end up publishing a book, *Liber Abaci*, which explained the calculations and introduced the sequences, consisting of arithmetic formulae used by tradesmen to track the growth of their work fields. Initially being written for that class of workers, it was spread to the rest of the world, and by the 19th century, was proven and made official by French mathematician, Édouard Lucas.

The sequence is a pattern, starting with an initial number being 0, then 1, and the rest is determined using the formula

$$F_n = F_{n-1} + F_{n-2}$$

Such that F_{n-1} is the number prior to F_n and F_{n-2} is the number prior to F_{n-1} . This results in a sequence of numbers being 0, 1, 1, 2, 3, 5, 8, 13, 21, and infinitely continuing using the sum of the two previous numbers.

The sequences can actually lead to multiple conclusions. When taking consecutive pairs of numbers in the pattern, similar ratios can be determined and with the increase of these numbers, the ratio converges to what we know as the Golden ratio, being an irrational number denoted by

$\phi = 1.61803398875$

From that point onwards, mathematicians can calculate what's called the golden spiral (whose growth factor equals the golden ratio) done by placing squares with the same measurements as the numbers in the sequence close to one another and connecting the corners.



This form shaped is actually very common in nature is it can be found in shells, pinecones, and even sunflower seeds.



When observing the geometrical patterns formed by nature's bounties, one can easily recognize structures formed in a tessellated manner. For instance, the Fibonacci sequence is majorly utilized in studying the arrangement and positions of tree leaves, branches, and flowers. Starting from any leaf, after one, two, three or five turns of the spiral there is always a leaf aligned with the first and, depending on the species, this will be the second, the third, the fifth, the eighth or the thirteenth leaf. As for flowers, if you ever were to count the petals, you notice that they always come in a Fibonacci number. Orchids for example, have 5 petals on their exterior and 3 on their interior, protecting the stigma.



Flowers as such have evolved to grow in a way that puts them in direct potential contact with pollinators, for a more efficient way of growth. It would be very counterproductive for flowers to develop petals with big gaps between them or which are tightly shut. The Golden ratio provides the most accurate and systematic rotational angle for flowers to grow petals by positioning them 1/5 of a circle away from one another, allowing them to comfortably spread out in a methodical manner.

Angle	Flower	
	Too big of a gap, petals will grow in	
1900	opposite directions and overlap,	
180	leaving too much exposure which	
	could cause harm to the flower.	
1°	No gaps between petals.	
$760^\circ \cdot 4 = 222 E^\circ$	Petals are equidistant and are evenly	
- 000 - φ - κκκ.υ	spread out.	

Back to sunflowers, if you take a look at the seeds located in their center, you notice what looks like spiral patterns curving in different directions. If each of these spirals were counted, the total will be a Fibonacci number, and if divided between those that go left and those that go right, two consecutive Fibonacci numbers are obtained. The same patterns can be found in different fruits and vegetables too, including pineapple and cauliflower for example.

Although Fibonacci discovered the sequence in the 1200s, it has been embedded in nature all along. It is not as if nature has a sense of consciousness or awareness of sequences, ratios, of any mathematical concepts; yet it still manages to produce amazing art in each of its works, continually relying on symmetry and recurrent features, no matter the size or species. Nature really does have a reason for everything, and for its bounties, it uses mathematics for efficiency, reproduction, and aesthetic.

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Ecopsychology

AYA ZEIN - 10IP

Ecopsychology is the fairly new study of the relationship between human beings and the environment in terms of ecological and psychological principles.

New studies show that immersing yourself in nature can actually benefit your health, reduce stress, and promote healing. We've always heard that being in nature and going outside is good but now we are learning that it really is and why.

Theodore Roszak, a Californian professor, was part of the counterculture movement during the 1960s. He kickstarted the concept of combining the emotional sensitivity of therapists with the scientific expertise of ecologists. This new field is now known as ecopsychology. It intends to stretch farther than the healing of oneself and into redefining and rediscovering mankind's relationship with nature. Roszak was a proponent of taking care of oneself



while simultaneously connecting to and engaging with the natural world. He believed that the human mind and the environment are linked and this was based on the concept that you cannot detach your mind from your surroundings.

Today, ecopsychologists integrate ecological practices into people's lives to move them away from negative emotions and bring them closer to the environment; they allow people to learn to feel safer in the environment and let all bad feelings dissipate. One benefit is that seeking out and valuing the environment promotes individual healing. Other benefits include learning to take action to protect the environment or to make one's lifestyle more sustainable as a result of a newfound appreciation and understanding of the environment. They also include promoting positive motivations and reducing stress. Some juvenile correction facilities actually use remote wilderness and nature for therapy and rehabilitation work. This is because direct contact with nature has shown to reduce stress, heal emotional trauma, help with addiction recovery, strengthen self-confidence, and even cultivate spiritual growth. The natural environment makes for a great place to reflect and ruminate and, often, this is a big part of the growth aspect on its own.

Additionally, studies show it can lower blood pressure and stress hormone levels, enhance immune system function, and improve mood. However, the body of research supporting the field has not yet proved all its claims and a lot of feedback is anecdotal; nonetheless, ecopsychology genuinely deserves the benefit of the doubt. Ecopsychologists recommend 120 minutes in nature weekly, which is about 20 minutes daily. You can't go wrong with making it a habit to walk in nature for 20 minutes a day. Some schools actually pass down the tradition of studying outdoors. Outdoor schooling in natural settings has actually increased by 200% in the USA since 2012.

In conclusion, nature is a free remedy waiting to be used. If you can learn to manage your problems and also find a love for nature, then what is there to lose? Nature genuinely is beautiful and absolutely crucial to our quality of life. So, learning to love and care for it should be a priority for our generation. It is really up to us to make changes and influence others before it is too late. A walk for 20 minutes a day in nature is also good exercise, which is very important too. Challenge yourself and be open to the healing power of nature.



Poem

"Mankind's beauty"

CHLOE LOCA - 10IP

There is beauty beyond belief behind a curtain of smoke. There is yet a feeling of relief in a world which is barely able to cope.

We handed her that chalice as we raised a toast for our beloved engines and gears. Little did she know why we saw it coming yet was never among ones fears.

> Mankind was not ready. Kindness as a word is heavy.

Doomsday bellowed as we shifted in despicable remorse. Lock up the gates she warned, but we were far too late along this course.

> See what you have awakened? See what it has become? Yet perhaps it was already there. Perhaps it was wide awake.

Like a horse we kicked up speed, switching all the buttons to take off with ease. Ease in our life. Ease in our own.

The outcome chokes our child's throat. Please, continue your duties. We preach to promote Still longing to outvote.

I ask you this. Why choose riches over gold? This gold we walk upon, breathe upon, live upon. Why must we breakdown beauty 'til we understand it was ours all along.

Environmental documentaries/ movies

LEA MARIA RIZK – SECONDARY III LP

I would like you to ask yourself one question: do you watch movies for leisure and relatability, or as an escape from reality? Today our earth is dying, the pollution is suffocating, the climate is choking, and we are a couple years away from what movies call "The End".

Climate change, deforestation and extinction are the biggest stories of our time, and many of the world's best storytellers are bringing these issues to life on film. Through movies, documentaries, and theatrical performances, the world is finally able to connect to nature from the comfort of their homes.

Get your blanket, a cup of hot chocolate, some snacks and let's binge. Here are some documentaries and movies that you MUST watch.

1. VIRUNGA (2014)

This one discusses a group of park rangers fighting to save the Virunga National Park in Congo. This park is at risk of being attacked by militia and companies wanting its natural resources.



This documentary is unfortunately not available on Lebanese Netflix Accounts, but you can find it on online sites.

2. BEFORE THE FLOOD (2016)

What makes nature more beautiful? 2 words.

Leonardo DiCaprio. The Actor and Alliance cofounder works with National Geographic on this masterpiece. The film provides solutions to protect nature and save our future. If you happen to have an upcoming MUN conference and your topic is climate change, this one is for you.



This documentary is unfortunately not available on Lebanese Netflix Accounts, but you can find it on online sites.

3. **DOWN TO EARTH (2020)**

This inspiring limited series has influenced the lives of many. Zac Efron and Darin Olien travel

the world to highlight additional solutions to

pollution, climate change, and mankind's unsustainable ways. Do not miss out. Good news, this show is on



Lebanese Netflix accounts, so it is literally 3 clicks away.

4. THE HUMAN ELEMENT (2019)

James Balog travels the American front lines looking for a 5th life element aside from water, air, fire and earth – the human element. Extreme weather changes, melting icebergs, pollution and rampant



disrespect for natural resources are the main pillars of this documentary. It is available on YouTube for anyone interested.

5. CHASING CORAL (2017)

Did you know that we have discovered more about space than about the ocean? Join divers, photographers and scientists to discover mysteries about our seas and why the



coral reefs are disappearing. This documentary is available on Netflix so go ahead and watch it.

6. BLUE PLANET (2001)

Dive into the marine life with Sir David Attenborough. This limited series travels from various coasts to the poles to study the beauty of aquatic life and learn more about marine organisms. Definitely a must-watch, and available on Netflix in Lebanon.



7. OUR PLANET (2019)

Watch and learn about how our planet's natural beauty is examined and how climate change has affected its creatures. 8 episodes of pure beauty in the seas, forests, deserts jungles and many more.

8. MY OCTOPUS TEACHER (2020)

This is a personal favorite. This documentary involves a diver who discovered an octopus in a

kelp forest off the coast of South Africa. Craig Foster has spent many years filming and somewhat living with the planet's most dangerous animals, so this is the work of an expert. Do not miss out on it.



Through this documentary you will learn more about the mysteries behind the octopus world in which Craig Foster spends a year immersing himself in.

Instagram Polls

AYA ZEIN - 10 IP

This month's theme is Nature and Wildlife and the section for polls brought this theme to the students. We asked a range of questions and received many

responses. Before the contents of student's responses are discussed, a quick *thank you* is in order. Thank you for all the participation and, more than that, the awareness. The answers received were not only plentiful but full of facts and knowledge everyone should have exposure to. We are very happy to see all students engaging in this very important discussion as well



individually staying up to date by watching documentaries and reading articles.

Our students' knowledge was first demonstrated in their responses to our first question, "If you could save one endangered species, what would it be and why?". Unfortunately, in our day and age, there are plenty of endangered species nearing extinction due to reckless human activity. Students mentioned hippos,



rhinos, elephants, orangutans, blue whales, and more. For the "why" portion, many students highlighted the need for some species because of their roles within their ecosystems. Also, some students said koalas and pandas "because they are adorable". Our second question was, "What do you think is the biggest threat endangering the planet?". Some responded with global warming, abuse of natural resources, etc. but the majority responded with an umbrella term, "Humans". One "Profit-driven student specified attitudes. carelessness, and ignorance". Our third question was about how we, as young people, can save wildlife. Many students responded with comments like 'being mindful and producing minimal waste",

"recycling", "donating to specialized NGOs", "staying educated and in touch with nature", etc. One student mentioned beach cleanups and we encourage everyone to participate whenever possible. All the responses were very promising and we're glad to see students taking initiative.

Moving into the more lighthearted questions, we asked, "What is your favorite ecosystem?". Students responded with tropical forests, jungles, coral reefs, oceans in general, and tundras. The next question was "If you could be any animal, what would it be?" and the students definitely had fun with this one. Some responded with highly majestic animals like lions, tigers, cheetahs, flamingoes, birds. Others said they'd be more laid back like an "orange Persian house cat". It goes without saying that the BHS ecosystem is diverse.

Our final set of questions were to see how our students are staying up to date on the environment and nature-related topics. The first question asked who their favorite environmentalist is. Students mostly mentioned Greta Thunberg and Sir David Attenborough. One student mentioned Rachel Carson whose work and



research are credited in the advancement of the global environmental movement. Few others mentioned environmentally active actors like Leonardo DiCaprio, Bonnie Wright, Mark Ruffalo, etc. Our final question asked our students what their favorite nature and wildliferelated documentary, movie, or book is, and

again we were very happy to see so many responses. Students mentioned documentaries and docuseries like "Our Planet", "The Blue Planet", "My Octopus Teacher", and "Chasing Coral" and many followed their comment up by encouraging others to watch them too.

In conclusion, the environment truly is vital to our lives, and we only get so many chances at a healthy Earth. We commend all the changes and improvements students are making for the sake of our environment. We encourage others, that are yet to start doing their part, to get to it because everyone makes a difference. Taking little initiatives in our daily lives makes a difference. So, as a challenge to everyone reading this, do something for the environment today, whether it be carpooling to go somewhere or going to a beach cleanup!

Follow our Instagram @bhs.speakout to participate in the polls, help pick our next theme, or just stay up to date with us. Thank you to those who are reading and participating!

De-extinction

THALIA KATTOURA – SECONDARY III LP

"We'll lose more species of plants and animals between 2000 and 2065 than we've lost in the last 65 million years. If we don't find answers to these problems, we're going to be victims of this extinction event that we're at fault for" – Paul Watson, a Canadian activist. All species of animals, whether predator or prey, are under the inevitable grip of endangerment. However, with the increase in greenhouse gas emissions, scientists now discuss the sixth mass extinction in the world; studies published in the 11/15/2020 UN report showed that over a million species are at risk of extinction due to the burning of fossil fuels. Bramble Cay melomys, koalas, and polar bears are one of the many creatures that have or will be wiped out due to climate change. Could this have ever been prevented, or, more so, could it be ever undone?

De-extinction, also known as resurrection biology, is the method by which extinct organisms are brought back through genetic engineering and cloning technology. To be able to de-extinct animals would be a scientific breakthrough, and much should be done for the procedure to succeed.

Identifying a candidate species is the first step; the long-extinct woolly mammoth is a

famous candidate in many de-extinction procedures. Next, to avoid the retracted DNA from decaying, the engineered zygote would be implanted in a living animal for it to grow. For the de-extinction of woolly mammoths, an African elephant is the most appropriate option



as it shares 95.5% of its genetic material with the mammoth. The third step is retrieving the extinct animal's DNA from soft tissues, where genetic material is most abundant. Therefore,

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de-extinction can only be done with animals who have recently gone extinct, as scientists can still extract segments of their soft tissues. While woolly mammoths have gone extinct 4,000 years ago, their flesh has long been preserved in the Russian permafrost (frozen grounds); thus, scientists have and will make use of their DNA. Now, researchers would be combining the extinct animal's genes with a relative's genes, forming a hybrid genome. This combination could be done through selective breeding or genetic engineering. Finally, the genome would be injected in a living animal's cell to later be implanted in a living animal's womb.

In 1996, Dolly the sheep was the first successful product of a cloning procedure that involved genetically engineering the cell. But here the question must be raised: Why bring extinct animals back in the first place?

The advantages include enriching the scientific field, restoring biodiversity, developing

medicine, and opening a chain of endless discoveries. Yet, many scientific debates have protested against de-extinction in its entirety. The consequences of deextinction could bring about more diseases, political conflict, danger to other



habitats, and animal exploitation. There is also a matter of morality: Are scientists playing God in this instance? Either way, de-extinction is bound to happen, and it is only your reaction that will advocate for change.

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How to be a Young Environmentalist

CHLOE LOCA - 10 IP

It is no secret that the Earth we live on is facing numerous climate issues; however, we seem to constantly forget how these issues affect **us**. For years now, scientists have been warning us of what our carbon emissions will result to in the future and as the leading generation it is up to us to make an impact on our dayto-day lives to ensure a brighter and more eco-friendly lifestyle for ourselves and the generations to come. In this article, we will identify ways you can participate and contribute to the fight for a more sustainable environment and how you can take the extra step to becoming an environmentalist yourself.

If you are looking to make a large influence, then starting small and working

on your neighbourhood helps a lot. Lebanon is currently ranked 4th on the Pollution Index by Country, issued by Numbeo which examined the pollution in countries worldwide. This a greater issue than we think as the litter on our streets ends up polluting our wildlife both on land and in the sea. Taking responsibility for your streets' cleanliness and bringing others to join you is a great step towards a cleaner community. Holding events at schools and in public areas such as pop-up booths attract more and more people to the cause and encourages them to participate in a more ecofriendly lifestyle.

An environmentalist looks to promote the conservation and protection of the environment by



participating in large movements and working hard to achieve a better future for all. To be an environmentalist, it is a good idea to start looking for local organisations that have the same aims and goals as you. Some Lebanese NGO's and organisations you can support are Beeatoona, BETA and AMWAJ.

Beeatoona is a local NGO which endorses sustainable and environmental protection with goals to reutilise and recycle. They provide cost effective solutions to various projects aiming for a better environment. They have multiple active programs to be apart of including E-Cycle. An increase in electronic waste can lead to potential harm when not disposed of properly. They aim to raise

awareness on the topic by targeting computer retail stores and students as a means to bring everyone together to this cause.

Another non-governmental organisation and charity is BETA with their pure passion for improving the lives of the local wildlife. As one of the most active animal shelters in Lebanon, they provide rehabilitation and a safe home for stray animals in need while searching for permanent homes for each and every one.

Looking to bring back biodiversity, AMWAJ works with environmentalists Adib Dada and Dana Harakeh and once led a successful tree-planting exercise in Beirut, using the renowned Miyawaki Method which uses a range of native species of trees, plants and shrubs to bring nature and life back into urban locations. Their community has planted 500 square meters of trees and shrubs as of 2019 and is aiming to cover a lot of 10,000 square meters with greenery during 2020.

Being an environmentalist does not need to be by the book. Creativity plays a large role into looking for solutions to these causes. Multi-disciplinary engineer and founder of Cedar Environmental, Ziad Abi Chaker, is currently on a mission to improve Lebanon through waste management. His latest project, partnering with Green Glass Recycling Initiative, took him to the streets collecting broken glass and recycling it into beautiful glass utensils such as jars and bottles. This form of creativity is just an example of the numerous ways you can uniquely help save the world.

Lastly, change will start with you. You can find many ways to evolve your own lifestyle for the greater good. This can be simple habits such as recycling, turning off unused appliances and walking instead of taking a car or other form of carbon emitting transportation. Spreading awareness about the environmental issues we are all facing and educating others on the ways you are bettering the planet is a alsogreat help, because the more people are aware of climate change and its dangers, the quicker we can make an impact.

Sources:

http://www.lebanonclean.org/directory-of-environmental-groups.html http://beeatoona.org/ https://betalebanon.org/ https://amwaj-alliance.com/forums/beirut-2020/ http://www.csrlebanon.com/forum/speakers/ZiadAbichaker http://www.businessnews.com.lb/cms/Story/StoryDetails/10757/Cedar-Environmental-recycling-blasted-glass

Poem

"Autumn"

Veronica Macary - 3C

Leaves are golden like a crown And in autumn they fall down Every kid returns to school! And for some, it's very cruel!

Mountains waiting for their snow, Winds are waiting for their blow, Ice cream shops begin to close People start to sneeze and doze.