

# Jigsaw Puzzle

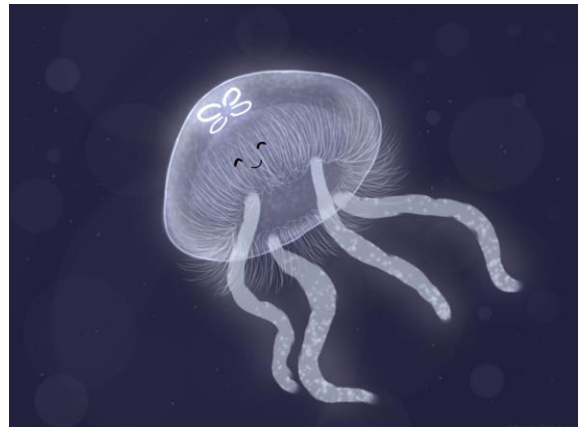
Amelia Sujana - 2020

Last thing I knew,  
I was swallowed by sensations.  
My field of sight was flooded with phosphenes.  
I was  
sinking,  
dragging,  
trying to escape.

I had been stung.  
My lip had begun to swell.  
My eyes followed the fluent, rhythmic movements  
the characteristic bell  
belonging to a  
medusa-stage jellyfish  
with four glowing horseshoe structures.  
After that, my vision painted black.  
That's where I was left.

I was flailing around  
in a fluttery fright.  
Unexpectedly  
I came across the same jellyfish from earlier.  
I could hear a voice whispering in my ears  
almost a voice in my mind.  
The jellyfish gestured and nodded, as if the voice was  
theirs.  
Analyzing my situation, I pinched myself.

I felt my skin stretch and squeeze  
warping and distorting in different directions.  
The world around me was changing  
changing and changing  
until I found myself in an empty sea  
that had only the jellyfish and I.  
Little did I know,  
alone was a very inaccurate word to describe us.



I was immersed in a marine world filled with  
rainbow germs. Seriously.  
Harmonious hues of green and purple  
cyanobacteria, an oxygenic photosynthetic bacteria, and archaea  
clouded the once pristine water.  
Basking in the sunlight, photosynthesising for their lives  
using a wide range of methods and techniques  
that distinguished them by something other than their colours.

The jellyfish seemed to smile, yet it didn't have a mouth.  
'These were the organisms that dominated the Earth before you were around.'  
The jellyfish had said.  
Turns out that the deep blue blanket  
that warmly wrapped around seven tenths of the world  
had carried a panning range of biodiversity from the start.

I watched things change again, in front of my eyes.  
I watched it all, as if I was the proud parent  
of the prokaryotes that started it all.  
It all flowed flawlessly,  
each creature depended on one another  
to create this wonderful environment.  
This deep ocean diversity  
really fascinated me.

Under the sun, the organisms evolved.  
The microbes now had competition.  
Other organisms  
larger organisms  
ate them.  
Along with it came tactics  
such as bioluminescence, to light up their bodies and attract attention  
camouflage, to blend in with their surroundings  
mimicry, to impostor other organisms  
and mutualism, a give and take relationship.

I found that  
the ocean is like a jigsaw puzzle.  
Without a piece, it wouldn't be complete.

What I find the most shocking  
is that we don't even know about most of the set.

The puzzle of the sea is also essential to the life  
that sits atop our rocky lithosphere.  
Some of the microbes clean the ocean  
While we relentlessly destroy it.  
It's like we take them for granted.  
We're messing up millions of years of work.  
What if we took a wrong step  
and closed off a whole field of new marine  
biology?



The jellyfish takes me deeper  
into the darker, colder regions of the ocean,  
the Disphotic Zone.  
Little particles of food drifted through the waters,  
The food chain started with the sun, the jellyfish told me,  
and is why less animals lived here.  
As far as I could see, the lands here were barren  
No place for a plant to thrive.

All I could really make out was  
my jellyfish companion glowing beside me.  
Bioluminescence.  
As I follow the jellyfish,  
something catches my eye,  
an elegant dragon-like figure, having tentacles raining from their segmented bodies.  
Radiating a rare, ruby red.

These creatures, called siphonophores,  
may appear as singular organisms,  
but are actually a group of creatures  
having their own roles in their collective survival.  
They reminded me of coral,  
small animals living together in communities.  
It also reminded me of us humans  
and how we aren't doing things  
for the good of everyone.  
Why can't we live like a siphonophore community?

I looked above  
gazing at the dense sapphire from water piling on water.  
The glowing jellyfish drifted by me again  
tentacles trailing dangerously close  
one of their stray cnidocytes catching on my finger.  
It was then that I realised,  
I wasn't wearing the clothes I had put on earlier,  
my diving gear  
and I was being stung  
again.  
The ambient water had deserted me  
and all I could see was black.

I was definitely hyperventilating.  
I was fiercely clinging onto my bedsheets.  
No one was here.  
Utilizing my time alone,  
remembering,  
understanding.  
I made sure to prod it thoroughly,  
the things that the jellyfish had taught me.  
I churned it over and over.  
Absorbing what seemed like a dream.

I'm not sure how accurate dreams can be  
but it made me think of oceans in my reality.  
I am one person;  
I can only hope, dream and pray  
that things get better.

I think back to bacteria,  
and how ocean innovations  
could utilise microbes,  
like *Ideonella sakaiensis*  
a species of plastic munching bacteria,  
to improve the condition of our oceans.  
Many of such microbes come with dangerous side effects,  
and for that I hope  
more attention would be directed towards them.

Or maybe,  
since jellyfishes are the most efficient swimmers,  
we could make innovations of biomimicry.  
Saving energy, improving our inventions  
by copying from nature.  
Decreasing pollution and slowing down ocean acidification.

For now,  
I'll do what I can to keep the oceans thriving  
with life  
and find all of the unknown pieces of the jigsaw puzzle  
as an individual.

888 words.

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## Acknowledgements

I would like to give my sincere gratitude to Ms. Allan for helping me with my Science Talent Search entry, from finding articles for innovation ideas to making sure my STS entry would be able to relate to this year's theme. The concern and kindness was a bit unexpected, and I thank her for being patient and supporting me while I worked on it.

I would also like to thank my dad, Made Sujana, for continuously giving feedback after every draft I spewed out, and my classmates, Christopher Lew, Nicholas Debono, and George McQuire, for taking the time to look at my later drafts and kindly giving thorough feedback. I would also like to thank my brother, Nicholas Sujana, for reading through it and making sure that the lines made sense.

I would like to thank myself for making the decision to participate in this year's Science Talent Search, and last but not least, I would like to thank you for reading this poem.

## Appendix

1. Biodiversity is the variety of both plant and animal life on Earth (or a certain habitat). For example, there are many species of organisms that thrive in the ocean. These creatures all differ greatly from each other, making this habitat biodiverse. Biodiversity is essential to the Earth. A loss of biodiversity in a habitat may affect the ecosystem's ability to adapt to changes in the environment. This is similar to how genetic diversity helps a species adapt to changes in their environment.

2. Ocean sustainability is very important. It is not just important to retain nature's largest concentration of biodiversity, but it is also important to humans. Many jobs essential to the ecosystem are carried out by marine life, and without them, the ocean habitat may fall apart. Many people depend on marine and coastal resources, and with issues such as climate change, ocean acidification and water pollution, humans aren't really doing much to save the oceans.
3. Bioluminescence is a feature of a few organisms that enable them to emit light. It happens due to a chemical reaction occurring in their bodies, and it makes them light up. Species that possess bioluminescence mainly use it to their advantage, like for luring prey, attracting mates or self defence. Siphonophores are examples of organisms that demonstrate bioluminescence. Siphonophores use their bioluminescence to lure and capture prey.
4. Photosynthesis is the process of converting light, carbon dioxide, water and minerals into chemical energy and oxygen. It is an energy source for many organisms like plants and bacteria. The main source of light for photosynthesis comes from the sun, which is why the sun is technically the start of the food chain: these organisms are eaten by other organisms that use eaten food as their source of energy. This is also why not very many organisms live in the disphotic zone because most of the sunlight is blocked there.
5. A mutualistic relationship is a relationship between two organisms where both organisms benefit from having the relationship. An example of this is a plant and a pollinator. The pollinator gets what it wants, nectar, from the flowers of the plant. The pollinator gets some of the flower's pollen on them, and they spread it to the next flower they pollinate, which is what the plant wants. They both benefit from the relationship as the pollinator gets their food and the plant is now able to reproduce.

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