

# OUR INCREDIBLE IMAGINATION

WRITTEN BY HELENA HARÁŠTOVÁ  
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HOW YOUR BRAIN WORKS

# IMAGINATION IN THE BRAIN

## THE IMAGINATION STATION

When you imagine, different parts of your brain connect and communicate: the **hippocampus**, the **amygdala**, and most significantly, the **cerebral cortex**, especially the parts where we find inner thoughts and sensory perception. Areas used for order and planning take a backseat, as though your brain were telling you: "Who cares what others think? Invent, imagine, and dream!"



CEREBRAL  
CORTEX

AMYGDALA

HIPPOCAMPUS

## WHERE DID THAT NOTE COME FROM?

Think of your brain as an orchestra. When one player starts improvising, the others join in with enthusiasm – each with their own instrument. While some play throughout, others join in only briefly or for certain sections only. You never know where new notes will come from, how the melody will change, where the rhythm will lead . . . And oddly enough, the players don't know either!



Similarly, our imagination can suddenly bring up pictures, sounds, and smells in our minds. It can also remind us of things we've seen or heard before. We never know exactly what new ideas will pop up or how they'll mix together.

# A VIVID IMAGINATION

Children love to play "pretend." With a **vivid imagination**, you can turn your bed into a ship on stormy seas or a tablecloth into a shop or a prehistoric cave. This is a great way to exercise the brain. An inventive mind can adapt quickly and learn new things.



VIVID THOUGHTS  
OFTEN COME TO US WHEN  
WE ARE FEVERISH.

Some people, like artists, keep their vivid imagination throughout their lives. The truth is, though, most grown-ups lose this superpower amid their daily tasks and responsibilities.



# CAN IMAGINATION BE TRAINED?

Just as every musician has their own approach to learning a new song, we all have different ways of developing the imagination.

To improve your imagination, you should **be open** to new ideas.

"I'M GIVING IT MY ALL! AND I'M CURIOUS ABOUT THE MELODY THAT WILL EMERGE."

Before thinking up something new, people often find it helpful to **prepare** – by searching for information on the topic, for instance.

"I NEED TO STUDY THE NOTES PROPERLY FIRST. THEN I'LL FEEL MORE CONFIDENT WHEN I PLAY."

When ideas get stuck, it often helps to **try something unusual** to shake things up.

"WOW, I'VE NEVER PLAYED STANDING ON MY HEAD."

**Allowing thoughts to run free** is great for developing your imagination.

"I RELAX WHEN I'M PLAYING, WANDERING AROUND IN MY THOUGHTS."



## INNATE ABILITY

Some people have more vivid imaginations than others – but we all excel in different ways.



ANASTASIA'S HEAD HAS BEEN FILLED WITH FRESH IDEAS SINCE SHE WAS LITTLE. FOR HER, COMING UP WITH NEW, UNUSUAL IDEAS IS A PIECE OF CAKE.

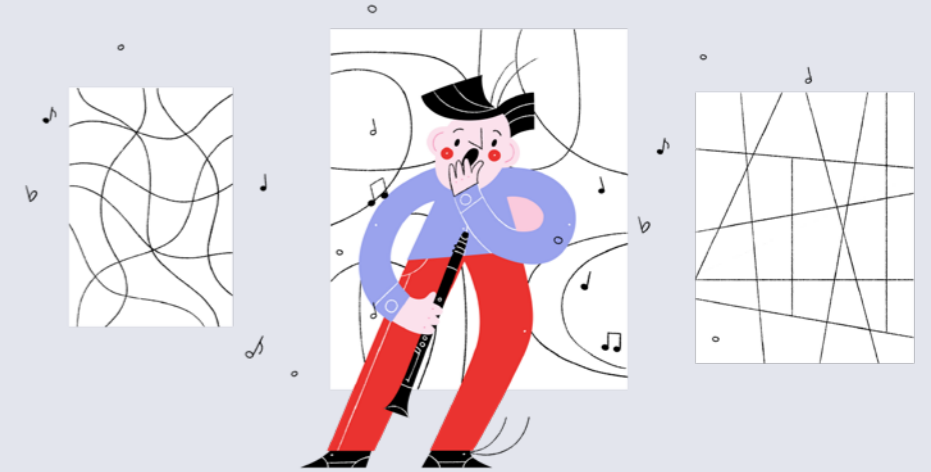


PATRICK HAS ALWAYS PREFERRED PROVABLE FACTS. FOR HIM, THINKING UP NEW THINGS IS HARD WORK.

# CAN IMAGINATION BREAK DOWN?

## SYNESTHESIA

What does the sound of footsteps taste like? How does the word "clever" smell? What is the sound of red? For someone with a rare ability called *synesthesia*, the imagination – amazingly – can blend color with sound, or words with smell.



## PSEUDOLOGIA PHANTASTICA

A person with *pseudologia phantastica* invents the craziest events and experiences. They fear that others would find them uninteresting, even boring, without their tall tales. The German soldier Baron Munchausen, who lived over 200 years ago, is a famous example of this kind of fantastical lying.

## INTRUSIVE THOUGHTS

These mental intruders can be really annoying! They're usually connected with our fears and anxieties. Mike here, for example, can't walk over a bridge without imagining falling off!





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## ABOUT THE AUTHOR

Helena is neither a psychologist nor a neuroscientist, although she has secretly dreamed of such professions since childhood. Eventually, however, life guided her to the editorial office of a publishing house. As a result, her brain now deals with new, unexplored topics every day, and she enjoys it immensely! Her greatest inspiration for writing is when she can watch her five-year-old son and her seven-year-old daughter play, talk, think, and simply grow (while their brains grow too).

## A DEEPER UNDERSTANDING:

- **AMYGDALA** – A small but important part of the brain responsible for creating strong emotions (anger, rage, fear, etc.) and for storing memories associated with emotions.
- **ASSOCIATION** – A connection between two or more thoughts, feelings, or moods, based on a common element (i.e., a similarity).
- **CORTEX** – The uppermost part of the human brain. As the seat of consciousness, it's very important.
- **DORSOLATERAL PREFRONTAL CORTEX** – This part of the brain helps us come up with ideas and also makes sure we stay true to ourselves.
- **FREE ASSOCIATION METHOD** – It involves letting your thoughts flow freely, with one idea leading to the next, so you can access memories and ideas that are usually hidden.
- **HIPPOCAMPUS** – One of the older parts of the brain, it helps with long-term memory and understanding where you are in space.

### HOW YOUR BRAIN WORKS OUR INCREDIBLE IMAGINATION

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## WANT TO LEARN MORE?

- *Your Fantastic Elastic Brain: A Growth Mindset Book for Kids to Stretch and Shape Their Brains* by JoAnn Deak, PhD
- *Big Brain Book: How It Works and All Its Quirks* by Leanne Boucher Gill, PhD
- *Neurology for Kids: A Fun Picture Book About the Nervous System for Children* by Betty Nguyen and Brandon Pham
- *Hidden Brain* podcast from NPR



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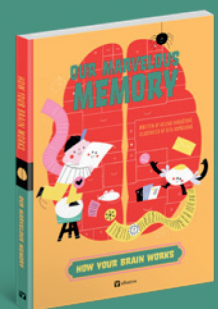
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Have you ever noticed how some people have extraordinary ideas running through their heads day and night, while others can't imagine anything beyond what they see right in front of them? And how is it that children often have great imaginations, while adults tend to be less imaginative?

Come peek inside the fascinating world of the human brain and explore how imagination, dreams, and ideas work. These witty illustrations and clear texts will help you understand why imagination is so useful and how we can develop and nourish it.

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title in this series:



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