

Title: Investigation of an Unidentified Circular Green Aerial Phenomenon

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## 1. Introduction

This document records a long-term personal investigation into an aerial phenomenon I witnessed during childhood: a circular green glow observed in the night sky. The purpose of this documentation is to (1) describe the initial event, (2) summarize the curiosity it sparked in my head (3) to discuss the idea about reverse engineering it , if it actually was an advanced technology which can take humanity to the next step.

## 2. Initial Observation

2.1 the month of June 2020 ( pandemics )and I was 15 years old when the event occurred.

### 2.2 Environmental Conditions

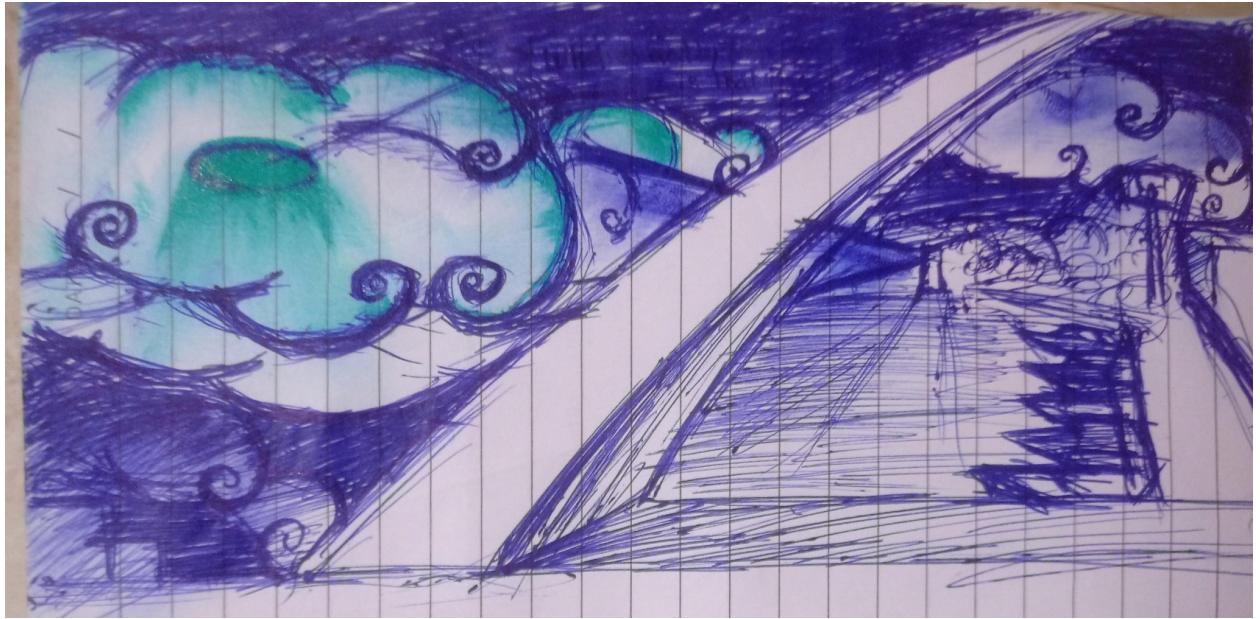
- Time: [night at approximately 11PM]
- Weather: [not so cloudy , not so clear ]
- Surroundings: [light pollution - low]

### 2.3 Description of the Phenomenon

I observed a **circular green glow** in the sky when myself and my brother were on our roof staring at stars and collecting notes to track the orbit of planets and it appeared all of a sudden .Every part of me asked the question , “what on earth was it ?”

- Key characteristics included:
- Shape: Perfect Circle
- Color: Distinct green hue
- Duration: Visible for approximately [30 seconds ]
- Motion: [Stationary.]
- Brightness: [Bright]

Here is the what i saw that night , i drew this from my memory



That event remained unexplained at the time and triggered the element of personal curiosity.

### 3. Early Interpretation and Questions

After the sighting, several questions formed in my mind:

i)What natural or artificial processes can create a circular green light?

ii)Could it be atmospheric, astronomical, technological, or optical?

iii)Why was the color specifically green?

These questions stayed with me as I grew older.

### 4. Beginning of Research

The investigation began when I started pursuing my high school physics . The research path included:

#### 4.1 Books and Articles

I started reading and obtained many information from the books

#### 4.2 Online Databases and Forums

Searching for similar cases, witnesses, or scientific explanations.

#### 4.3 Academic Learning

As I studied physics and engineering concepts, I revisited my childhood observation with better perception .

### 5. Possible Explanations Explored

This section outlines the hypotheses considered over time, along with the reasoning for each:

#### 5.1 Aurora-like Phenomenon

Explanation considered due to green ionized oxygen emissions, but ruled unlikely based on geographic latitude and local weather patterns . It cant occur in my region

## 5.2 Atmospheric Light Scattering

Investigated possibilities like ice-crystal halos, but typical halo phenomena do not produce green coloration.

## 5.3 Lightning-Related Plasma Events

Sprites, elves, and other transient luminous events were researched, though their shape and color differ from the observed glow.

## 5.4 Human-made Sources

Explored possibilities such as laser projection, military flares, or experimental aircraft illumination. This part remained partially open depending on the region and year of sighting.

## 5.5 Optical Illusion or Reflection

Considered reflections from ground sources, lens effects, and human visual processing.

In some cold, snowy places, **light from distant cities or the moon reflects off ice crystals suspended in the air.**

If the ice crystals scatter more in the **green wavelength**, you can see a *faint greenish circular glow* in the sky.

This is rare, but documented in Arctic/Antarctic regions.

### Cause:

- Microscopic ice crystals in the air
- Multiple scattering of light
- Colour shift due to wavelength filtering

This phenomenon looks like a **dim circular green patch or ring** in the sky.

But it is not possible in the region I was in.

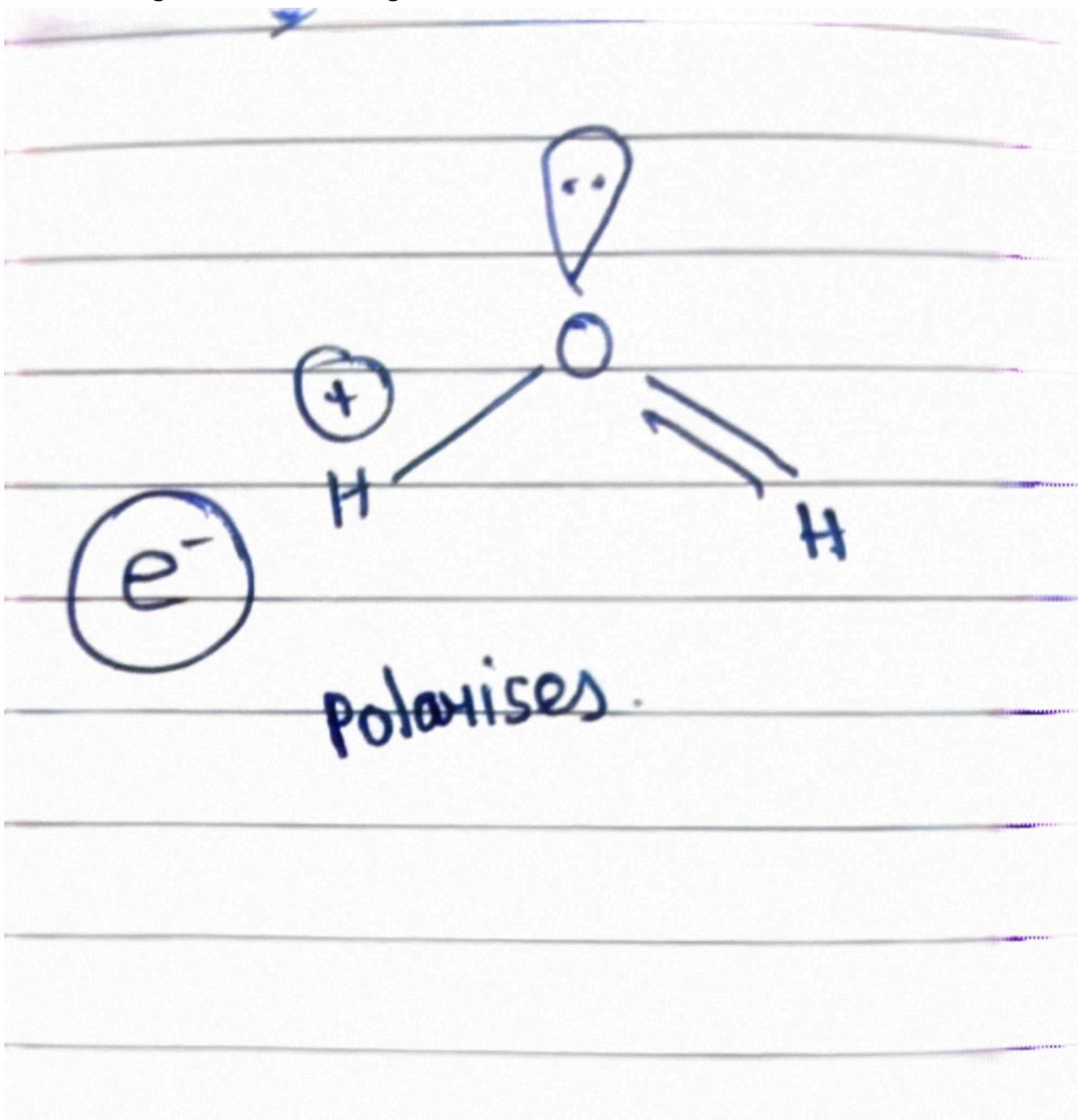
## 7. Findings and Current Conclusion:

While no single explanation conclusively matches the event, the investigation has narrowed down plausible categories. The phenomenon most likely did not originate from a natural cause

### **My work and theories about this event and how it can reshape the future**

**From the green glow , I suspected that it could be from Chernikov Radiation Cherenkov radiation . It is the electromagnetic shockwave generated when a charged particle moves through a dielectric medium**

faster than light can move through that medium.



To be noted : we should note that it is NOT faster than the speed of light in vacuum(which is impossible ).

It is faster than the phase velocity of light inside the medium.

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And the next thing that appeared in my mind was “ when will it occur ?”

For Cherenkov radiation to occur:

$$v > c/n$$

Where:

- $v$  = particle velocity
- $c$  = speed of light in vacuum
- $n$  = refractive index of medium

Inside water, the speed of light is  $c/1.33 \approx 0.75c$ . So an electron traveling at  $0.9c$  will exceed this and emit Cherenkov light.

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## AND WHY THE RADIATION FORMS?

A charged particle polarizes the medium as it moves.

When it passes nearby .Electrons in molecules get pushed/pulled (polarized)

When the particle moves slower than light - the medium relaxes smoothly.

When the particle moves faster than light in that medium - the polarization cannot relax fast enough. And this here produces a shockwave! Of electromagnetic radiation

Analogy (but exact physics matched):

i) Sonic boom = object outruns sound waves

ii) Cherenkov radiation = particle outruns electromagnetic wave propagation in the medium

In both-a cone-shaped wavefront forms. My hypothesis became much stronger .

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## Why is it green ? ( further study )

I further digged deep into the concept

Cherenkov radiation is not Green *because of fluorescence.*

It's blue due to frequency-dependence of the emission . the following mathematical equation can describe the phenomenon

$$I(\omega) \propto \omega$$

Intensity increases with frequency ,which induces more emission at higher frequencies-visible spectrum peaks in blue/green/UV.

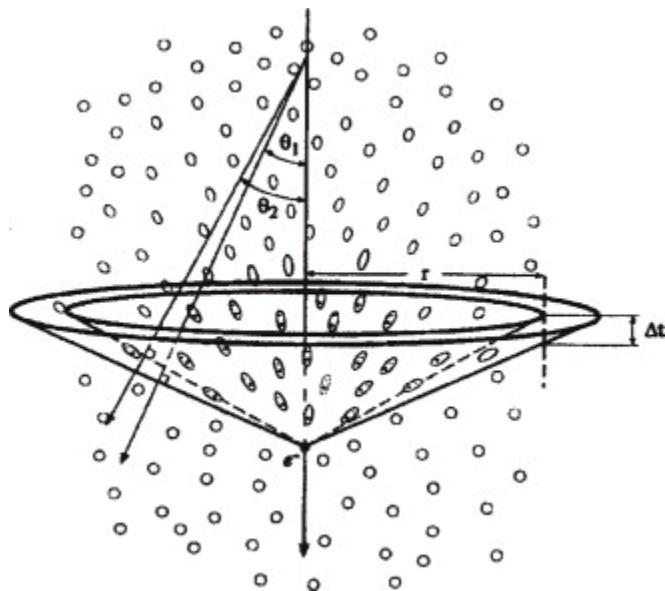
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## 4. Geometry of the Emission Cone

I wanted to further my research about its circular shape . That led me deep into Chernkov radiation.

The shock wave emits at a fixed angle theta( $\theta$ )

$$\cos\theta = c/nv$$



When velocity increases - angle widens.

This is why nuclear reactors show a glowing blue cone underwater.

So now I found out the reason for its circular shape .It felt like Im unlocking everything , bit by bit

Lets slow down a bit for those who are not taken any physics related courses ,

Here is the analogy of what's happening

Imagine:

- Throwing stones (polarizing) at intervals
- Each stone makes a ripple (EM disturbance)
- If you throw them slow - ripples dissipate and no pattern
- If you throw stones faster than ripples propagate - the ripples stack into a V-shaped shock-front

Cherenkov radiation is electromagnetic ripples forming a V-shaped cone in 3D.

## The mathematical form of the wavefront :

The EM field of a moving charge in a medium is:

$$E(r,t) = q \int G(r-r', t-t') dt'$$

where G is the Green's function for electromagnetic propagation in a dielectric.

Inside the Cherenkov region, the Green's function has real poles, meaning:

- The medium supports a real radiation mode (a propagating photon)
- Only when  $v > c/nv > c/nv > c/n$

After solving Maxwell's equations with polarization, the field forms:

$$E \sim \sin(\omega(t - \frac{r \cos \theta}{v}))$$

Constructive interference - radiation maximum at angle  $\theta$ .

We can see that theta is inversely proportional to frequency , which the particle from a nuclear reactor resonates with lower frequency - creating a cone , which was can be viewed a circle from the down view .

## Deep analogy into why it is green :

The refractive index  $n(\lambda)$  is not constant.

For water:

- $n$  is **higher** for blue
- $n$  is **lower** for red

Cherenkov condition:

$$v > cn(\lambda)$$

So:

- Blue/green wavelengths **more easily satisfy the condition**
- Red wavelengths often **don't satisfy it at all**

## Connecting the dots :

Inside a nuclear reactor:

The strongest Cherenkov radiation is actually **UV**, not visible light. But water absorbs UV quickly. It also slightly absorbs deep blue

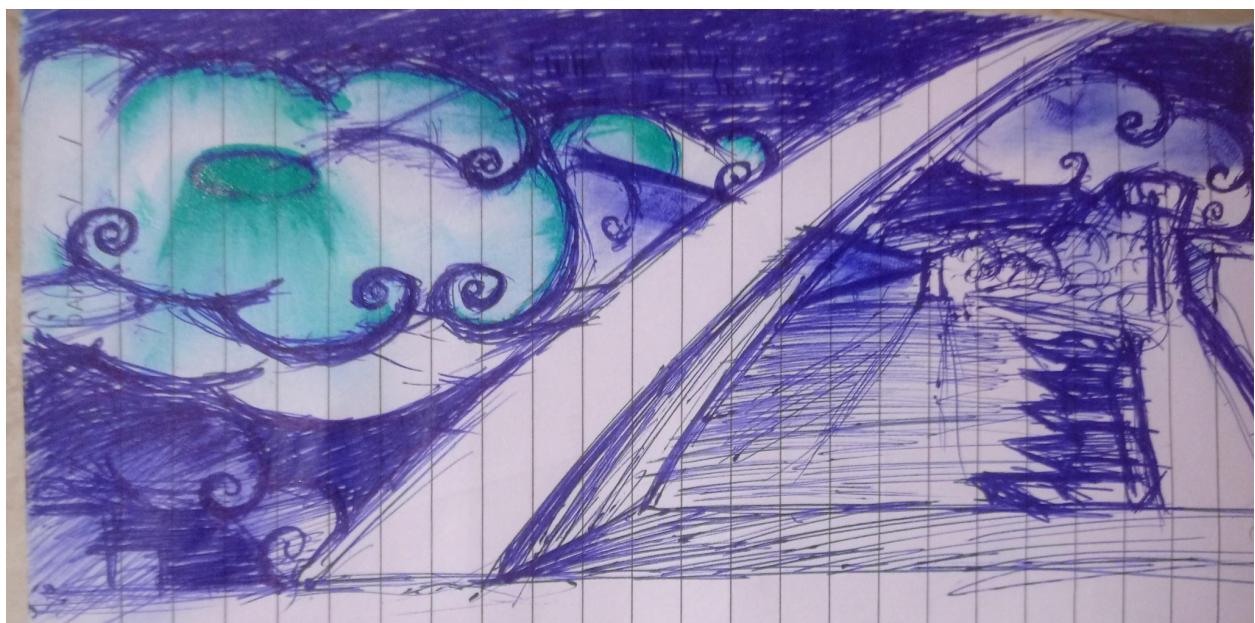
So what passes through most clearly is:

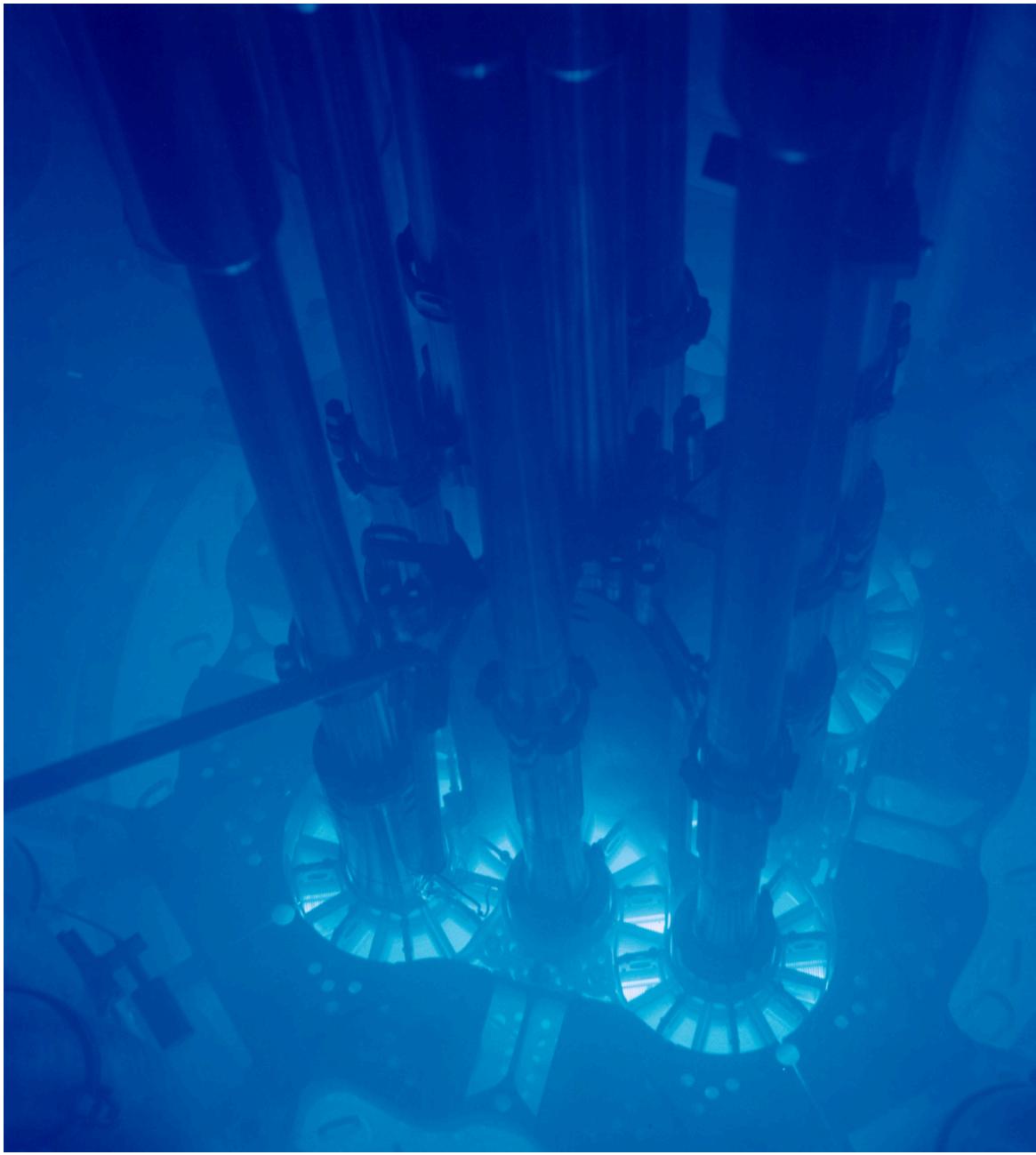
**cyan → blue-green (~480–520 nm)**

This is why photographs of Cherenkov radiation look **cyan**, not pure blue.

If Cherenkov was viewed in a vacuum, it would appear **deep blue → violet**.

But in water, the absorption curve shifts it toward **greenish-blue**.





**The real deal :**

I considered the water source as the cloud , and the nuclear reactor as the unknown thing that I saw on that day . Yes- that was - amazing . The water droplets suspended in the clouds made it look green rather than blue or cyan . I conclude that the UAP might be using a nuclear reactor as a source of energy to produce anti-gravity ? -

## 10. Conclusion

I furthered my research into Atomic physics , Gravitational waves , relativity and Quantum Mechanics ,taking into account that if it is some advanced technology , Humanity will reach its next level. We as a whole need to work on this . My research is still going on to this date , that I might engineer a device capable of bending space and time .

The circular green glow witnessed in childhood has remained an enduring scientific mystery. This document reflects my effort to systematically record, analyze, and contextualize the event using progressively advanced scientific knowledge. The journey itself has contributed significantly to my growth as a curious observer and researcher.