

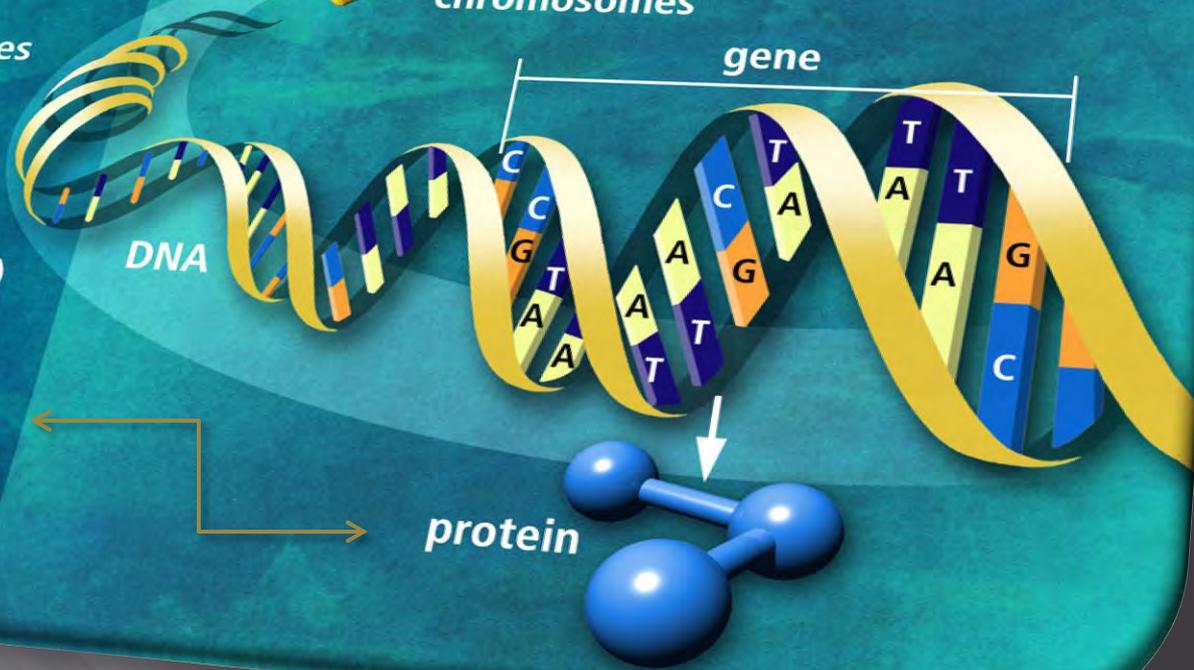
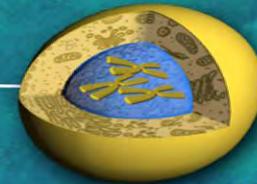
# CELL DNA: ONE 100-TRILLIONTH OF THE RECIPE FOR "YOU"

## DNA the molecule of life

### Trillions of cells

Each cell:

- 46 human chromosomes
- 2 meters of DNA
- 3 billion DNA subunits (the bases: A, T, C, G)
- Approximately 30,000 genes code for proteins that perform most life functions



# 1.1 Trillion (Brain) Cells

CAN & DO CREATE MOST ANYTHING



# 4 People ...

4 Brains Persistently  
Interacting by way of ...

Thoughts, Feelings,  
Actions, Intentions,  
Perceptions, Emotions,  
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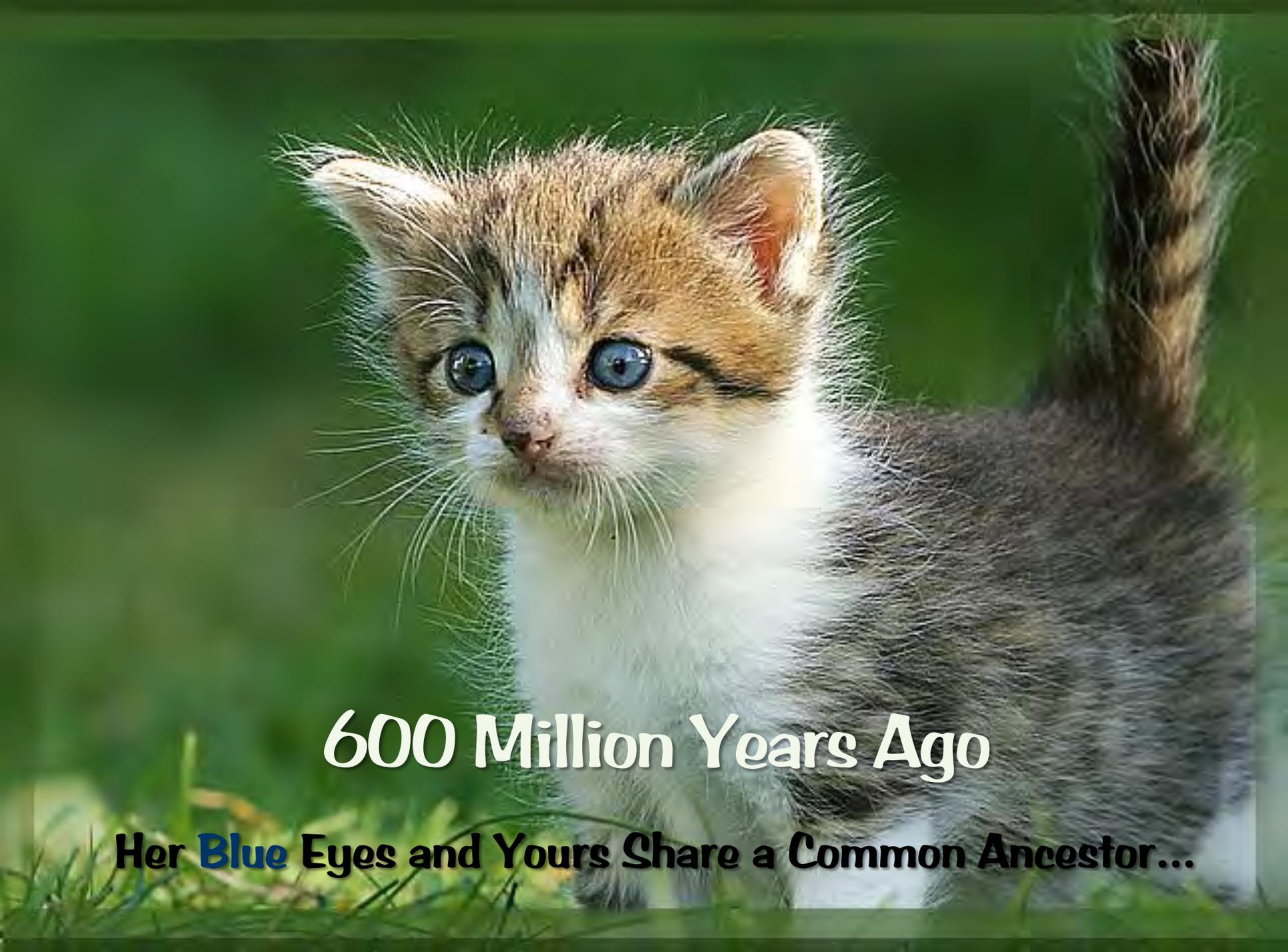


**300 TRILLION CONNECTIONS**

**BETWEEN 100 BILLION BRAIN CELLS**



**CONSTANTLY INTERACTING ...**

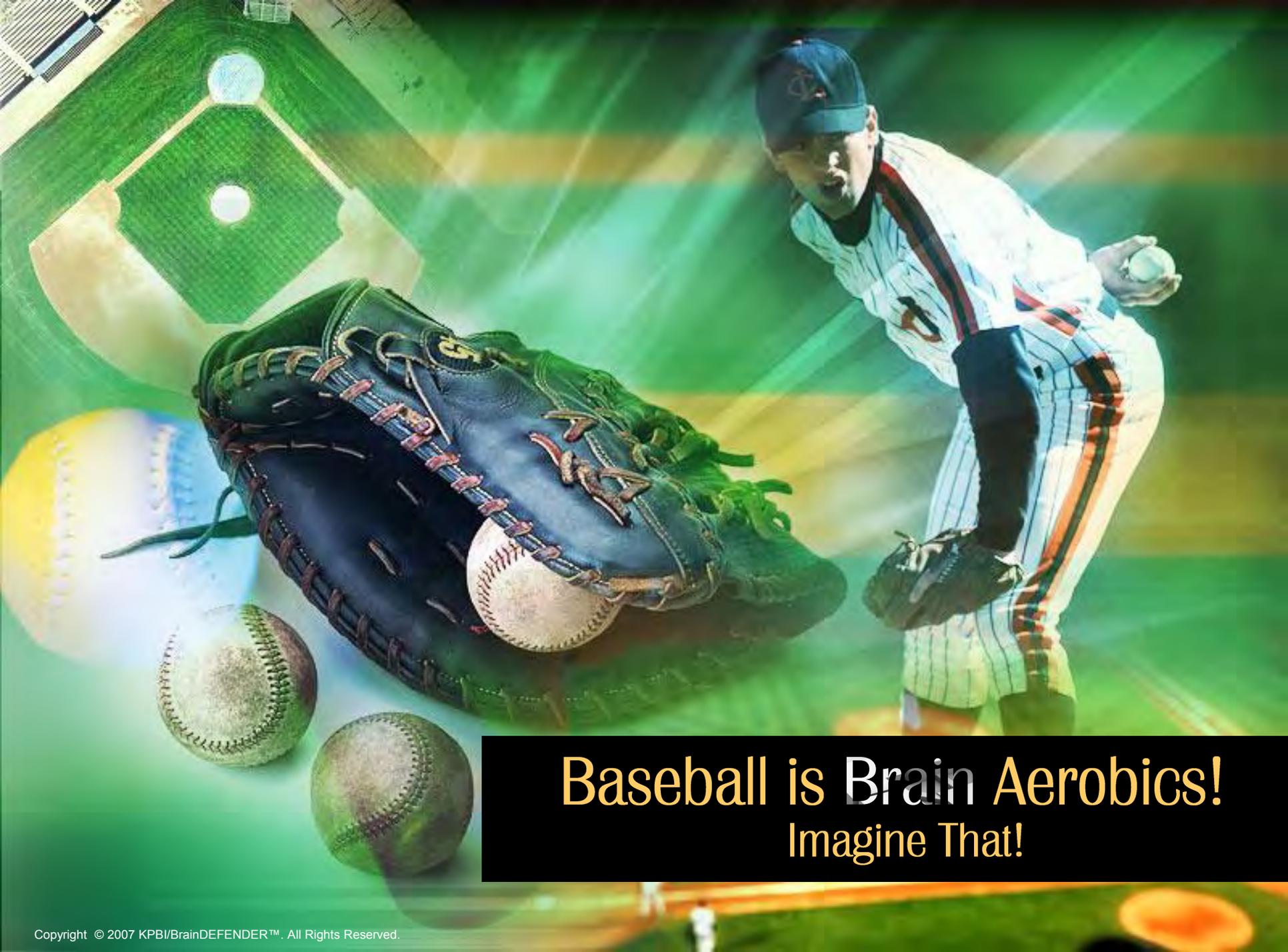
A close-up photograph of a very fluffy, young kitten. The kitten has a mix of orange, white, and grey fur. Its most striking feature is its large, bright blue eyes. The kitten is sitting in a field of green grass, and the background is a soft, out-of-focus green. The lighting is natural, highlighting the texture of the kitten's fur.

**600 Million Years Ago**

**Her **Blue** Eyes and Yours Share a Common Ancestor...**

as little as one Brain all by itself  
is far more powerful!





**Baseball is Brain Aerobics!**  
**Imagine That!**

Brain “Wiring” is VERY Different, but ...

This Much is the Same: **STRIP AWAY THE SHEATHING OR CUT THE CHANNELS & EVERYTHING CEASES WORKING RIGHT!**



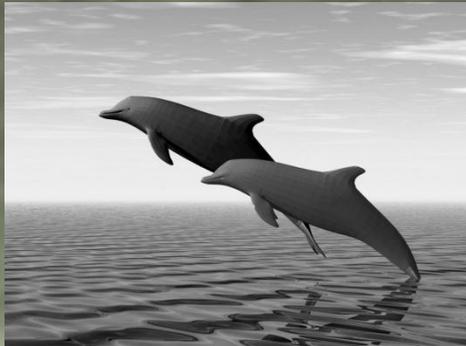
It's Your Brain:  
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**If “Interaction” Surely Occurs ...**

**With Inanimate Things!**

**Then What About Life!**



# If Very Early You Teach Them ...

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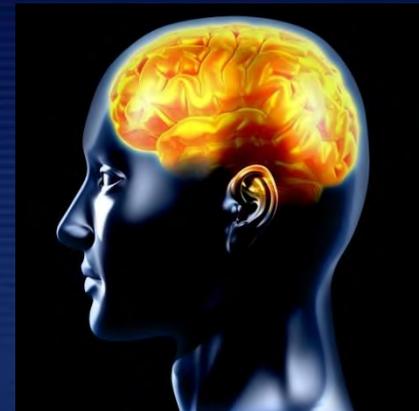
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# Memory Starts Out With

# A Neural Scaffold!





Nothing You Do

Will Ever Be Done Without Your Brain's **Robust** Participation!

# Our Genes And Our Environment

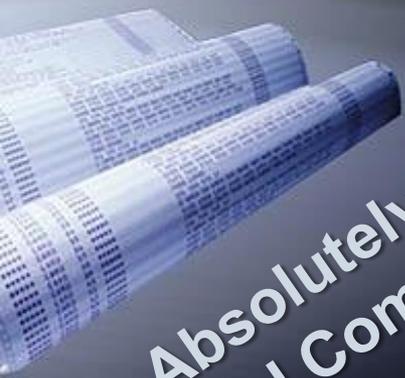
Work Together To Give Us All of Our Abilities ...





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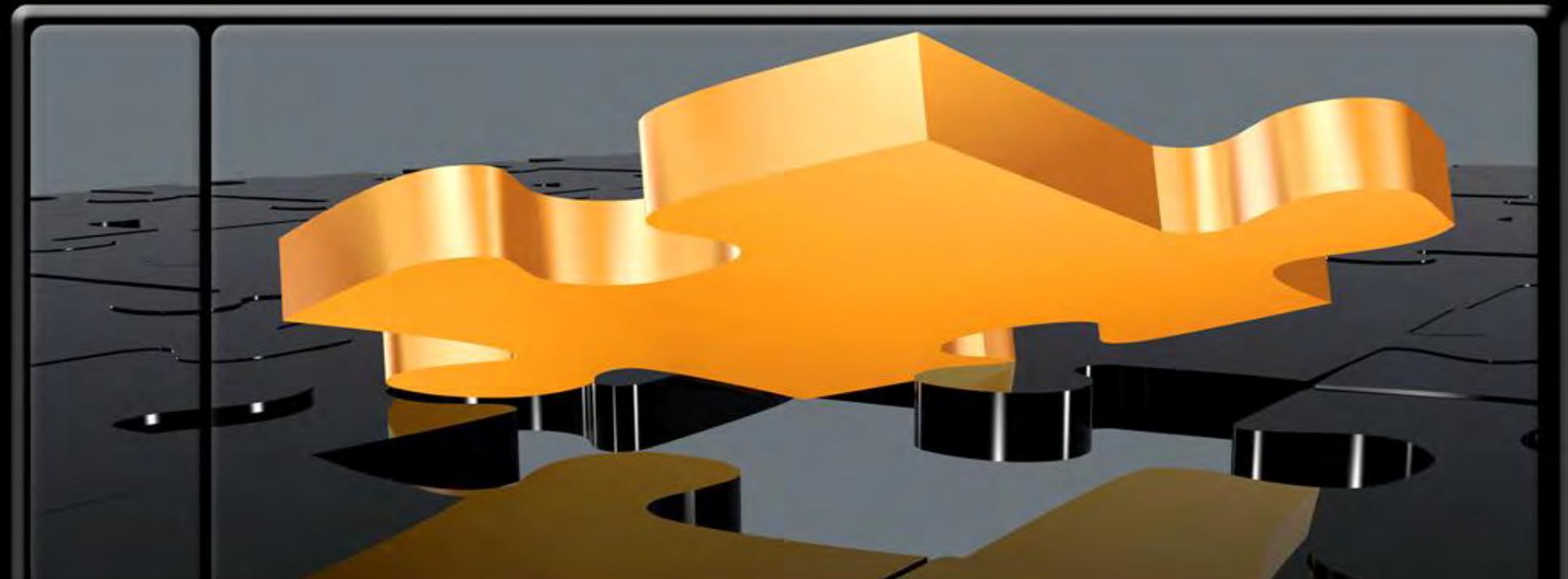
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# The Human Brain





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**CONSTANTLY INTERACTING ...**



Learning

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... The First **Brain** Cell Evolved  
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Tremendous Mass  
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It ...



---

Predicts &  
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Predicts &

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460 **Billion** Times Per Second!



# The Cortex Takes Time ...

To Reflect & Work Out Optimal Solutions





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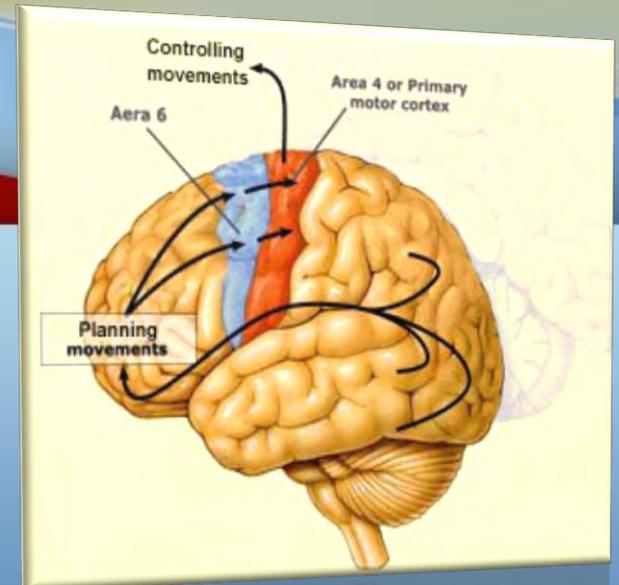


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**Just Manufactured Proteins  
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Plans Are Made ...  
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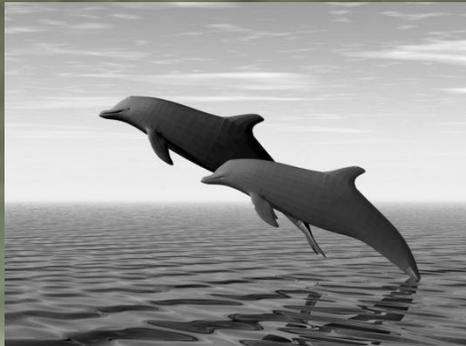
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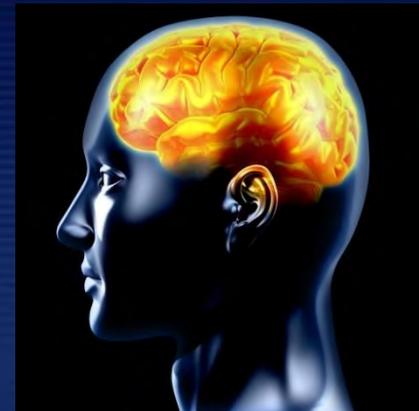
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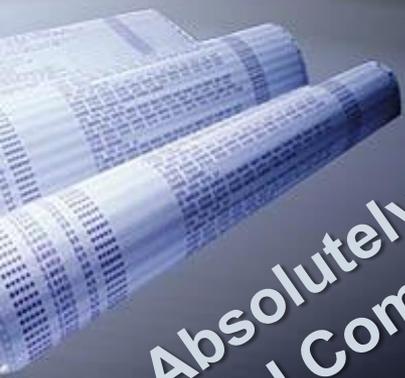
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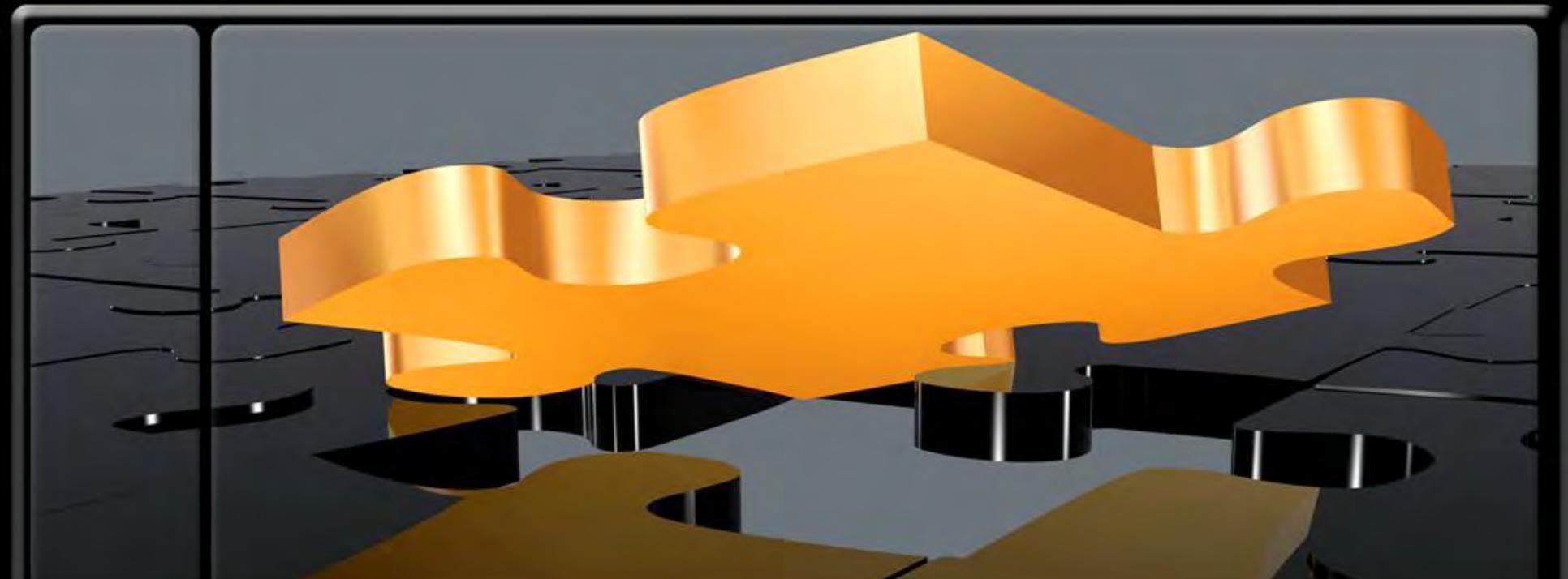
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Learning

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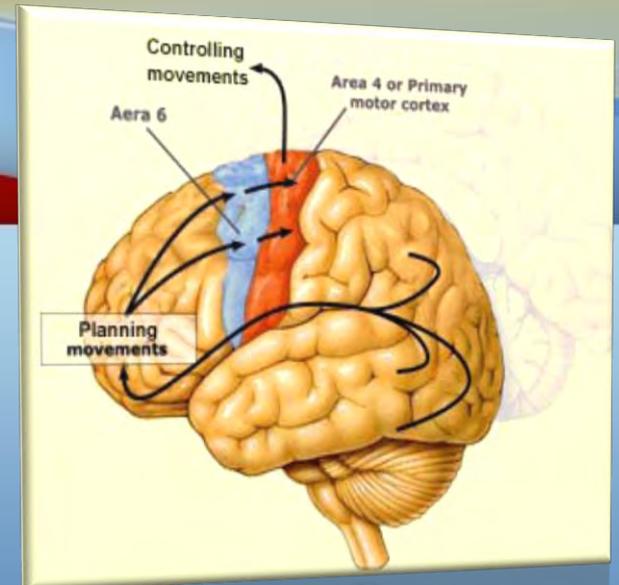


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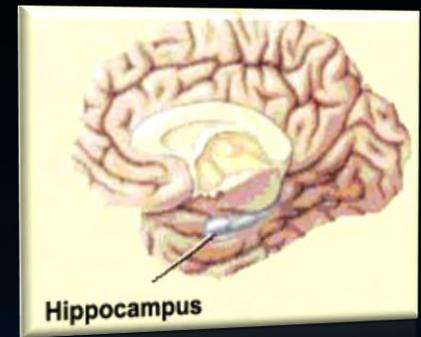
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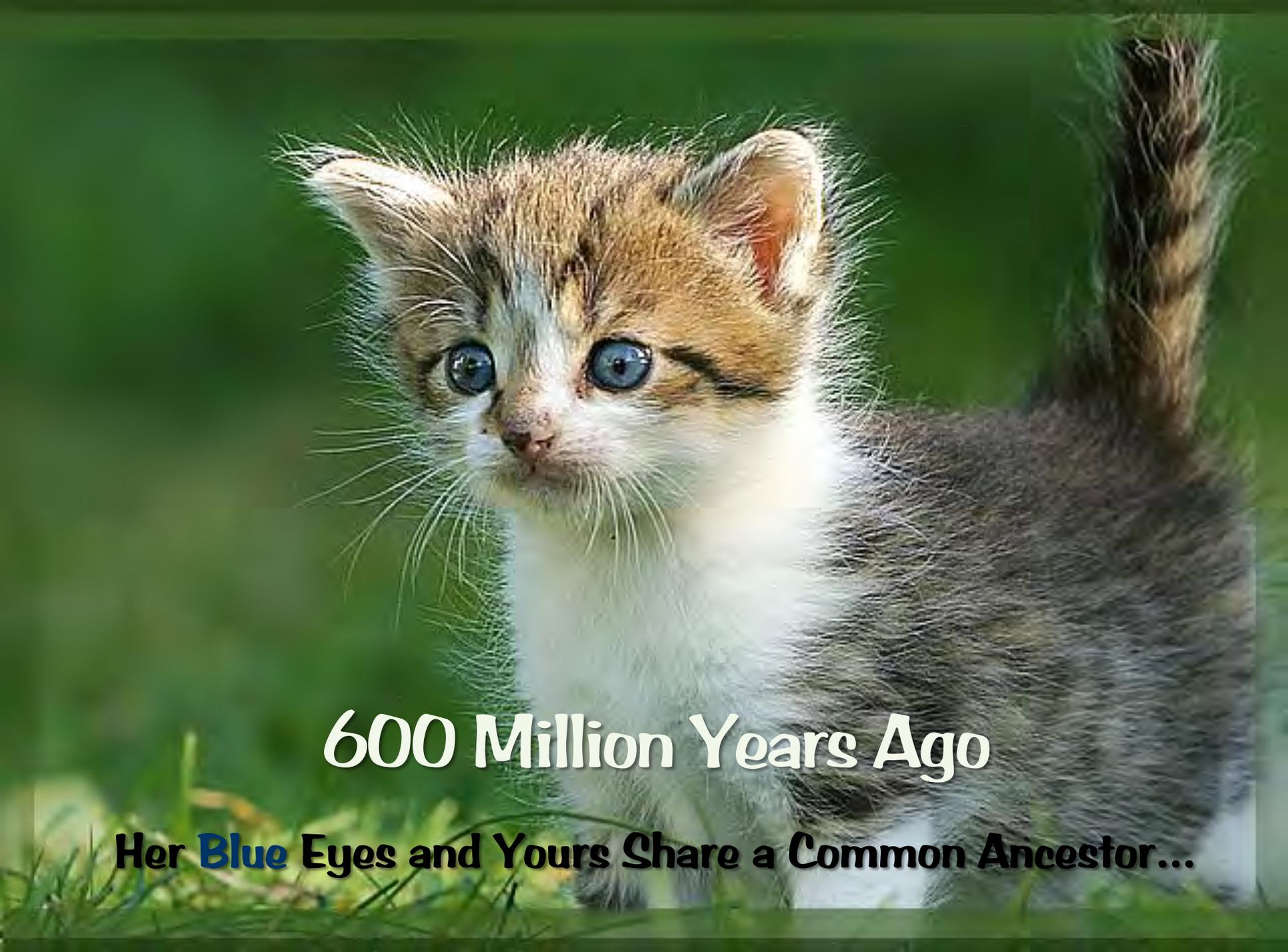
# Place Cells ...

... In the Brain's **Hippocampus\***, generate & preserve on a second-to-second basis a **Cumulative Mental Map of All the Places You Have Ever Physically Visited: That's How You Can At Any Time "Know Where You Are"!**



\* Greek word for "seahorse"



A close-up photograph of a very fluffy, young kitten. The kitten has a mix of orange, white, and grey fur. Its most striking feature is its large, bright blue eyes. The kitten is sitting in a field of green grass, and the background is a soft, out-of-focus green. The lighting is natural, highlighting the texture of the kitten's fur.

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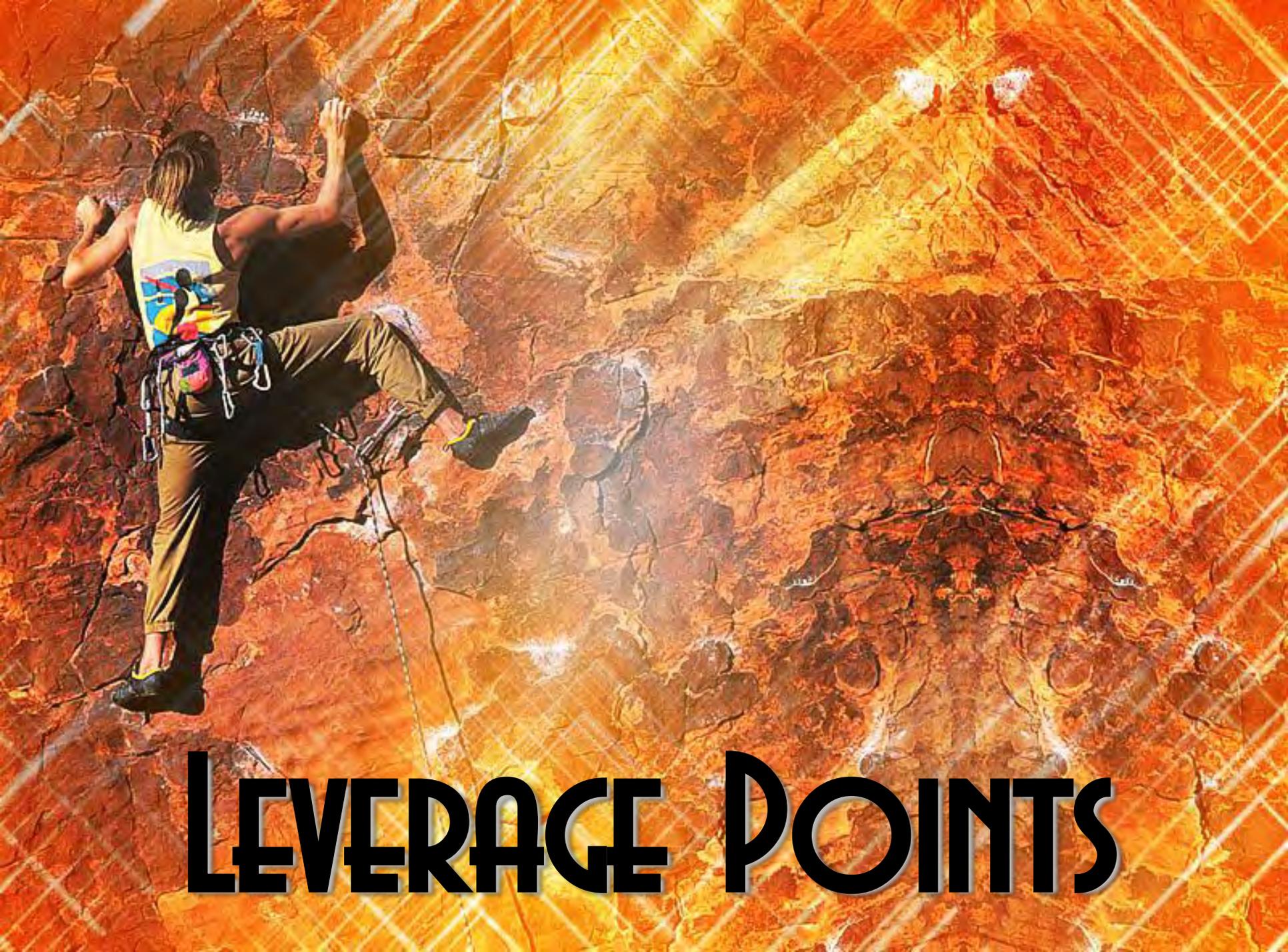
Genes  $\Leftrightarrow$  Environment  $\Leftrightarrow$  Genes  $\Leftrightarrow$  Environment  $\Leftrightarrow$  Genes  $\Leftrightarrow$  Environment  $\Leftrightarrow$  Genes  $\Leftrightarrow$   
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# Life Counts!





**Imagine Giving Her (Brain)  
10x The Start You Had Planned To!**



# LEVERAGE POINTS

A photograph showing a hand holding a blister pack of white, oval-shaped pills. The background is blurred, showing a glass of water. The image is framed by a green border.

**life counts!**





**THE GENETIC "RECIPE" OF A HUMAN BEING IS  
OVERWHELMINGLY TO COOPERATE**

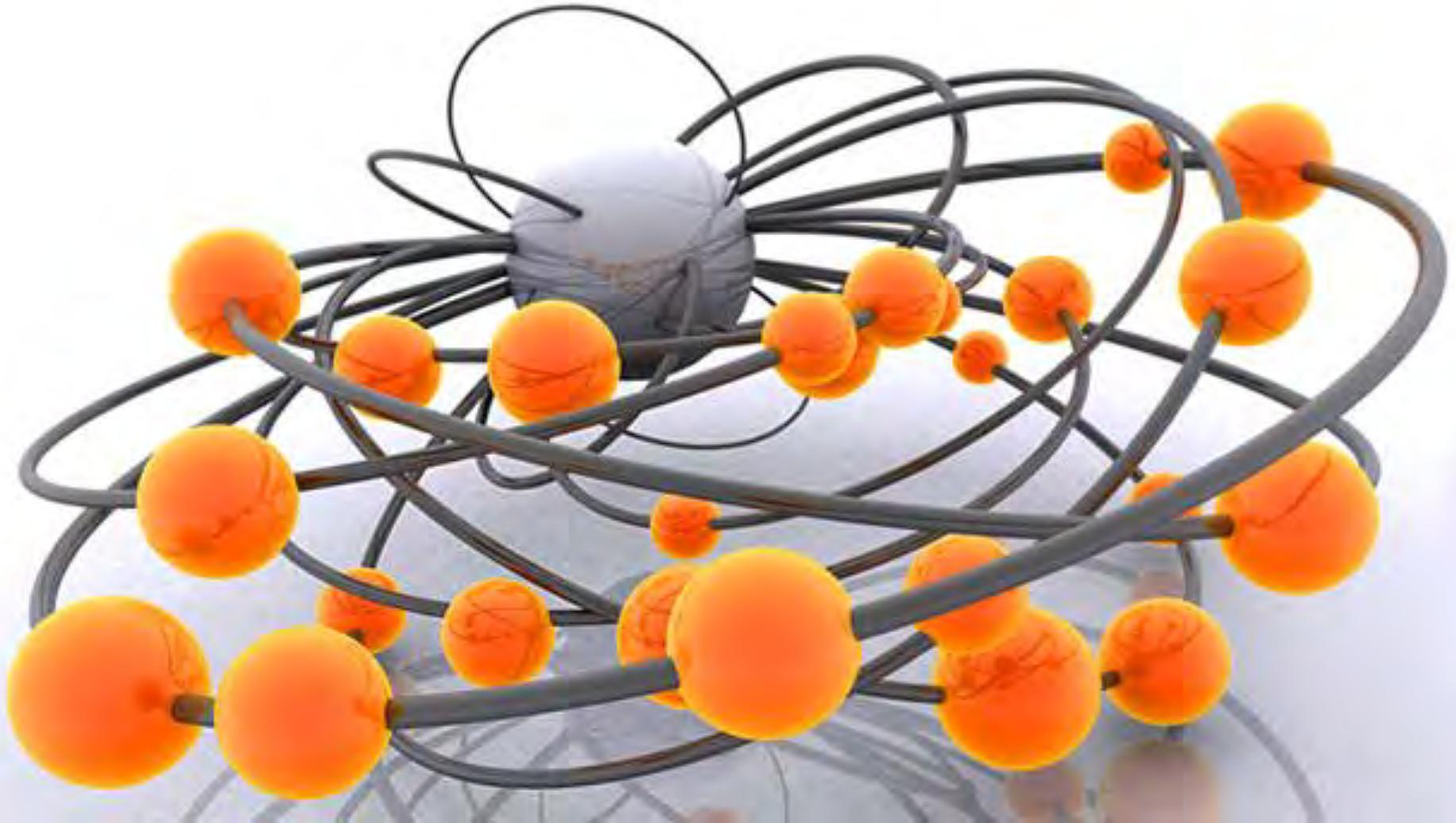
# The Stress Response ...





*We Pass On Our Genes along with...*  
*The Initial State of Affairs They Will Be Surrounded By ...*

Memory = Connection  
... Between Brain Cells!



It's Your Brain:  
Learn How It Works!



**If “Interaction” Surely Occurs ...**

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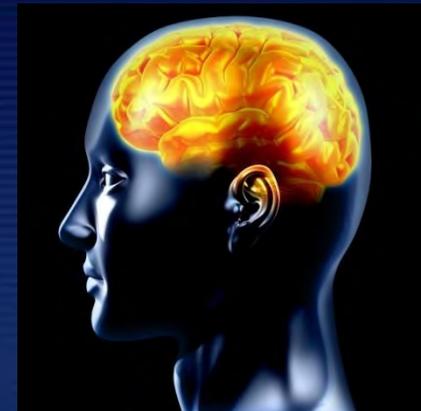
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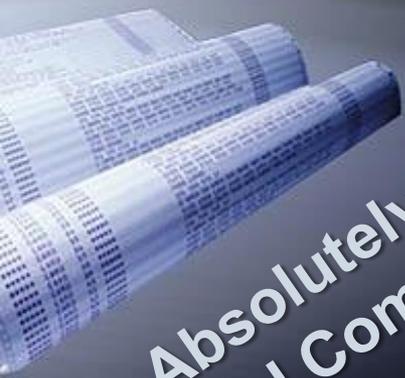
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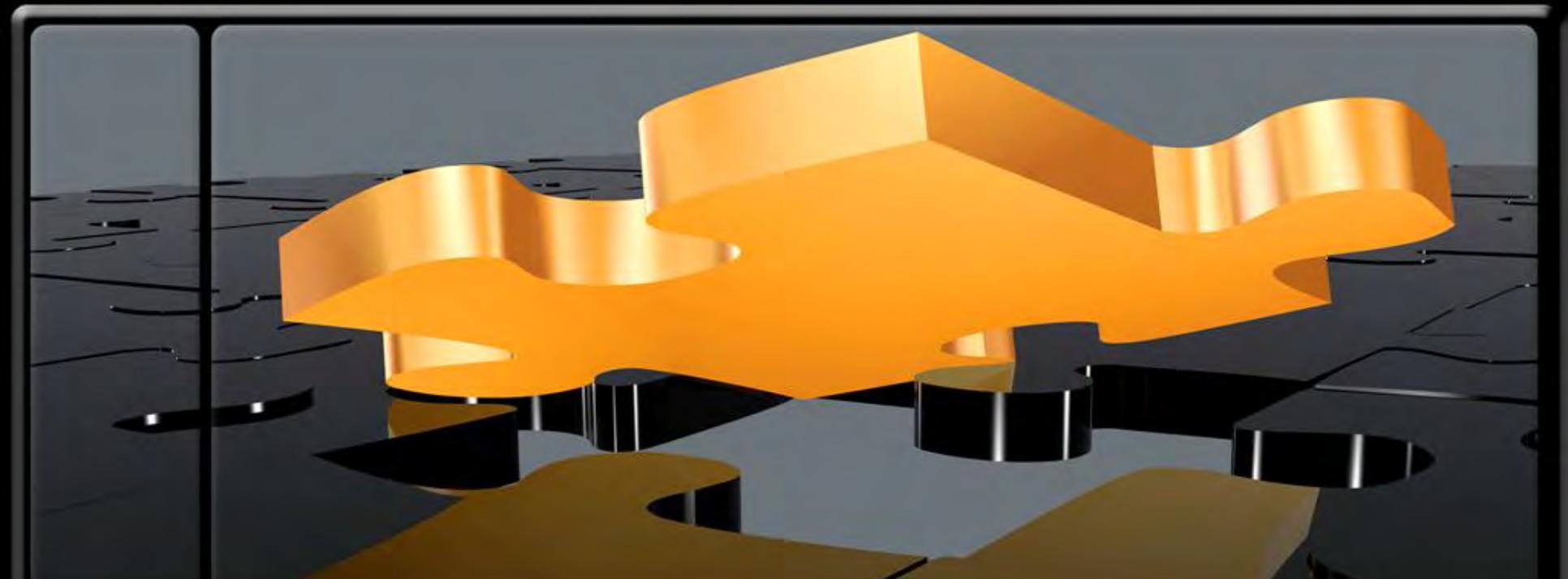
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**CONSTANTLY INTERACTING ...**



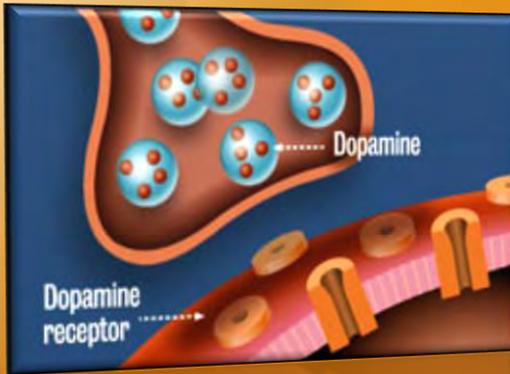
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**Dopamine** ... a vital in-brain chemical messenger  
... Enables Voluntary Positive Action



Dreams Complete ...

... what you launched  
throughout the day ...

N I G H T L I F E

LIFE

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Environment  $\Leftrightarrow$  Genes  $\Leftrightarrow$  Environment  $\Leftrightarrow$  Genes  $\Leftrightarrow$  Environment  $\Leftrightarrow$  Genes  $\Leftrightarrow$  Environment  $\Leftrightarrow$  Genes  
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# Genes Transmit ...**One Generation** To the Next

THE "RULES" FOR MAKING THE THOUSANDS OF **PROTEINS** THAT SECOND-TO-SECOND & IN EVERY RESPECT CONSTRUCT AND THEREAFTER OPERATE **THE HUMAN ORGANISM!**

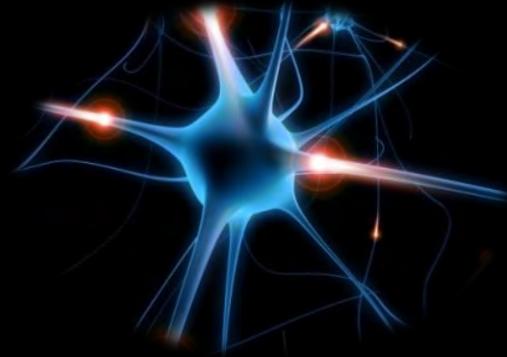




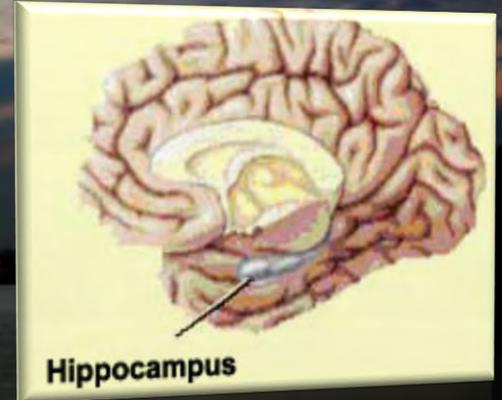
Harness Your Own

Fight or Flight Response

He'll Grow  
**200 Billion Neurons**  
& (Quite Naturally)  
Shed Half of Them  
Before He's 23



# CONTROL ROOM...



Hippocampus

hippocampus

# If “Interaction” Surely Occurs ...

## With Inanimate Things!

### Then What About Life!



# If Very Early You Teach Them ...

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# Imagination!





**Imagine Giving Her (Brain)  
10x The Start You Had Planned To!**

# INTERNAL BRAIN SIGNALS:



Move at about ... *200 mph*

It ...



Predicts &  
Remembers &

Predicts &

Remembers & Predicts ...

460 Billion Times Per Second!

# It's Your Brain: Learn How It Works!





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**Just Manufactured Proteins  
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Learning

A person is shown from behind, climbing a rock face. The rock is a mix of orange, yellow, and brown tones with a rough, textured surface. The climber is wearing a yellow tank top with a colorful graphic, olive green pants, and a climbing harness. They are using their hands and feet to grip the rock. The background is a bright, glowing orange and yellow light, possibly from a sun or a fire, creating a dramatic and intense atmosphere. The overall image has a high-contrast, energetic feel.

# LEVERAGE POINTS



life counts...

(including most umpires)

# Life Counts!





**Life Counts!**

**life counts!**



# Life Counts!





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**life counts!**



# Long Before ...



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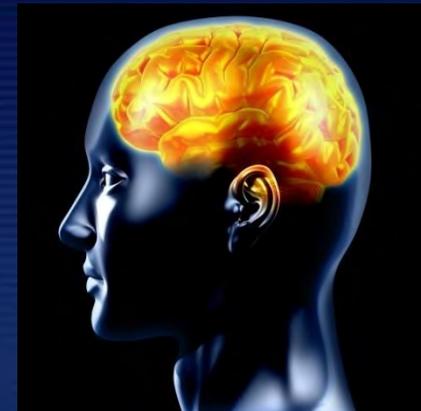
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A photograph of several surgeons in an operating room, wearing blue scrubs, masks, and hairnets, focused on a procedure. The lighting is bright and clinical.

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# Long Term Memory

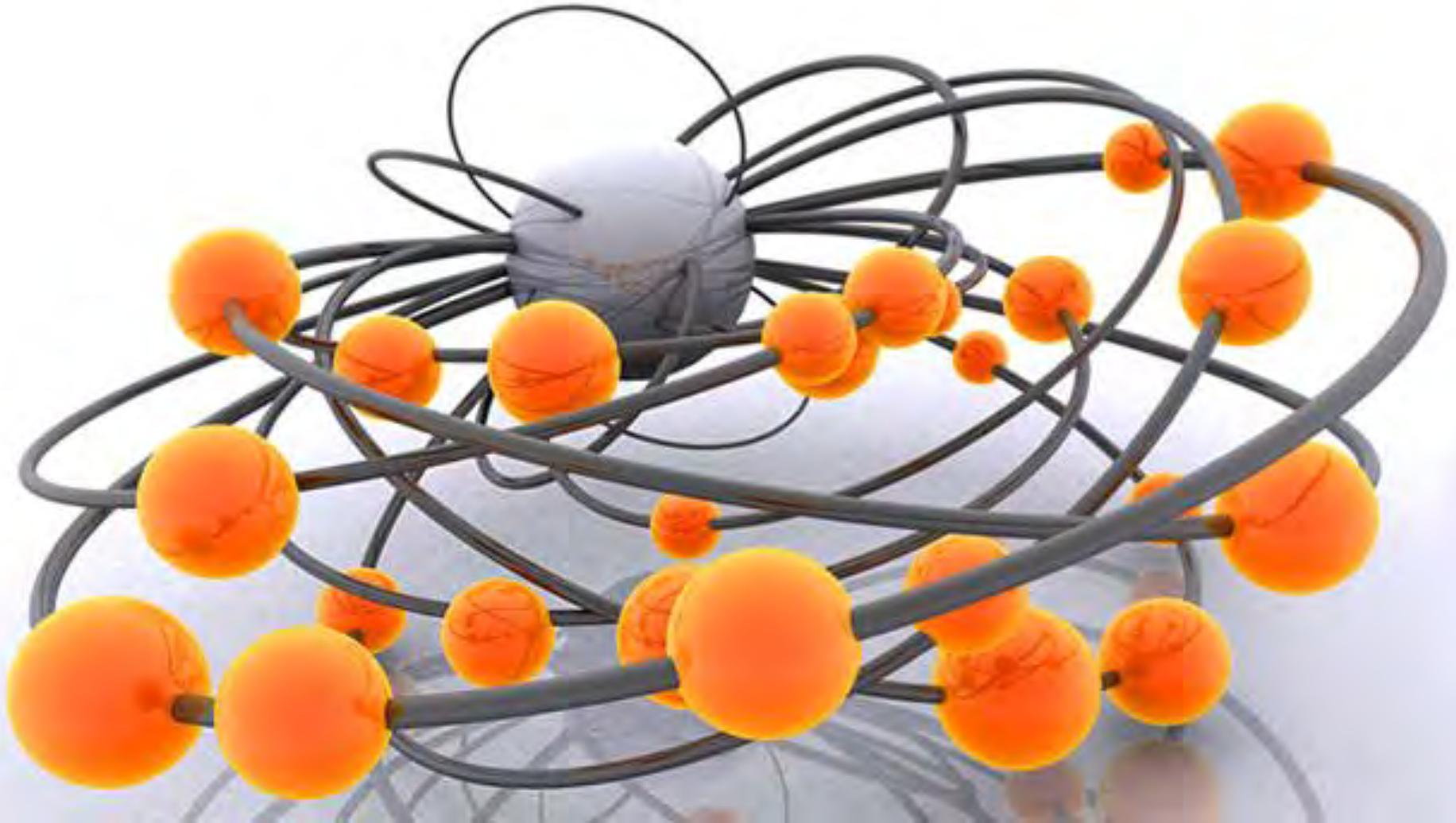
FORMATION





Love,  
Caring,  
Courage ...  
Not One Is  
Derived  
from The  
Human  
Heart!

Memory = Connection  
... Between Brain Cells!





# Memory is **Reconstruction** plus

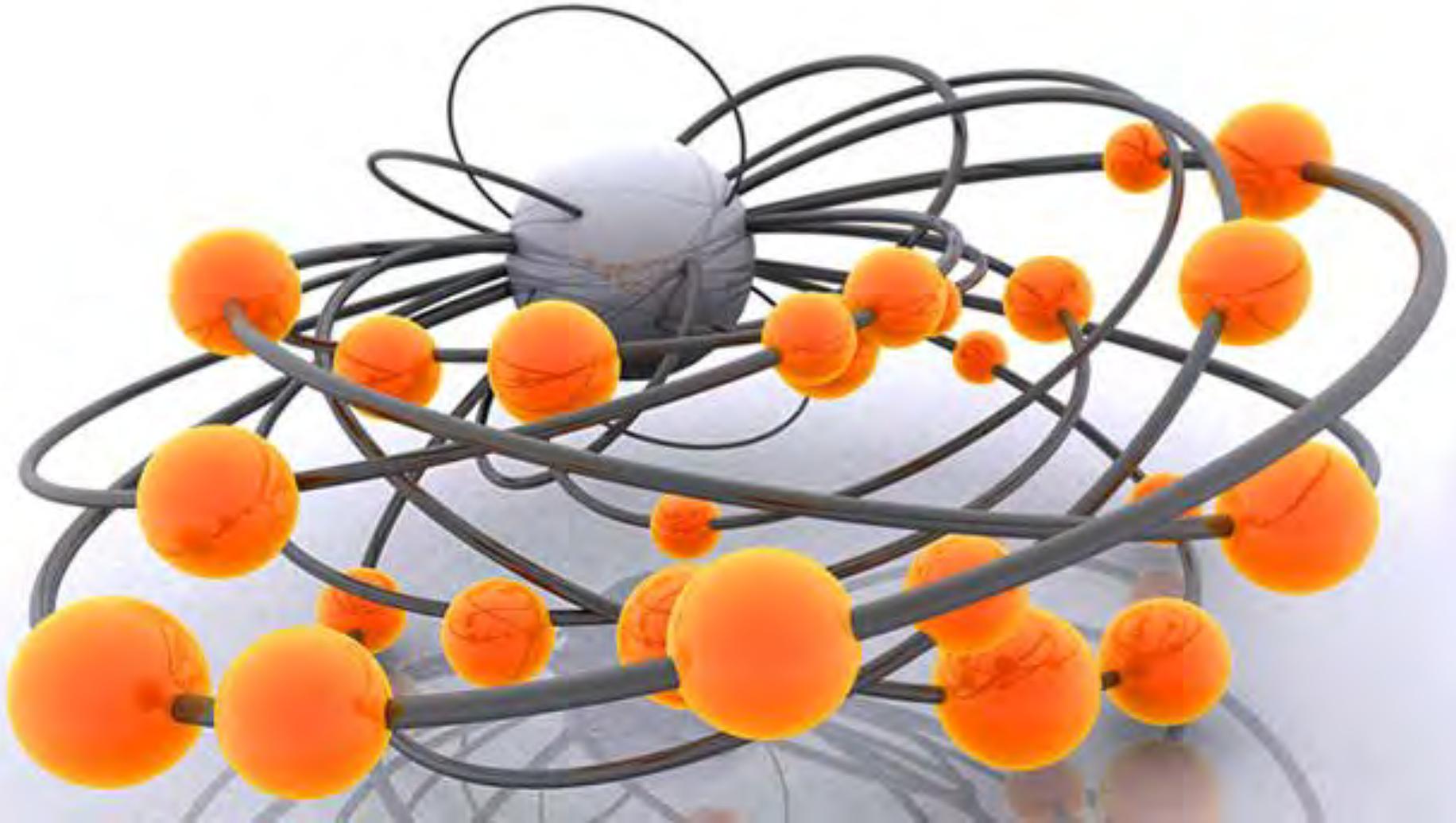
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# Memory Starts Out With

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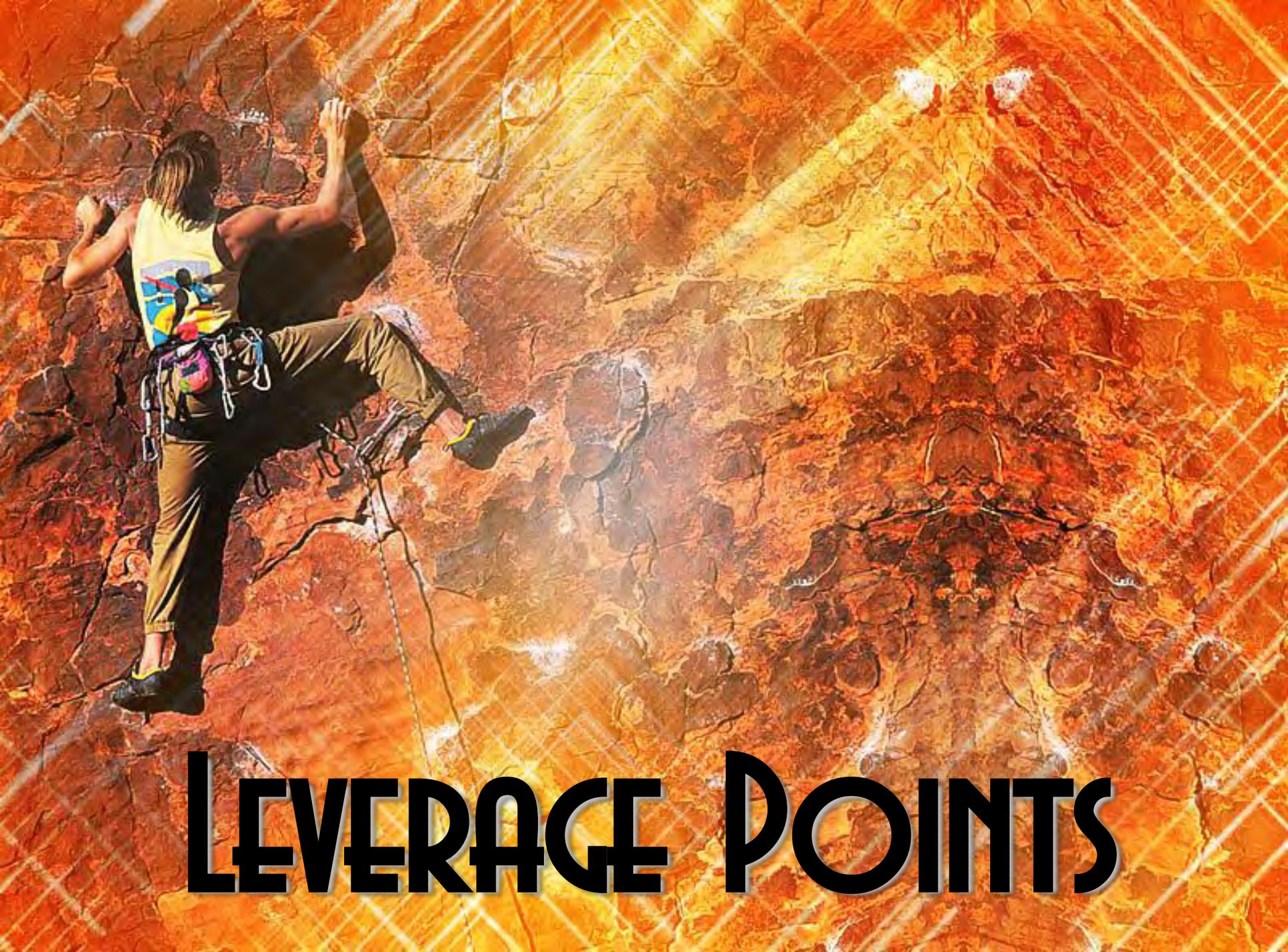




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# Genes $\Leftrightarrow$ Environment

Genes  $\Leftrightarrow$  Environment  $\Leftrightarrow$  Genes  $\Leftrightarrow$  Environment  $\Leftrightarrow$  Genes  $\Leftrightarrow$  Environment  $\Leftrightarrow$  Genes  $\Leftrightarrow$   
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# LEVERAGE POINTS



**Imitator!**



# Imitator!



**Nearly 7 Billion Brains Strong!**

**No Human Reason To Ever ...  
Harm Either One of Them!**

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Nothing You Do  
Will Ever Be Done Without Your Brain's **Robust** Participation!

# Our Genes And Our Environment

Work Together To Give Us All of Our Abilities ...



It's Your Brain:  
Learn How It Works!



**If “Interaction” Surely Occurs ...**

**With Inanimate Things!**

**Then What About Life!**



# If Very Early You Teach Them ...

About Their Brains ... What Can Stop Them!





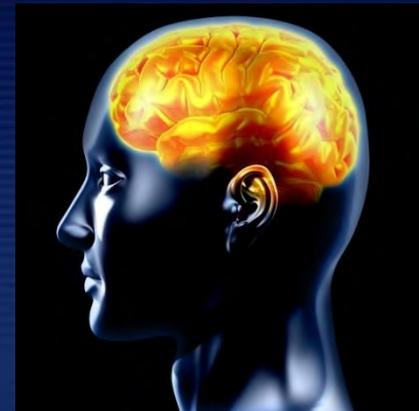
**Learning Creates New Brain Cells**  
***Stress* Destroys Them!**



A photograph of several surgeons in an operating room, wearing blue scrubs, surgical masks, and hairnets. They are focused on a task, with bright surgical lights illuminating the scene.

**Long Before Your Brain  
Might Ever Require  
Surgical “Repair” ...**

**... It Will Benefit From  
Your Daily Attention!**



# Memory Starts Out With

# A Neural Scaffold!





Nothing You Do

Will Ever Be Done Without Your Brain's **Robust** Participation!

# Our Genes And Our Environment

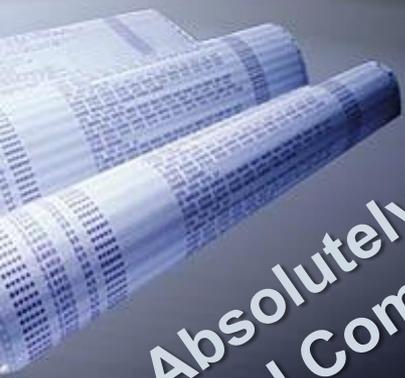
Work Together To Give Us All of Our Abilities ...





**Teach Them About The Brain ...**

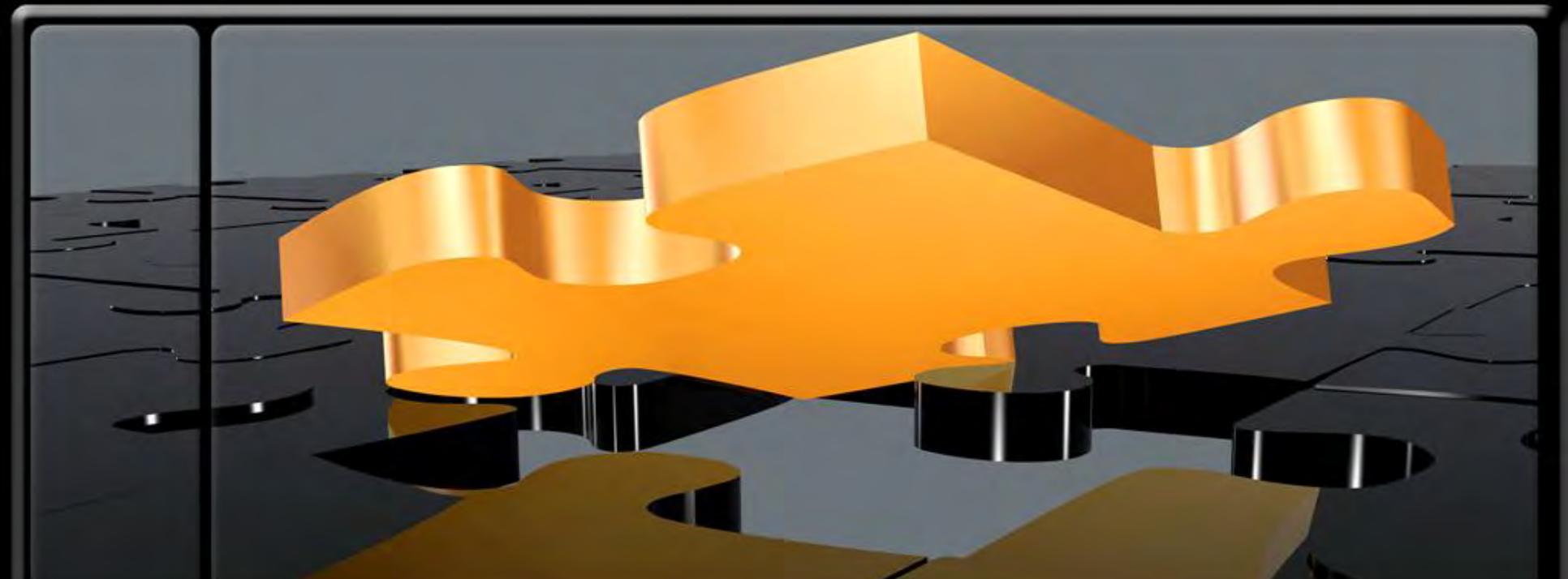
**And Watch Them Get Busy Learning All On Their Own !!!**



... is Absolutely **NOT**  
a Digital Computer!

# The Human Brain





The Missing Piece in  
Understanding People ...  
is **The Human Brain!**



# When Your Most Important Decisions Involve:

... Time Pressure, High Stakes & Applied Experience; In the Face of Inadequate, Missing, Ambiguous or Erroneous Information, Burdened by Ill-Defined Goals & Poorly Defined Procedures; Under the Pressure of Higher Level Mandates plus Stress; Forcing You To Cope with the Chaos of Dynamic Conditions that Demand Cue Learning and Team Coordination ...



... It Makes All The Difference in the World To Be “On a First-Name-Basis” With All The Key Cognitive Functions of Your Own Brain!

Brain “Wiring” is VERY Different, but ...

This Much is the Same: **STRIP AWAY THE SHEATHING OR CUT THE CHANNELS & EVERYTHING CEASES WORKING RIGHT!**



# Every **Human Body** Contains ...



- 30,000 **genes** (recipes for body building-and-function) in every cell
- 100 trillion **cells** (of all types) ...
- ... That produce 200,000 **chemicals** each with different functions;
- Among these are 100 billion **brain cells**
- That share between 30 and 300 trillion **connections** with each other
- Processing 460 billion **data elements per second** - every second you're alive

# Life Counts!



**300 TRILLION CONNECTIONS**

**BETWEEN 100 BILLION BRAIN CELLS**



**CONSTANTLY INTERACTING ...**



Learning

# 4 People ...

4 Brains Persistently  
Interacting by way of ...

Thoughts, Feelings,  
Actions, Intentions,  
Perceptions, Emotions,  
Memories, Predictions,  
Exconscious & Conscious:  
Using Gray Matter, White Matter  
Synapses, Nerve Cells  
And Much, Much More ...

4 People ... 4 Brains!

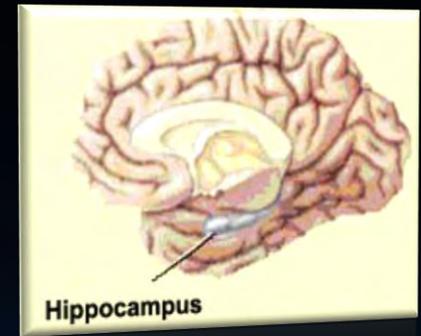
# Long Before ...



... The First **Brain** Cell Evolved  
in a Cat or a Chimp ... The  
Universe Threw Out  
Tremendous Mass  
In Part to Yield a Planet,  
Just Far Enough  
From the Sun ... Where  
**The Biology and Chemistry**  
of Life As We Know It  
Could Finally Emerge!

# Place Cells ...

... In the Brain's **Hippocampus\***, generate & preserve on a second-to-second basis a **Cumulative Mental Map of All the Places You Have Ever Physically Visited: That's How You Can At Any Time "Know Where You Are"!**

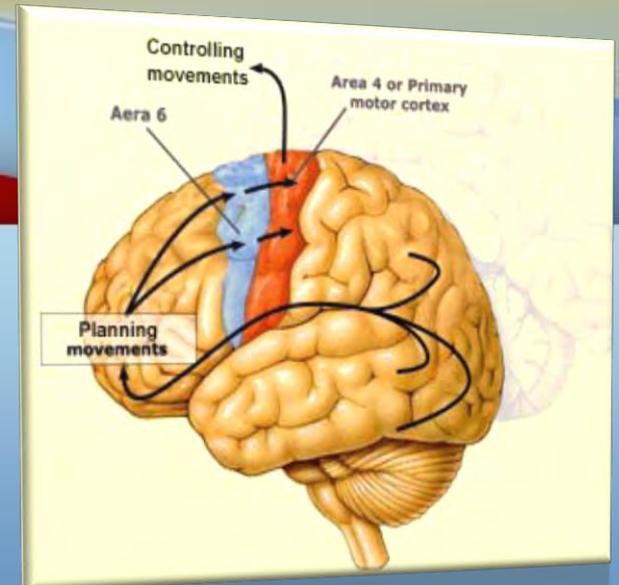


\* Greek word for "seahorse"



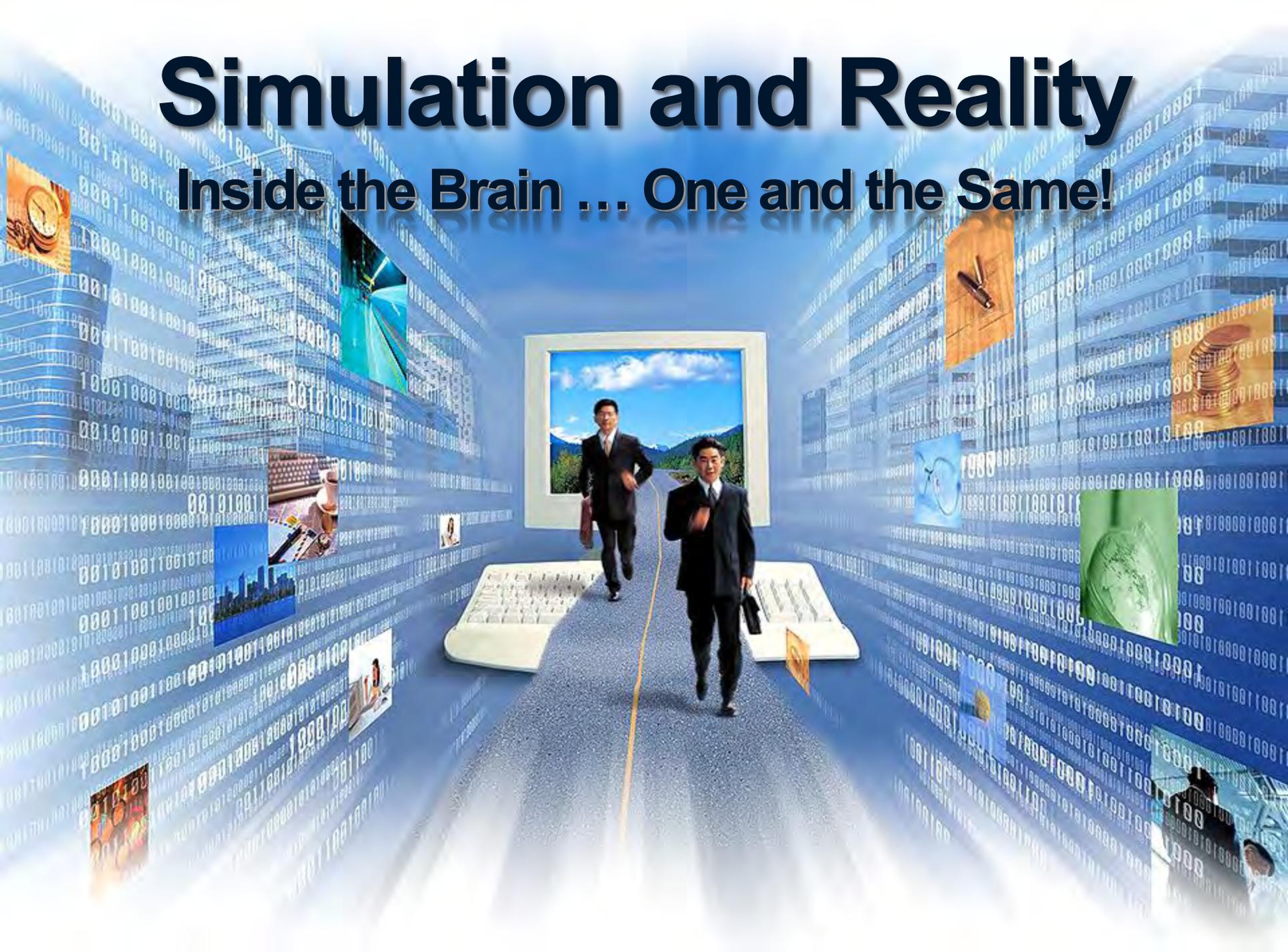


Plans Are Made ...  
In the **Prefrontal Cortex**



# Simulation and Reality

Inside the Brain ... One and the Same!



# The Brain First Deconstructs

Every Incoming Sensory Impression



**The Brain Indisputably Depends On**

***Feedback***



A blue-tinted photograph of a family smiling together. The image shows a man, a woman, and a young child, all looking towards the camera with joyful expressions. The background is slightly blurred, suggesting an indoor setting like a living room.

**The Brain Responds ...**  
**... to “Family”**



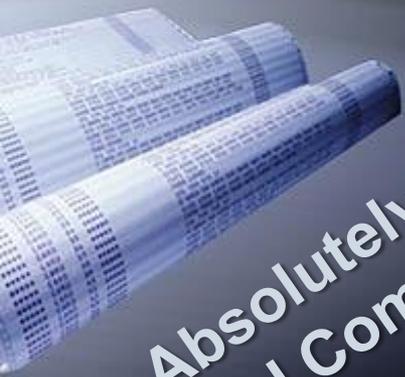
# The Cortex Takes Time ...

To Reflect & Work Out Optimal Solutions





**THE GENETIC "RECIPE" OF A HUMAN BEING IS  
OVERWHELMINGLY TO COOPERATE**



... is Absolutely **NOT**  
a Digital Computer!

# The Human Brain



# The Stress Response ...



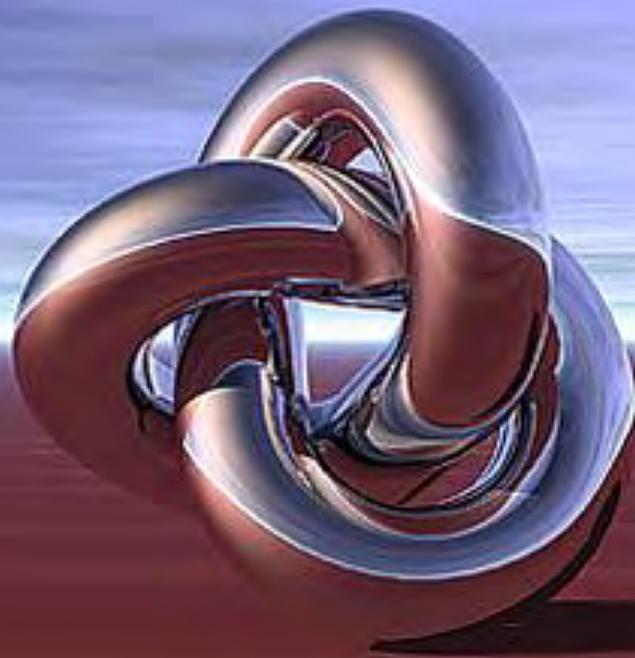
**The Stronger The Emotion ...**  
**The Stronger & Longer the Memory!**



# The Brain: Thousands of Systems ...



**Unconditionally Aligned and Cooperating!**



**VOLITION!**



*We Pass On Our Genes along with...*  
*The Initial State of Affairs They Will Be Surrounded By ...*

# When Your Most Important Decisions Involve:

... Time Pressure, High Stakes & Applied Experience; In the Face of Inadequate, Missing, Ambiguous or Erroneous Information, Burdened by Ill-Defined Goals & Poorly Defined Procedures; Under the Pressure of Higher Level Mandates plus Stress; Forcing You To Cope with the Chaos of Dynamic Conditions that Demand Cue Learning and Team Coordination ...



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