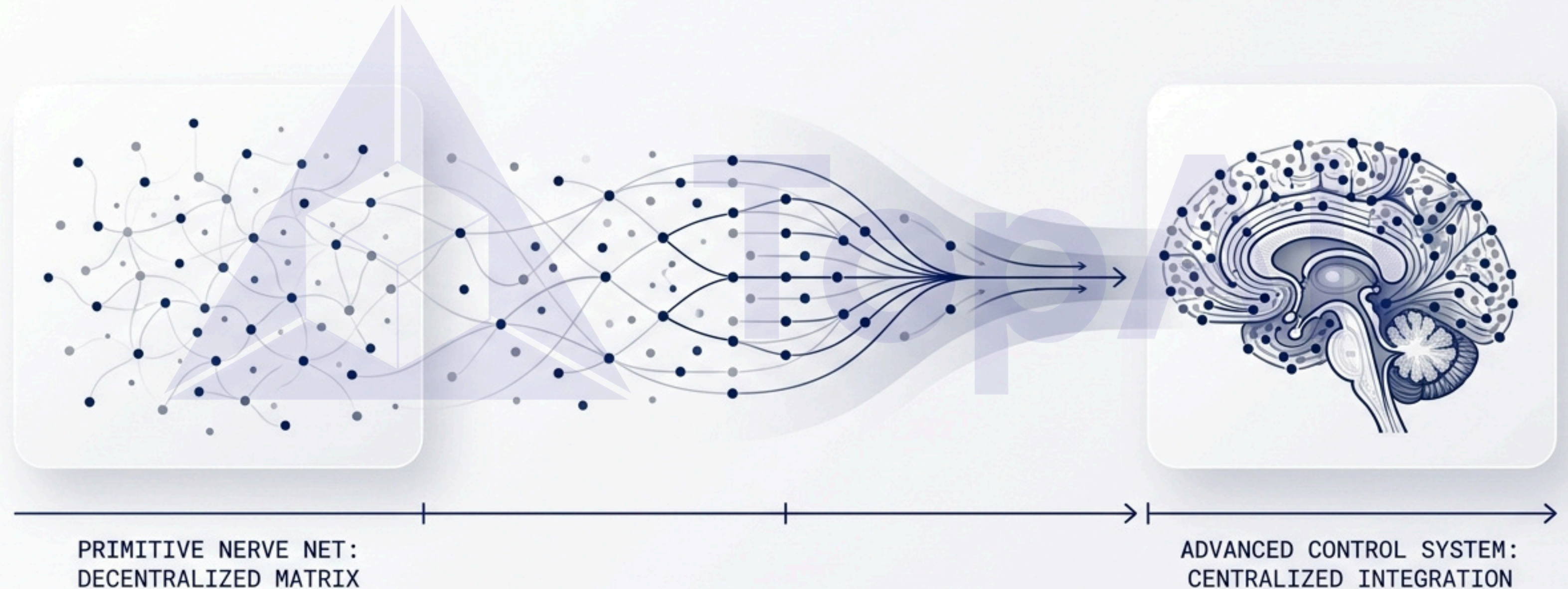


From Nerve Nets to Advanced Control

The Evolutionary Architecture of the Neural System



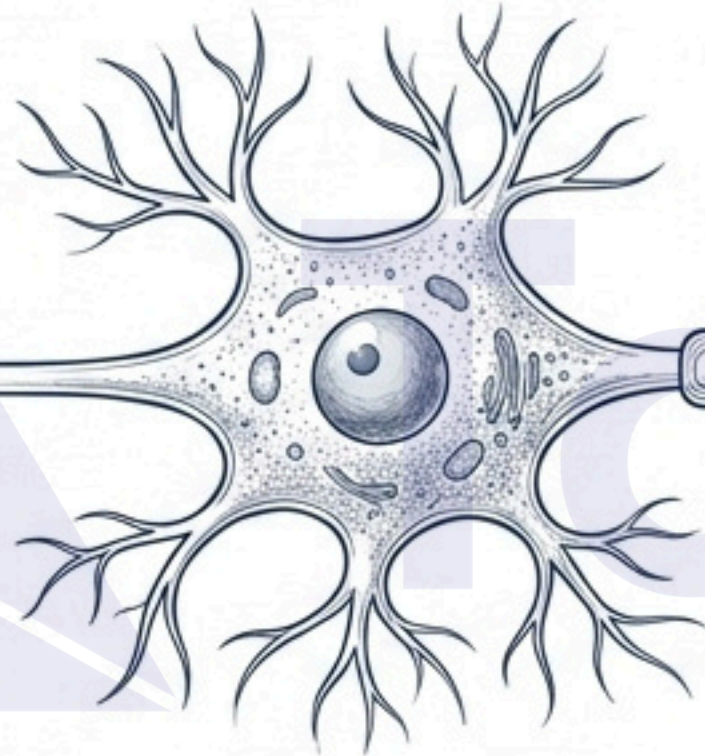
The Fundamental Unit: The Neuron

[DETECT]



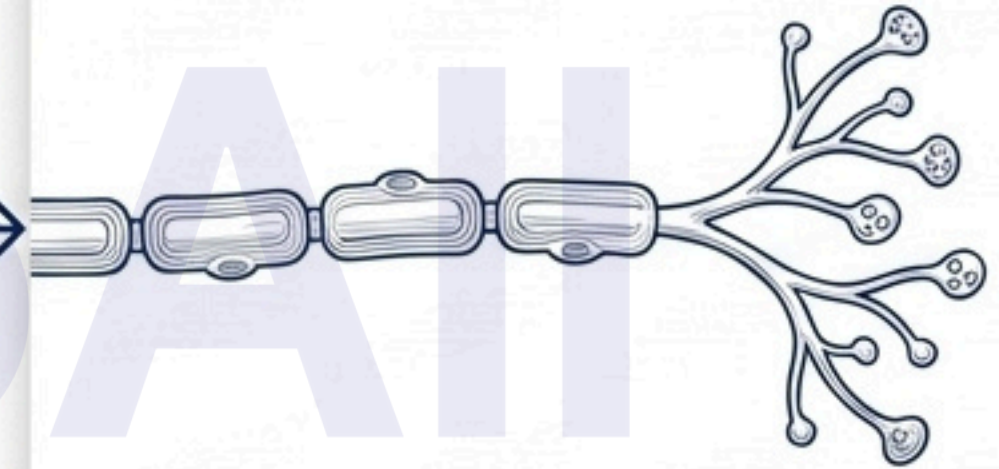
Dendrites

[RECEIVE]



Soma / Cell Body

[TRANSMIT]



Axon

Neurons are highly specialised excitable cells that detect, receive, and transmit different kinds of stimuli. They form the foundation of all neural systems, regardless of an organism's complexity.



You've Learned the Theory. Let's Test Them Now.

$$E=mc^2$$



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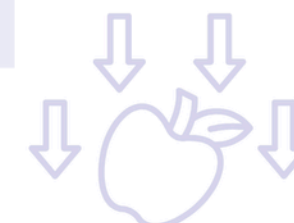
Practice Now



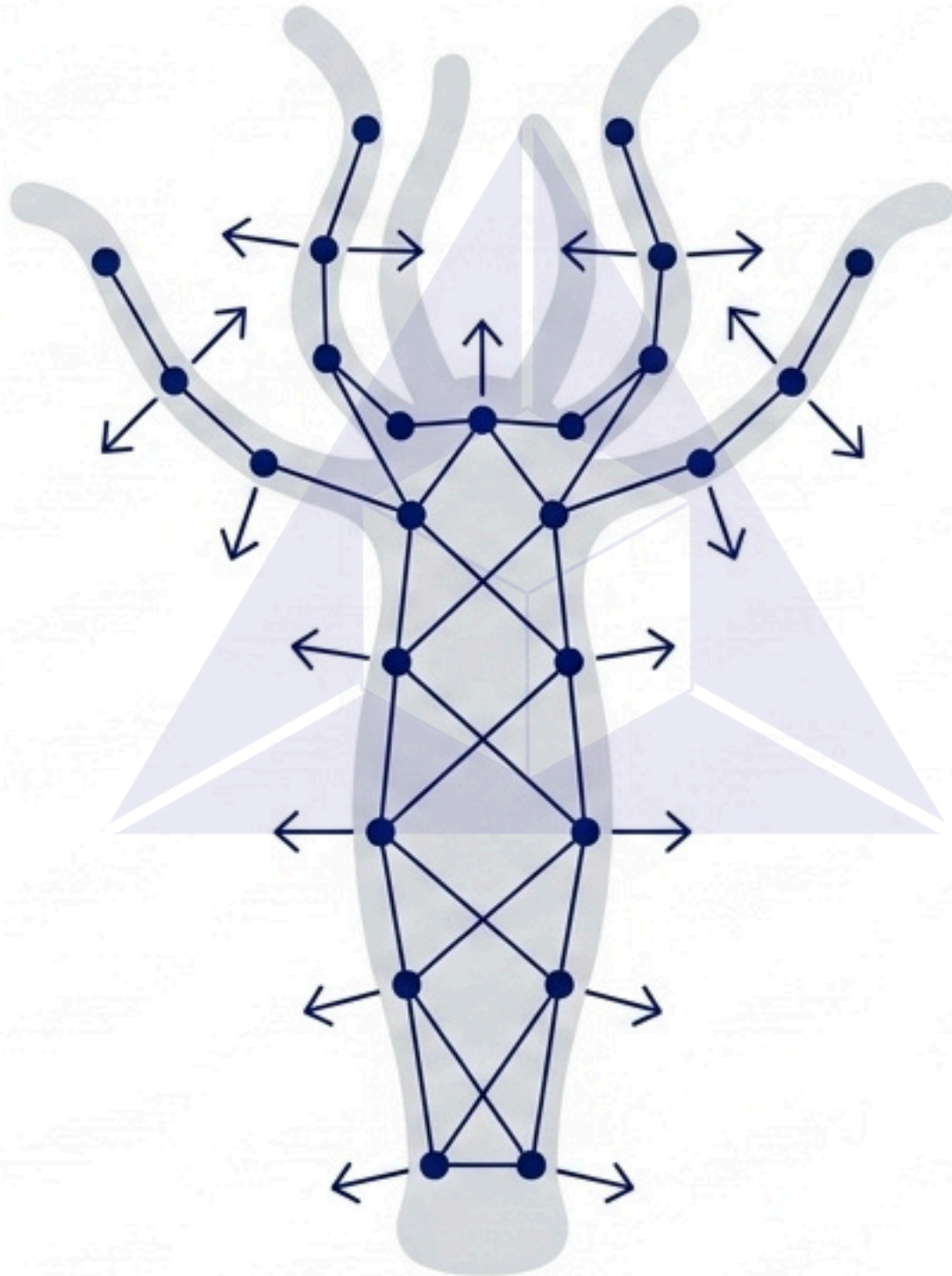
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Key Highlights

- » Free Study Material, Videos & Infographics
- » Push Your Limits with Level-Based Challenges
- » Climb the Leaderboard Among Fellow Aspirants
- » Practice Unlimited MCQs for NEET & JEE
- » Get Clear Explanations, Not Just Marks
- » Track Your Performance Smarter



Level 1: Diffuse Organization



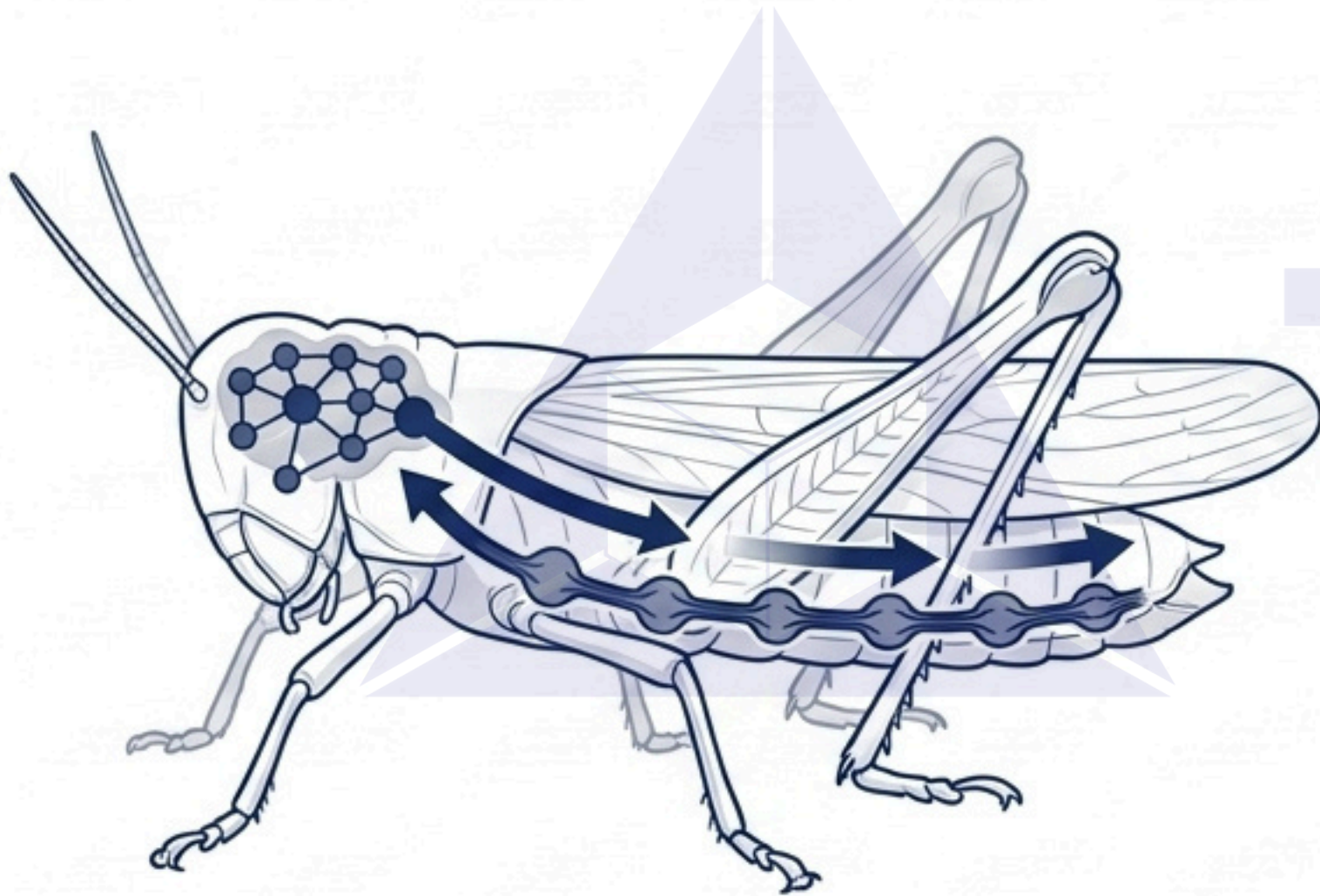
[NO BRAIN]

Neural organization is extremely simple in lower invertebrates.

[NO CENTRALIZATION]

The system is composed exclusively of a network of neurons without a central processing hub. Stimuli trigger a diffuse, whole-body response.

Level 2: The Dawn of Centralization



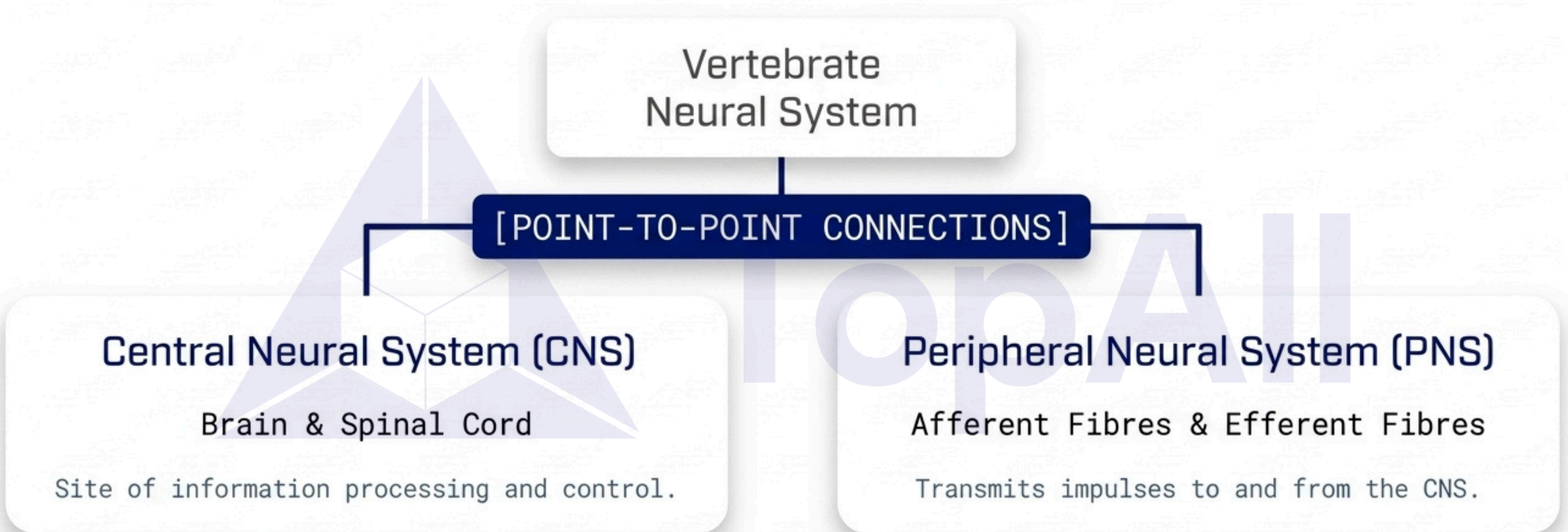
[PRIMITIVE BRAIN]

Neural system is better organized. A brain is present at the anterior end, serving as the primary hub for localized sensory input.

[GANGLIA & NEURAL TISSUES]

Neurons are bundled into ganglia and dedicated neural tissues, allowing for coordinated, directional responses to stimuli.

Level 3: Advanced Architecture



Provides an organised network of point-to-point connections for quick coordination, integrating all activities of the organs so they function in a synchronised fashion.

The Evolutionary Synthesis

	Hydra	Insect	Vertebrates
Architecture	Diffuse Nerve Net	Ganglionic Clusters	Highly Stratified (CNS/PNS)
Information Flow	Omnidirectional	Directional	Point-to-Point
Processing Hub	None	Primitive Brain	Advanced Brain & Spinal Cord

Evolution of the neural system is a continuous drive toward centralization and specialization, allowing for faster, more precise coordination of complex biological functions.



You've Learned the Theory.

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