

DEP 703 / Communication Design Project III

Communication in Healthcare

Demystifying Sleep Paralysis

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Acknowledgment

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Introduction

Introduction

Sleep Paralysis

Sleep disorder wherein the person thought is awake, is temporarily unable to speak or move. Scientifically, it's a sign that your body and mind are unable to transitions through different stages of sleep. During REM Sleep, the muscles of the body are completely paralyzed. Scientists say this is to prevent the dreamer from physically acting out their dreams (Alison Abbott, 2005). Psycho-physiological studies have shown that sleep paralysis episodes are particularly likely to occur if a person enters REM sleep shortly after going to bed, bypassing the stages of REM sleep (Randolph W. Evans, 2008). Before going into REM sleep, normal people have REM sleeping stages of approximately 60-120 minutes. People with Narcolepsy often get REM sleep in 15 minutes after going to bed (Raffaele Ferri, 2005) (Gary S. Richardson , 1978).

Sleep Paralysis is often accompanied by vivid and terrifying hallucinations (G. Browne Goode, 1962). These hallucinations are also called Sleep Terrors; dreams (nightmares) that happen earlier in the sleep, during a REM sleep. During these hallucinations people experience shadows, demons, ghosts, witches, scary sounds or other paranormal events and sensations as feelings of being dragged out of bed, falling or flying.

Many people also feel a pressure on their chest and have a difficulty breathing .These hallucinations can result in a panic attack which comes with a significant increase in heart rate (Barr Taylor, 1986) (Jack M.Gorman, 2000).

Period of paralysis can last from a few seconds to minutes. An episode of sleep paralysis often happens with fear and anxiety, which increases heartbeat and sweating (Sleep Health Foundation, 2011) (Randolph W. Evans, 2008).10-25% Of the people with Narcolepsy (National Institute of Neurological Disorders and Stroke, 2005) and around 5-8% of the total population suffers from Sleep Paralysis more often while 20-60% has experienced it at least once (Victoria M Indivero, 2011) (Randolph W. Evans, 2008).

The frequency of Sleep Paralysis episodes differs from person to person. Research done by J.A. Cheyne (2005) reports the following data.

Table 1 Mean and SD for age of onset and current age of females and males for sex SP frequency groups

SP frequency	Age onset		Age		n
	Mean	SD	Mean	SD	
Females					
Once	23.19	10.22	25.83	9.52	201
Several	18.46	8.74	30.57	10.40	544
Several/year	17.09	8.33	30.01	10.08	892
Monthly	15.85	7.81	26.71	8.71	942
Weekly	16.06	7.65	25.98	8.88	653
Several/week	16.21	8.80	27.53	10.34	548
Males					
Once	22.12	9.47	24.17	9.03	89
Several	18.71	8.76	28.15	10.01	237
Several/year	16.75	7.91	30.01	10.12	452
Monthly	15.19	6.78	27.39	9.22	506
Weekly	15.33	6.91	26.15	8.45	419
Several/week	15.60	7.87	26.16	9.25	316

Understanding Sleep Paralysis

(Secondary Research)

Understanding Sleep Paralysis

It is observed that people who experience sleep paralysis sense an intruder or an evil spirit during the phenomenon, one of the given for this experience is that the person is hallucinating having figment of their imagination that feels very real.

It feels very real it is not exactly hallucination, but most like the explanation is that it is an illusory experience some kind of dream imagery. This is why there is no consensus on what others see as some say they see a demon, a giant dog, an evil spirit, or even an old hag. Usually, the person experiencing the sleep paralysis recognizes and understands that what they are experiencing is physiological to out-of-body experiences. When they do, their fear can dissipate. Believing that because the fear faded away, it could mean that sleep reaction. The biological basis of sleep paralysis must be due to the high level of activity in the amygdala, the brain's emotional center.

We realize people who share their experience of sleep paralysis, and lucid dreaming has lots of things in common. When we go deeper into the investigation, we found out that everyone is discussing nearly the same experiences, but within different contexts, with different manifestations. This depends on the person's region, upbringing, religious values, beliefs.

This makes us understand the fact that the brain pictures in to our unconscious what information brain collects in our conscious and subconscious states.

Many people in cultures all over the world and seems to have given rise always to different mythologies or different folktales and you found on, for example, night hag is an older woman who was sitting on the chest and breath out of wow.

How does sleep paralysis feel like ?

"A little girl in the corner of my room staring at me. Then, without notice, she shrieks and runs up and starts choking me."

"A large dark figure, kind of a human silhouette, emerging from the foot of my bed and staring down at me."

"Something banging and scraping on my bedroom door. I keep it locked at night because I have had ones where it opens by itself. No, the door isn't open when I wake up. It only opens in the dream."

"My bedroom door opening by itself followed by dark figures coming into my room."



The Nightmare by Henry Fuseli (1781) is thought to be a depiction of sleep paralysis perceived as a demonic visitation. (Image source: Wikipedia)

Personal Experiences

Although sleep paralysis is not common in the general population, but the people who experienced SP, share their experiences through different social media and blog posts, this somehow relieves them. Some try to sketch or write a poem about the same. Others compare them with movies and environments they know.

One of the Reddit users drew his experience after he wakes up from his terrifying sleep paralysis experience, and claims that he had a conversation with the entity in sleep paralysis



Image source: Reddit sleep paralysis forum

Danny Ky
For the past few weeks I have seen the shadow man in my sleep, it is actually scarier then I ever imagined.

Tonight I was asleep when suddenly I felt the significant pressure on my chest (this was the sign of the shadow man approaching) I couldnt move. I couldnt scream. I was stuck in my paralyzed dream. He dragged me out of bed and on the floor. He picked me up so I was floating and pinned me back on the bed. I tried to pray but it was useless. I couldnt move. He held me there. I looked up at him, I could see his form. I could tell where he was darker than the rest of the room. He held me down, as if it was physical and I tried to move. I tried so damn hard, but he was so much stronger than me. This went over a few more minutes. He then whispered something in my ear.. then I was pinned alone for a few moments and I woke up.

That was the scariest thing I have ever experienced. Awake I do not recall what he whispered to me, but I do remember his strength. Well I prayed now. I need to go back to sleep. I have to go to work in a few hours, I hope I dont see shadow man again tonight.. wish me .

Like · Reply · 2 · 29w

Mike N Stacie Coffee
What he say?

Like · Reply · 18w

Danny Ky
Mike N Stacie Coffee ldk. 6 weeks and nothing. All I had to do was ask for jesus's help and he sent the angels & it hasn't happened to me since. Amen

Like · Reply · 1 · 17w

Sam Link
Has anyone felt pain or been hurt by the presense or shadow guy.

Like · Reply · 2 · 34w

Ashley Larson
Mine was wolf-like and he just stared at me in my closet with yellow eyes. He was definitely evil but it somehow felt like he didn't want to hurt me.

Like · Reply · 1 · 29w

Daniel John Rice
Ashley Larson I've had a very similar dream but it was a bald man with large eyes that glowed red like big stoplights and was walking around looking through all the windows of my apartment. It was

Jovita Nkechinyere Browne
Sleep paralysis is pure evil, I have seen so much in my years of experience, I had told a child hood friend who advised me on what to do to see the face of the evil, I did and I was standing face to face with this man.

Like · Reply · 5 · 39w

Kelly Liwanga
Am really curious Jovita, tell me what you did to see this man.

Like · Reply · 1 · 32w

Jovita Nkechinyere Browne
In my teen years I had a friend that seemed to know too much about all these and she had told me to slap the air just immediately the stuff let you loose, don't wait a second, just slap the air immediately you feel free, like you are slapping some one on the face and you will see the face

Like · Reply · 1 · 28w

Jani Ramone
Jovita Nkechinyere Browne I once har sleep paralys(several Times before) but this time i just felt the urge to do something about it i never saw be shadow in my previous Times but this time i manage to fly up from bed do a 90 degree in the air get a AUG steyr automatic face the shadow and shoot it very cool experience always face the thing and tell it to tuck off thats very satisfying

Like · Reply · 1 · 26w

Jovita Nkechinyere Browne
Jani Ramone wow

Like · Reply · 2w

What Makes Sleep Paralysis Scary?

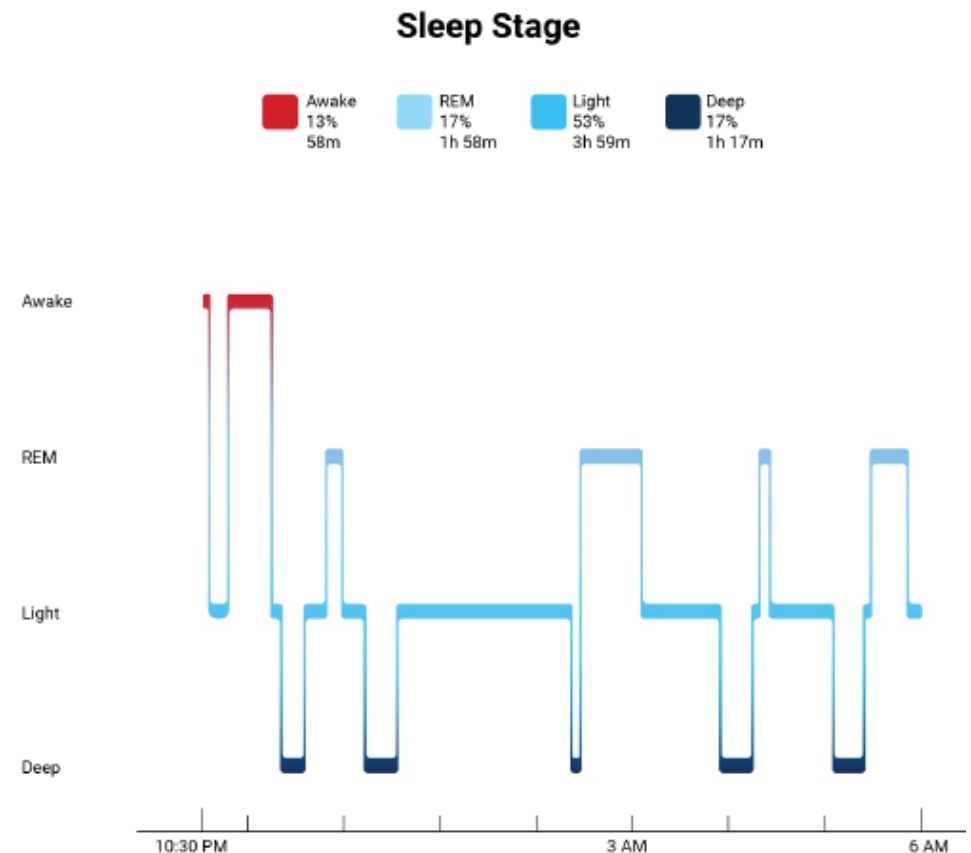
"Imagine waking up to find you cannot move a muscle. It is dark, but you are sure you feel a presence in the room, hovering near your bed or perhaps sitting on your chest, crushing the breath out of you."

Believing that sleep paralysis is brought on by the supernatural, on the other hand, makes people feel more unnerved.

The REM Cycle

Sleep paralysis occurs when the brain and body are not quite on the same page when it comes to sleep. During rapid eye movement (REM) sleep, dreaming is frequent, but the body's muscles are relaxed to the point of paralysis, perhaps to keep people from acting out their dreams. Researchers have found that two brain chemicals, glycine, and GABA, are responsible for this muscle paralysis.

Sleep Cycle
Stephanie Pappas, Psychologist



Night terror

Becoming mentally aware before the body "wakes up" from its paralyzed state can be a terrifying experience, as people realize they cannot move or speak. Frequently, these episodes accompanied by hallucinations and the sensation of breathlessness. Such hallucinations likely gave rise to the myths of the incubus and the succubus, demons that pin people down in their sleep (and sometimes have sex with them).

People may also sense a malevolent presence nearby or believe they are about to die. Some sleep paralysis episodes come with feelings of falling, floating, or dissociating from the body.

Thinking away fear

People with analytical thinking styles were less likely to hold such supernatural beliefs, and were less likely to be distressed after experiencing sleep paralysis, the study found. Though the study couldn't pin down the causal relationship, analytical thinkers may be more likely to seek out and believe naturalistic or scientific explanations for the condition, the researchers wrote, while intuitive thinkers might be drawn to supernatural explanations.

"These results suggest that it is not only important for clinicians to be aware of the implications of supernatural beliefs on SP [sleep paralysis] distress but also sensitive to the likelihood that not everyone will accept or experience relief from naturalistic interpretations," the researchers wrote.

These sensory experiences are more likely to distress people than mere paralysis alone, according to the study published online in February in the journal *Clinical Psychological Science*.

Researchers James Cheyne and Gordon Pennycook of the University of Waterloo in Canada surveyed 293 people, mostly women, on their experiences with sleep paralysis. They found that people were most distressed after an episode when hallucinations felt threatening and when they held supernatural beliefs regarding the cause of the paralysis.

These sensory experiences are more likely to distress people than mere paralysis alone (*Clinical Psychological Science*)

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Where to seek help?

When we experience something strange or we never been heard about, that disturbs us; we seek for help. For Eg. When we experience disease or new symptom from family/ friends, the Internet, and Specialists.

Family/ Friend: In most of the cases, the patient doesn't usually share their experiences with anyone; in other cases, not most of the people know about sleep paralysis.

From studies, it is found that approx 7.6 % of the general population experiences sleep paralysis. Most of the people never experience sleep paralysis or they forget the one or two instances they experienced. When people came to know these experiences they reckon them as supernatural, paranormal or superstitions.

Internet: In the past few years internet dependency increased with a rapidity, but data authentication is the most crucial, the rare the topic, cloudy the information is. Same comes with sleep paralysis.

Specialists: Since people don't prefer to go to psychiatrists/doctors or its rare to find a sleep specialist/ psychiatrists around. The patient can find help adequate help.

From all these cases, the reliance on the internet emerges, and so the myths and beliefs related to sleep paralysis, providing information plays a significant role wrong direction. So, the entire awareness emergence goes in a negative direction.

Google search results for "sleep paralysis". The search bar shows "sleep paralysis" and navigation options include All, Images, News, Videos, Books, More, Settings, and Tools. Filter buttons include shadow, hag, art, nightmare, incubus, lucid dreaming, black figure, james charles, night hag, shadow person, and wif.

The search results display a grid of 24 images, each with a caption and a source URL. The images are highly disturbing and depict various scenarios related to sleep paralysis, including shadow figures, nightmares, and people in bed.

- Image 1:** A dark silhouette of a person standing in a room. **Caption:** Sleep paralysis: where your nightmares ... **Source:** news.com.au
- Image 2:** A dark silhouette of a person standing in a room. **Caption:** Reveals the Real-Life Horror ... **Source:** vice.com
- Image 3:** A person in bed with a large, dark, shadowy figure looming over them. **Caption:** Move. I Tried to Scream but Couldn't ... **Source:** thestranger.com
- Image 4:** A person in bed with a large, dark, shadowy figure looming over them. **Caption:** Sleep Paralysis : creepy **Source:** reddit.com
- Image 5:** A person in bed with a large, dark, shadowy figure looming over them. **Caption:** Sleep Paralysis - ScienceoHolic **Source:** scienceoholic.com
- Image 6:** A person in bed with a large, dark, shadowy figure looming over them. **Caption:** Sleep paralysis: five horrible facts **Source:** monimovi.com
- Image 7:** A person in bed with a large, dark, shadowy figure looming over them. **Caption:** What is sleep paralysis? - ... **Source:** open.edu
- Image 8:** A person in bed with a large, dark, shadowy figure looming over them. **Caption:** Sleep Paralysis; Why Is It So S... **Source:** putthatcheeseburgerdown.com
- Image 9:** A person in bed with a large, dark, shadowy figure looming over them. **Caption:** 25 CREEPIEST Sleep Paralysis Stories ... **Source:** youtube.com
- Image 10:** A person in bed with a large, dark, shadowy figure looming over them. **Caption:** Sleep paralysis..... has any... **Source:** reddit.com
- Image 11:** A person in bed with a large, dark, shadowy figure looming over them. **Caption:** Sleep paralysis - Wikipedia **Source:** en.wikipedia.org
- Image 12:** A person in bed with a large, dark, shadowy figure looming over them. **Caption:** Five Common Questions About Sleep... **Source:** justbedding.com.au
- Image 13:** A person in bed with a large, dark, shadowy figure looming over them. **Caption:** Sleep Paralysis: Causes, Symptoms ... **Source:** livescience.com
- Image 14:** A person in bed with a large, dark, shadowy figure looming over them. **Caption:** Sleep Paralysis | sleep par... **Source:** flickr.com
- Image 15:** A person in bed with a large, dark, shadowy figure looming over them. **Caption:** I suffer from sleep paralysis ... **Source:** medium.com
- Image 16:** A person in bed with a large, dark, shadowy figure looming over them. **Caption:** My Encounter With Sleep Paralysis ... **Source:** universityex.com
- Image 17:** A person in bed with a large, dark, shadowy figure looming over them. **Caption:** What it's like to have sleep paralysis ... **Source:** stuff.co.nz
- Image 18:** A person in bed with a large, dark, shadowy figure looming over them. **Caption:** Sleep Paralysis - it's fucking ... **Source:** critic.co.nz
- Image 19:** A person in bed with a large, dark, shadowy figure looming over them. **Caption:** 10 Terrifying Facts About Sleep Paralysis **Source:** lolwot.com
- Image 20:** A person in bed with a large, dark, shadowy figure looming over them. **Caption:** Sleep Paralysis. Spoiler Alert ... **Source:** mensxp.com
- Image 21:** A person in bed with a large, dark, shadowy figure looming over them. **Caption:** People Experiencing Sleep Paralysis May ... **Source:** newspunch.com
- Image 22:** A person in bed with a large, dark, shadowy figure looming over them. **Caption:** Sleep Paralysis. The Reason You've ... **Source:** feedfond.com
- Image 23:** A person in bed with a large, dark, shadowy figure looming over them. **Caption:** Sleep paralysis and why it may mean ... **Source:** geneticaliteracyproject.org
- Image 24:** A person in bed with a large, dark, shadowy figure looming over them. **Caption:** Sleep Paralysis. - Page 2 -... **Source:** forums.warframe.com
- Image 25:** A person in bed with a large, dark, shadowy figure looming over them. **Caption:** What Is Sleep Paralysis? C... **Source:** thecut.com

Google browser's result showing horrifying imageries

How does it occur?

Sleep paralysis, also known as hypnagogic hallucination is when a person wakes up and find themselves paralyzed, it activates their body's threat activation vigilance system, which is a protective mechanism that the body uses to differentiate between dangerous situations and determine whether the fear response is appropriate.



"A noise in the woods activates vigilance system would cause you to be high alert until you determine if the source of the noise was the threat or not."

This process often associated with a part of the brain called the amygdala, which is responsible for extreme emotions like FEAR, in fact, the whole theory came about is because scientists using Neuroimaging techniques (MRI).

It concludes that the amygdala is responsible for sleep paralysis and hallucination when the brain could not find the real threat, so it creates one that felt a presence which would then cause reverse hallucinations

How Brain hallucinates to create reality ?

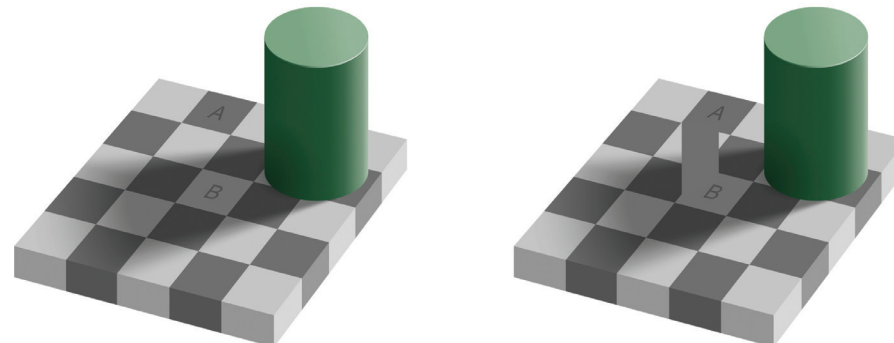
Starting with experiences of the world around human beings, and with the key idea of the Brain as a prediction engine.

Imagine being a brain; locked inside a skull trying to figure what is out there in the world. There is no light inside the skull or the sound either. Except for a stream of elective impulses which only indirectly related to things in the world, whatever they may be.

So perception figuring out what is there has to be the process of informed guesswork. In which the brain combines these sensory signals with its prior expectations or beliefs about the way the world is, to form its best guess of what caused those signals. The brain does not hear sounds or see lights, but can only perceive its best guess of what is out in the world.

To understand this process, Let see these experiments for three prime senses in daily life; Sight, Sound, and Touch.

1. Look at those two patches, A and B, at the figure below, they should look to be very different shades of gray to the viewer, but they are the same shades. After Joining two patches with a gray-colored bar, it is observed that there is no difference. It is the same shade of gray.



The reason is that "the brain uses its prior expectations built deeply into circuits of the visual cortex that casts shadow dims the appearance of the surface."

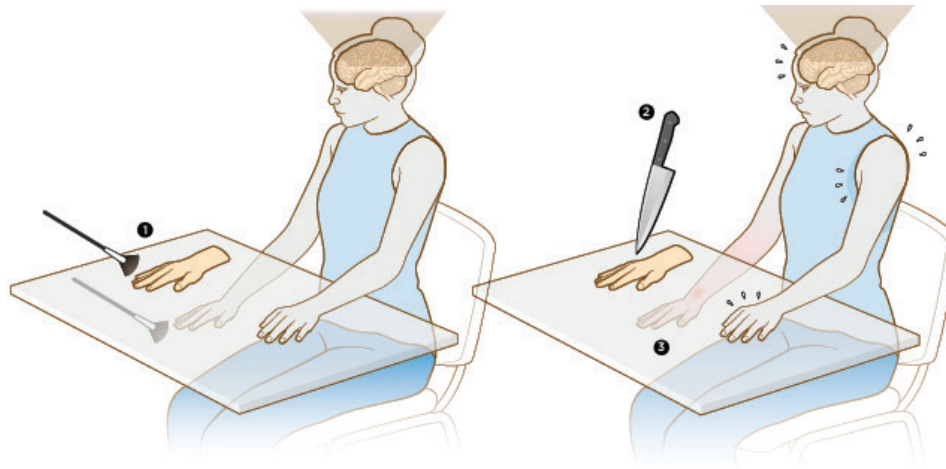
Anil K Seth,
Professor of Cognitive and Computational Neuroscience
University of Sussex, UK

Edward H. Adelson (1995)

2. How does the brain generate the experience of being a body or having a body? Another example of neuroscience is a rubber hand experiment. In the rubber hand illusion, the person's hand is hidden from sight, and a fake rubber hand placed in front of them. Then, both hands are simultaneously stroked with a paintbrush while the person stares at the fake hand. It is observed that some people feel the peculiar sensation that the fake hand is, in fact, part of their body.

The idea is that the congruence between seeing touch and feeling touch, on an object that looks like a hand and is roughly where a hand should be, is enough evidence for the brain to make its best guess that the fake hand is, in fact, part of the body.

The experiment proves that even experiences of what the body is kind of controlled hallucination by the brain.

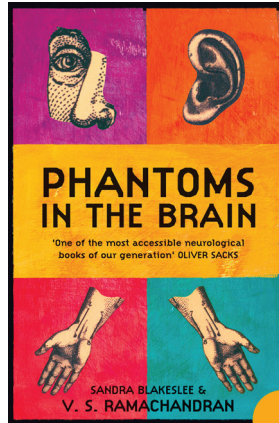


"The sensory information coming into the brain has not changed at all. Only brain's best guess of the sensory information and that changes we consciously hear or experience."

Botvinick & Cohen (1998) Nature
Rubber hand experiment
Image source: Google images

Books and Documentaries

Books



Phantoms in the Brain: Human Nature and the Architecture of the Mind

By V.S. Ramachandran, Sandra
Blakeslee

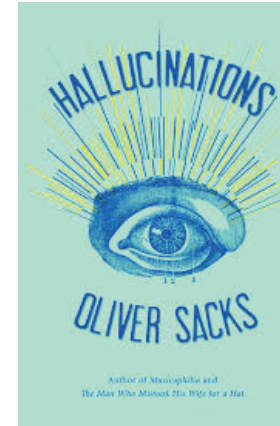
Neuroscientist V.S. Ramachandran is internationally renowned for uncovering answers to the deep and quirky questions of human nature that few scientists have dared to address. His bold insights about the brain are matched only by the stunning simplicity of his experiments



The Man Who Mistook His Wife for a Hat

by Oliver Sacks, Will Self

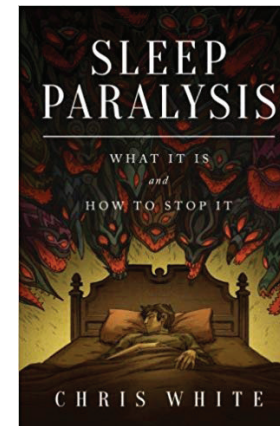
This book provides a groundbreaking insight into the human mind. Dr. Oliver Sacks recounts the stories of patients struggling to adapt to often bizarre worlds of neurological disorder. Discuss cases of people who can no longer recognize everyday objects or those they love; who are stricken with violent tics or shout involuntary obscenities.



Hallucinations

by Oliver Sacks

This book discuss about the hallucinations don't belong wholly to the insane. Much more commonly, they are linked to sensory deprivation, intoxication, illness, or injury. People with failing eyesight, paradoxically, may become immersed in a hallucinatory visual world.



Sleep paralysis

by Chris White

Sleep paralysis is the only print book that discusses sleep paralysis and its related dream visions from a how-to perspective -- a book for those who want to manage their SP or engage more confidently with this ancient lucid dreaming technique.

Films and Documentaries



What hallucination reveals about our minds

By Oliver Sacks

Neurologist and author Oliver Sacks brings our attention to Charles Bonnet syndrome when visually impaired people experience lucid hallucinations. He describes the experiences of his patients in heartwarming detail and walks us through the biology of this under-reported phenomenon.



Are you a body with a mind or a mind with a body?

By Maryam Alimardani

This video explains how our bodies, the physical, biological parts of us and our minds — the thinking, conscious aspects — have a complicated, tangled relationship. Which one primarily defines you or your self?



3 clues to understanding your brain

By Vilayanur Ramachandran

Vilayanur Ramachandran tells us what brain damage can reveal about the connection between cerebral tissue and the mind, using three startling delusions as examples.

Potential Project Directions

"Indeed, the line between perceiving and hallucination is not as crisp as we think. In a sense, when we look at the world, we are hallucinating all the time. One could almost regard perception as the act of choosing the one hallucination that best fits the incoming data "

-V. S.Ramachandran

Possible Project Directions

The project began with the idea of spreading awareness for sleep paralysis, but stretches with the intervention with the role of design in communication & awareness and how it can change the experiences with design rather than a just exploratory visual expression.

During the research, we explore lots of artists work, communicating their personal thoughts and experience through different art mediums. Exploring works from different sites and blogs we conclude that the most of the information on this particular topic is self-expression, which is relieving the user to cope hallucination to a limited extent but not clearing the idea for the same; Inputs only. Which affects the brain and subconscious in a negative direction and thus creating perspectives for hallucinations.

Raphael Lezinsky's work

Raphael Lezinsky creates collages of his sleep paralysis episodes, to express the expression with digital media, painting, sketching and drawing on watercolour with textures and splotches with meticulous details.



Henry Fuseli's "The Nightmare" may have been inspired by the chest-crushing sensation and hallucinations of sleep paralysis.
Credit: Henry Fuseli (1781)



Nicolas Bruno's work

Nicolas Bruno creates sleep paralysis photography as a way to cope with this scary disorder. In order to decompress my thoughts, he turns photography to transform his dreams into some things positives and tangible. By creating self-portraiture that reenacts the dreams, he was able to share what he was going through each night and externalize something deeply personal through a positive outlet.



Approach 1

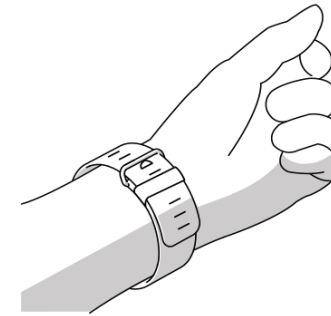
Logging Wristband

Combining with a sensor, a paralysis attack can be detected, and the agenda can be rescheduled if the patient would have to sleep fallen sleep. The agenda could also notify the user for upcoming scheduled items by sensor vibration. This will help people to plan sleep schedules as it is quite a big problem for people with sleep paralysis.

Community App

The idea of a community network can encourage users to fill their sleeping logs. People within the community would support each other to share the experience by filling logs. There would be chatroom where they could discuss each other and share their experiences. A narcolepsy social media kind of platform.

Both solutions need lots of customization and making user device dependent, another problem with apps is again that they are adding more screen time in users schedule. which can lead to the use of digital devices and cause negative casualties



Source: Polar

I WOKE UP IN THE MIDDLE OF THE NIGHT AND QUICKLY CHECKED INSTAGRAM, TWITTER, FACEBOOK, GMAIL, MY WEATHER APP, AND MY TEXTS, AND NOW I'M A TAD TOO STIMULATED TO CLOSE MY EYES AGAIN.



Source: The Newyorker

Approach 2

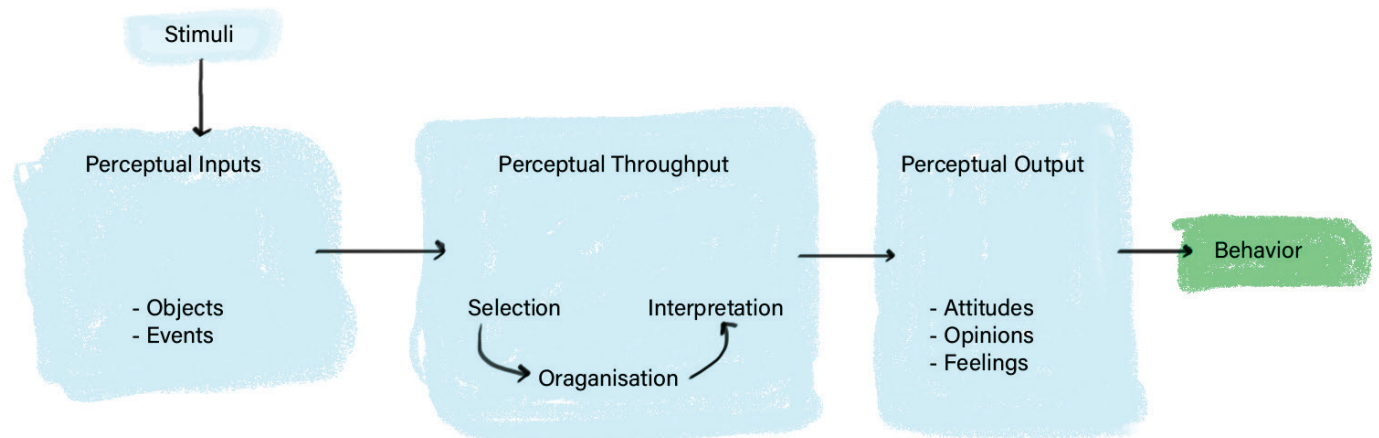
The process of Perception as tool for better experience

Visual perception can be one possible direction as a design solution for users. It is the ability to interpret the surrounding environment using light in the environment; brains ability to make sense of what the eyes see. With the help of perception, we can achieve the goal of sensing of information; use of past experiences both real and genetically acquired and process them into better experiences which can help the user to cope with sleep paralysis.

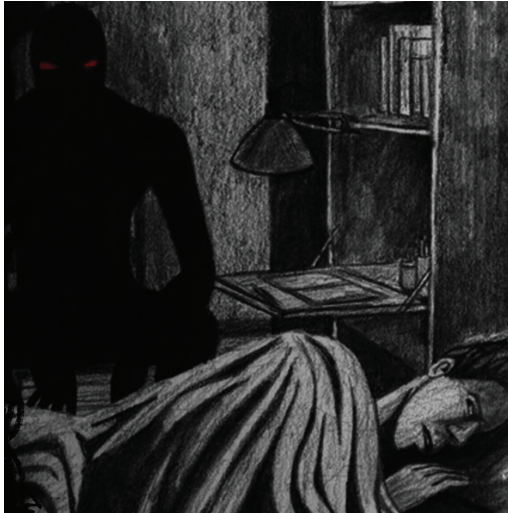
Step 1: Raw information gathered from the external world.

Step 2: Templates of experience and compared and matched by executive functions in working memory is what experienced.

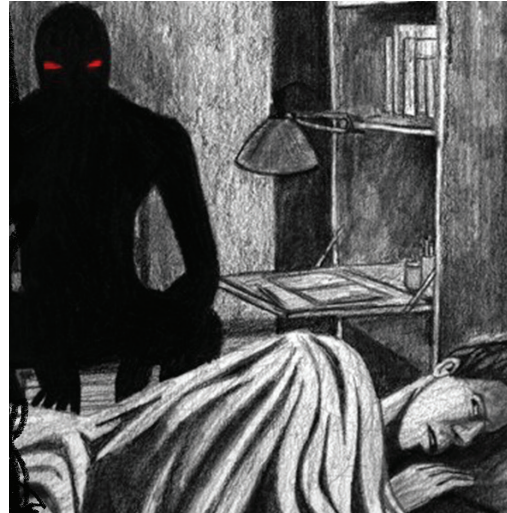
Step 3: Consciousness cognitive and emotional awareness, we think of as seeing and experiencing.



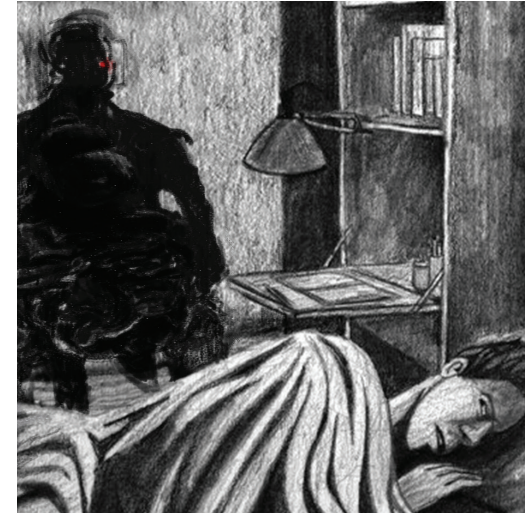
An sequential approach to understand the basic idea of how the brain uses the information to percept visuals on conscious selves.



1.



2.



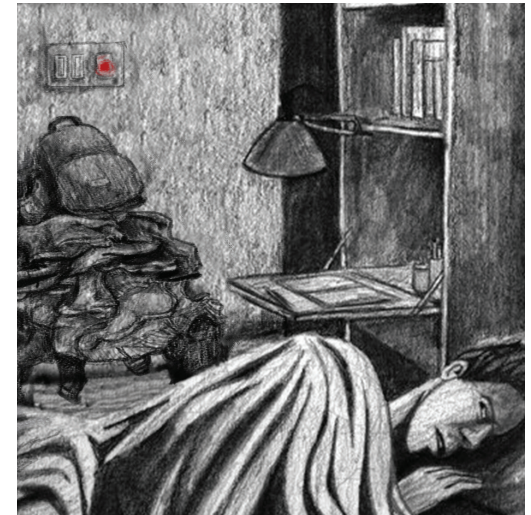
3.



4.



5.



6.

Final design

**"We can pool information about experiences,
but never the experiences themselves, from
family to nation, every group is a society of
island universe "**

*-Aldous Huxley
The door of perception*

Style and Inspiration

Carissa Potter's work

I took **Carissa Potter Carlson**, illustrator and creator of self-help pieces of stuff have a wide range of work with easy going, simple yet meaning work as inspiration and how it connects with a wide range of people from different background.

Carissa's work: <https://www.peopleloved.com/>



Jack Teagle's work

Another inspiration is **Jack Teagle**, Illustrator and Painter for illustrations, having minimal yet profound meaning in his linework, and how to achieve strong emotion and expressions even without colors.

Jack's work: <https://www.flickr.com/photos/jackteagle/>



The Hole



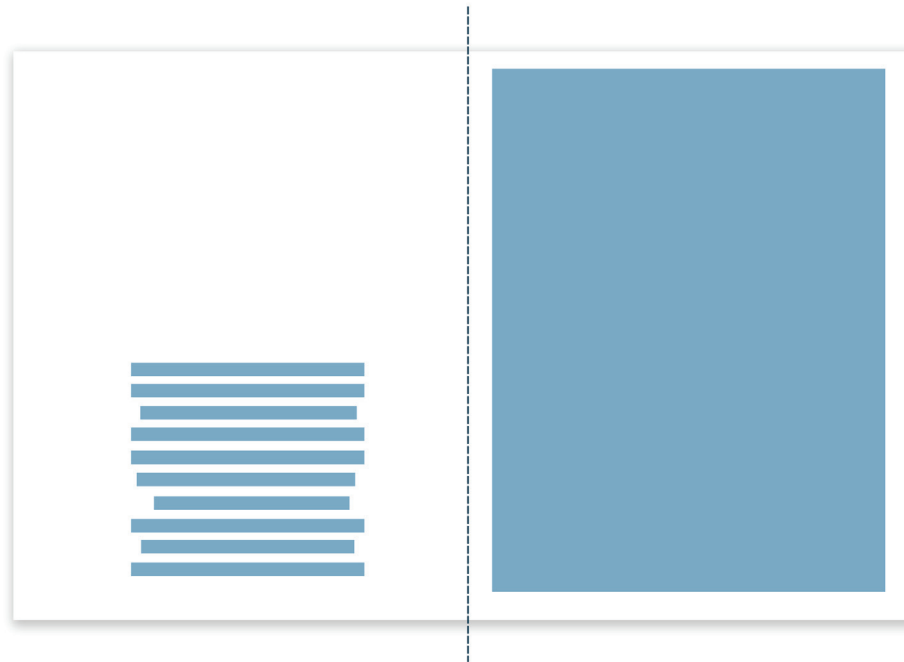
Nightmare Batman

Generating Theme

The theme of the book is intended to be slightly rough, so that it can relate to the expression of sleep paralysis, provoking the user to indulge themselves into the exercises without restricting to any art form or style.

Layout

The book is designed as a journal, the size is 17 cm x 24 cm portrait for the pages. The intention is that the user would make scribbles and write notes in the book itself. The Pages are designed to fill voids, completing tasks yet give freedom for the user to fill the exercise, write, and color by their choices.



Structure of the Book

The content of the book was laid out and arranged such that there is a sequence from a basic introduction to sleep paralysis with entangling thoughts within different aspects of hallucination.

01 The whole book journey is an exploration of user's self, where he will be introduced to the topic and establishing the idea and to perceive sleep paralysis and hallucination as neurological disorders.

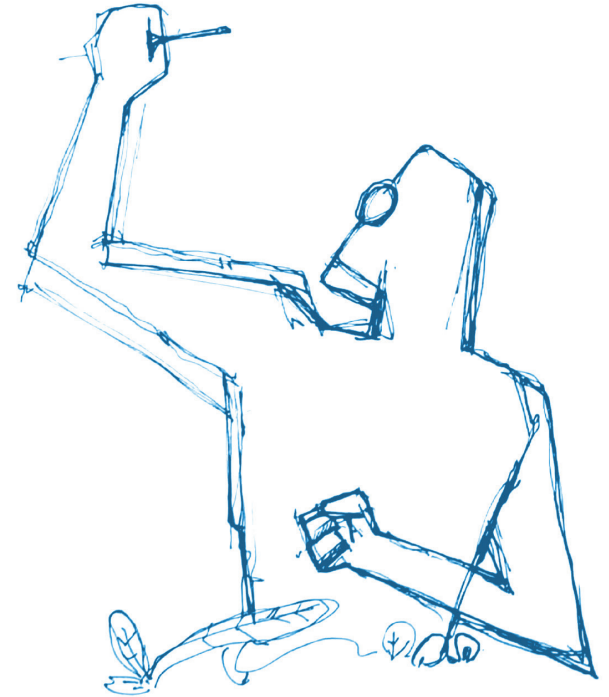
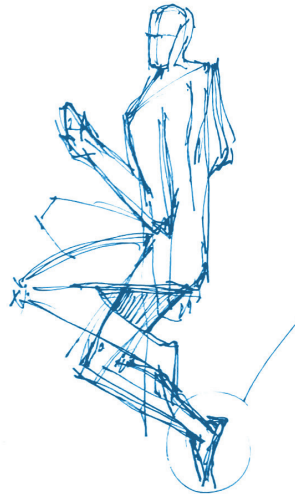
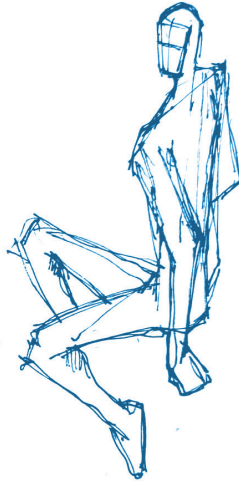
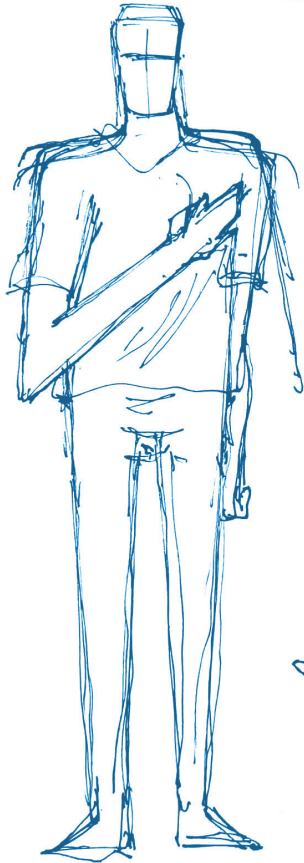
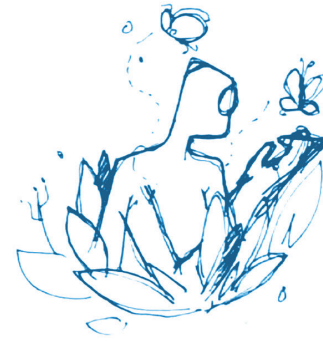
02 The second step is to negate the effect of S.P. and what user collected from the Internet as reference till now. Using reference images from the web and playing with them visually, to generate the idea of visual perception and the consciousness to change the brain's best guesswork and experiences.

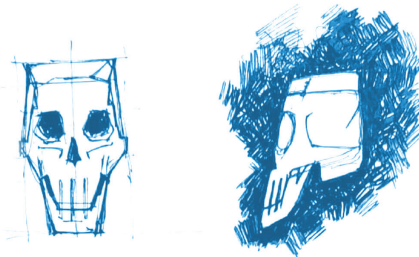
03 Changing the perspective of Fear by putting humour into it. Humour addresses the same issues like Fear, not to dismiss them, but to strengthen the ability to confront them, and then laugh them away from the door. Humour is, of course, the one thing that fear cannot abide; Laughter banishes anxiety and can help replace fear, Laughter is a testament of courage or at least a manifestation of the wish for it. And courage is stronger than fear.

So, similar to the second step, using image reference from the Web and giving them a new perspective with humour helps to change the manifestations related to fear.

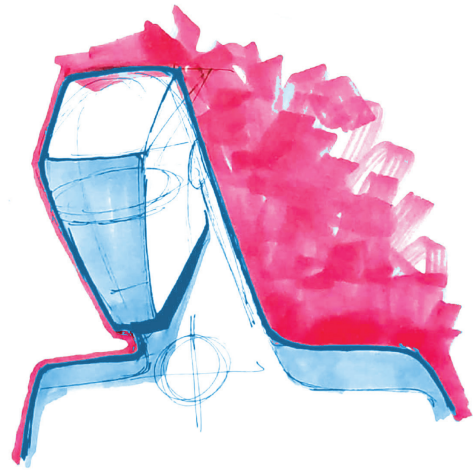
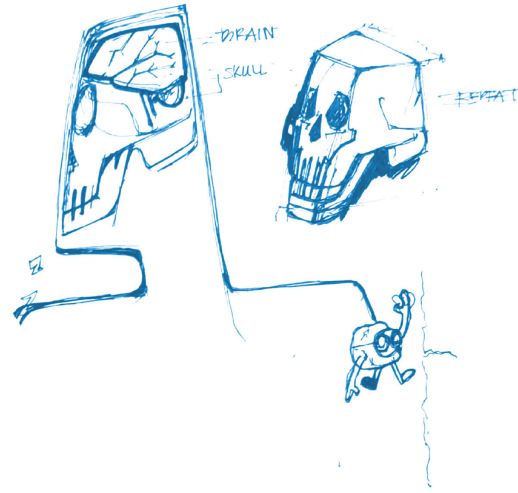
04 "Reality is not what it seems to be, but its imagination what creates reality" quoted by Ferdinando Buscema, the great magic experience designer. Here we are using the same thought by using images and words to reform reality in the final step. Dividing exercises from completing pictures from bits and pieces and creating new from scratch. With small references to complete visual imageries in the head.

Generating Identity





SKULL



What is Sleep Paralysis?

A sleep disorder wherein the person though is awake, is temporarily unable to speak or move. Scientifically, it's a sign that your body and mind are unable to transition through different stages of sleep.

Rem Sleep Stages

Stage	Awake	REM	Light	Deep
Percentage	15%	20%	55%	10%
Duration	15-30 min	90 min	90 min	90 min

- While you are falling asleep and is referred to as hypnagogic or predormital sleep paralysis
- When you are waking up, called as hypnopompic or postdormital sleep paralysis.

How does it occur?

Usually occurs when we about to sleep or about to wake up. When we about to do so, brain sends signal to muscles to paralyse themselves. So that we don't act out in dream in our dream and hurt ourselves.

When brain feels body paralyzed, it activates these survival system which body uses to differentiate between dangerous situations.

When brain can't find any real threat, it creates one that fit purpose which would then cause other hallucinations.

Causes of sleep paralysis

- Panic Disorder
- Bipolar Disorder
- Erratic Sleep Schedules
- Substance Abuse
- Sleep Deprivation
- Sleep Apnea
- Medications
- Post traumatic Stress Disorder

Symptoms of sleep Paralysis

Sleep paralysis is characterized by sensory, auditory and visual hallucination such as:

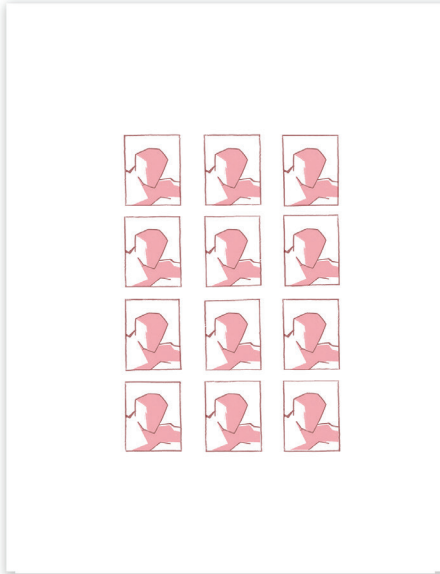
- Intruder:** A sense of malevolent presence in the room, footstep sounds, shadows, and rattling doorknobs.
- Intruder:** A sense of malevolent presence in the room, footstep sounds, shadows, and rattling doorknobs.
- Vestibular Motor:** out of body experience, floating or hovering, flying, rapid spinning or falling from heights.

Source: Live Science Medical News Today National Institute of Health

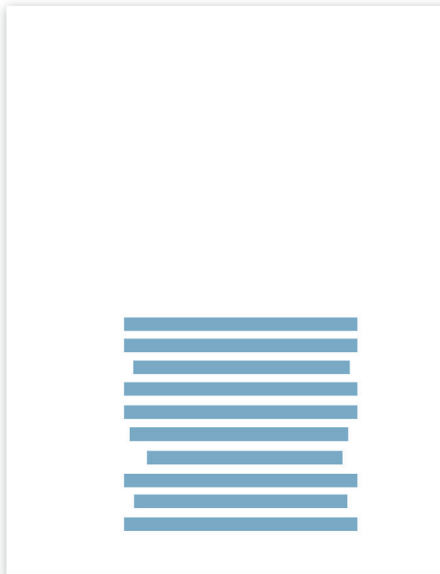
Pages for Infographics

Hold me close, hold me tight, you will be alright"
 Don't hesitate, you will be all right"
 The mumbling get closer and loud
 I looked out for the voice in the crowd " Let me go, set me free
 you will be good without me"
 Two different verses in a brief span of time.

Pages for Exercise



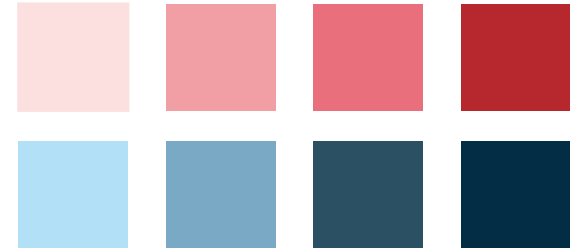
Pages for Infographics



Pages for Exercise

Illustrative style

The illustration of Infographic intended to follow the color semantics of the message, choosing pastel color with simple lines. The Illustration will be monochrome in the second part with simple line work incorporating with users scribbles.



Conclusion

You never identify yourself with the shadow cast by your body or with its reflection, or with the body you see in dream or in your imagination. Therefore you should not identify yourself with its living body, either

-Shankara (A.D. 788-820), Vivek Chudamani
(*vedic scriptures*)

In the beginning, we try to understand the role of self-expression and communication on different platforms, topics like Narcolepsy, sleep paralysis and lucid dreaming are still unknown to 60% of the population and seeking help in such issues is in more dire condition. Although such issues are subjective and there is no single direction to streamline.

Another problem is the rarity of this issue, the numbers of beliefs in different contexts, religion and regions. Maybe it is a small issue for ordinary people, but it is directly affecting the mental and physical health of the concerned group.

This project is a minuscule effort in this direction. We are not claiming to bring about a huge impact, but we do, however, would wish to learn a little from the perspective of people and experts, The goal here is to lies to address each others problems and experiences that could serve as a plausible response to the issue of narcolepsy, sleep paralysis and better health conditions effecting from sleep-related disease.

"Pain, like the body image, is created by the brain and projected onto the body. this assertion is contrary to common sense, and the traditional neurological view of pain that says that when we are hurt, our pain receptors send a one-way signal to the brain's pain center and that the intensity of pain perceived is proportional to the seriousness of the injury."

-V .S. Ramachandran

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Chris White