SISSA
FOR SCHOOLS

SISSA

WE ARE OUR BRAINS

Interactive Lesson in Cognitive Neuroscience

SISSA medialab

SIS CATALYST

eucunet
European Children's Universities Network
REGISTERED MEMBER

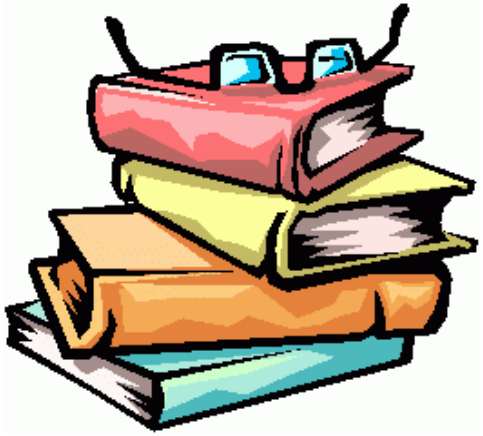
SEVENTH FRAMEWORK PROGRAMME


THE BRAIN…
A BLACK BOX

NEUROSCIENCE

NEURONS

NEUROSCIENCE



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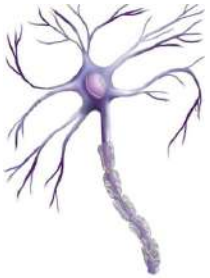

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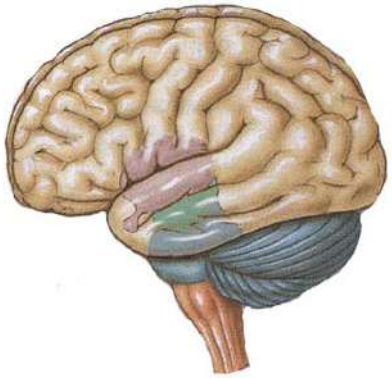

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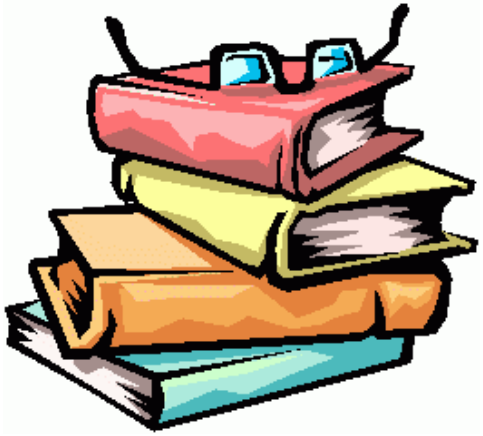

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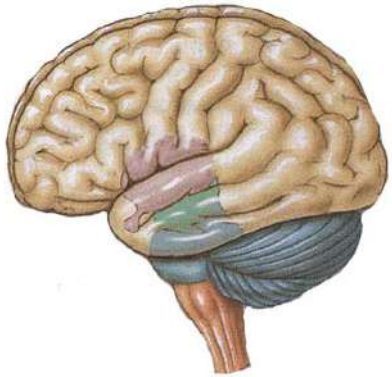
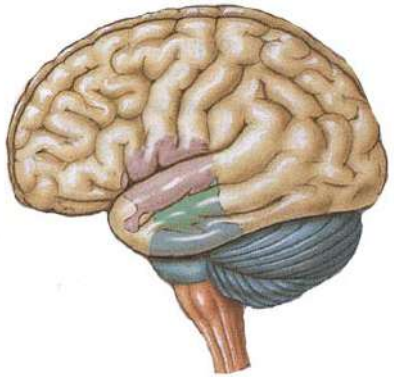
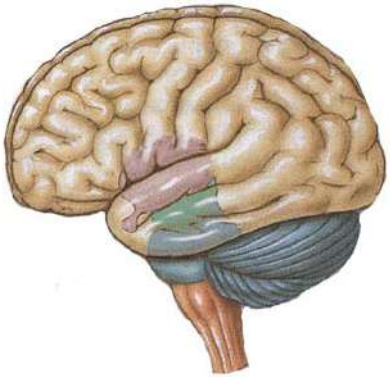




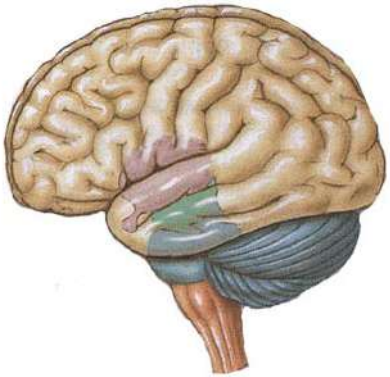
TOUCH



AUDITION

TOUCH

VISION

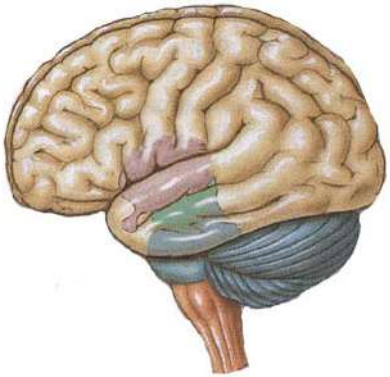


AUDITION

TOUCH

MEMORY

VISION



AUDITION

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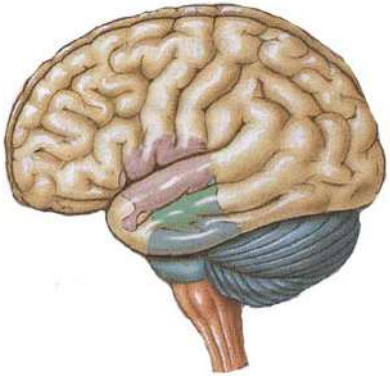
LANGUAGE

MEMORY

VISION



AUDITION

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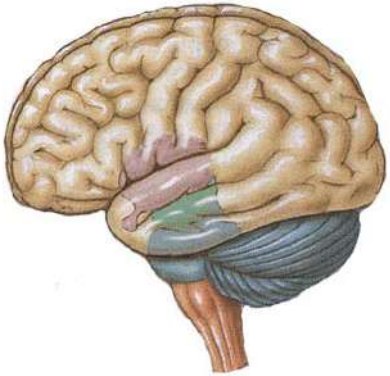

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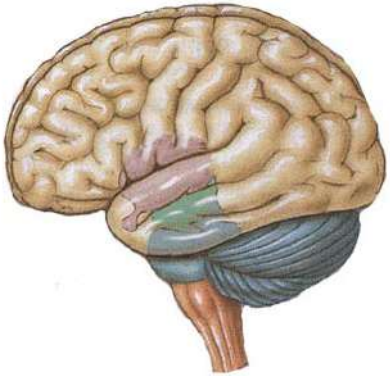
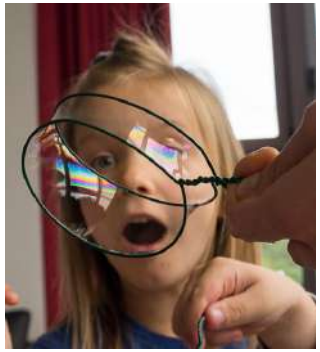


AUDITION

EMOTIONS



TOUCH

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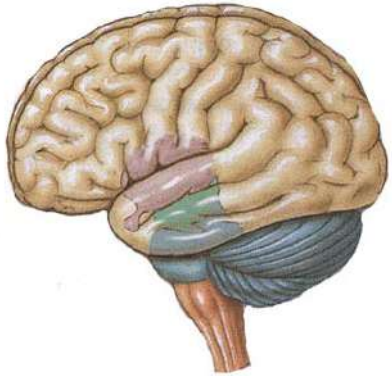

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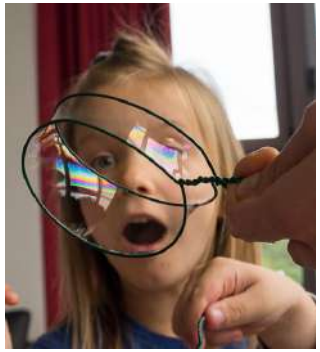

INTERACTION
WITH OTHERS

TOUCH

LANGUAGE

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VISION

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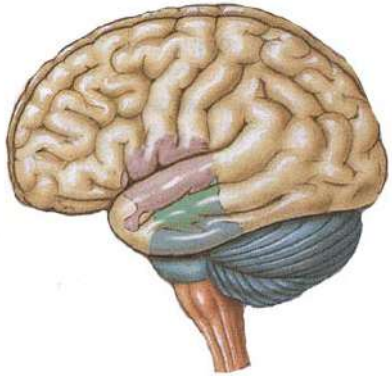

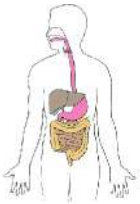

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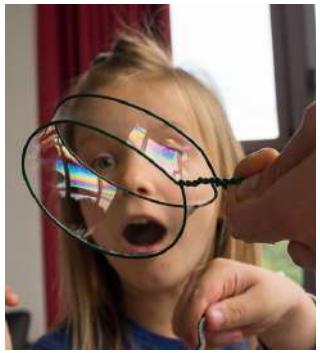

INTERACTION
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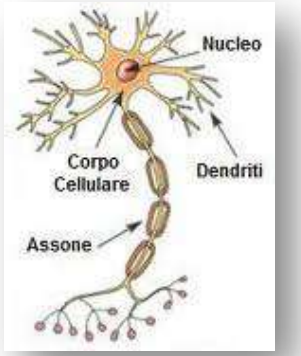
NEUROBIOLOGY



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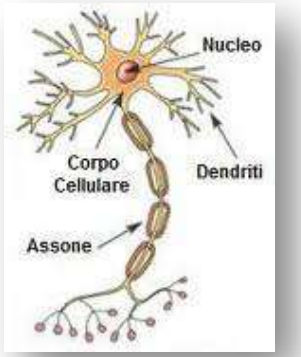
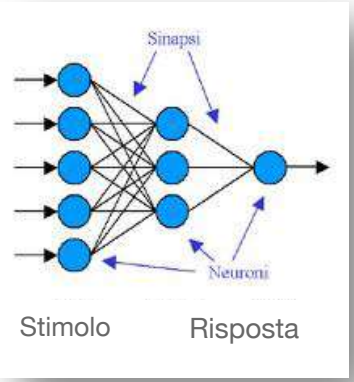


COMPUTATIONAL NEUROSCIENCE



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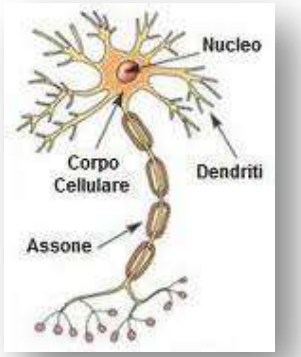

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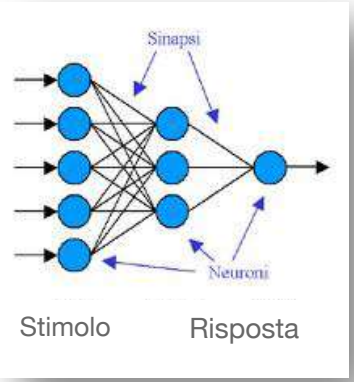

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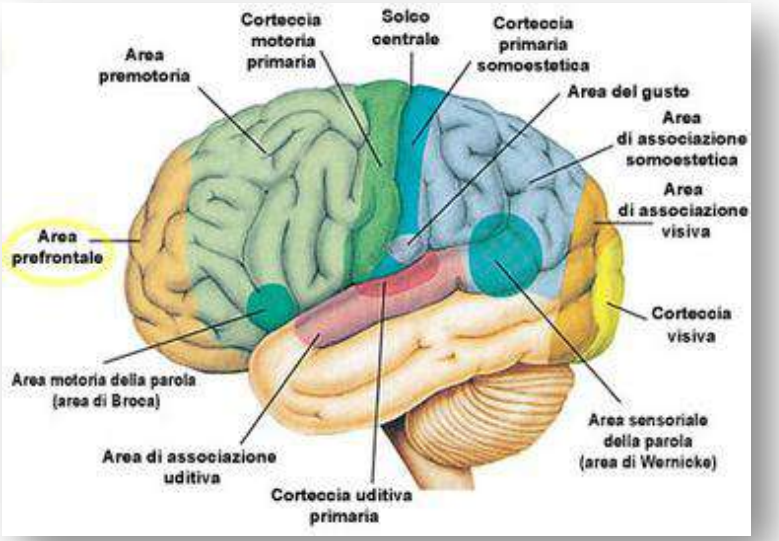

HOW DO WE MEASURE….

HOW DO WE MEASURE….

TEMPERATURE

HEIGHT

HEARTBEAT

HOW DO WE MEASURE….

TEMPERATURE

HEIGHT

HEARTBEAT

HOW DO WE MEASURE….

TEMPERATURE

HEIGHT

HEARTBEAT

HOW DO WE MEASURE….

TEMPERATURE

HEIGHT

HEARTBEAT

HOW DO WE MEASURE….

TEMPERATURE

HEIGHT

HEARTBEAT

COGNITIVE FUNCTIONS ?????

HOW TO COMPLETE AN EXPERIMENT IN COGNITIVE NEUROSCIENCE

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Select a cognitive function to investigate

HOW TO COMPLETE AN EXPERIMENT IN COGNITIVE NEUROSCIENCE

Select a cognitive function to investigate

Isolate the function as much as possible from other functions

HOW TO COMPLETE AN EXPERIMENT IN COGNITIVE NEUROSCIENCE

Select a cognitive function to investigate

Isolate the function as much as possible from other functions

Create a test to measure the function

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Select a cognitive function to investigate

Isolate the function as much as possible from other functions

Create a test to measure the function

Administer the test to participants

HOW TO COMPLETE AN EXPERIMENT IN COGNITIVE NEUROSCIENCE

Select a cognitive function to investigate

Isolate the function as much as possible from other functions

Create a test to measure the function

Administer the test to participants

Analyze the data

HOW TO COMPLETE AN EXPERIMENT IN COGNITIVE NEUROSCIENCE

Select a cognitive function to investigate

Isolate the function as much as possible from other functions

Create a test to measure the function

Administer the test to participants

Analyze the data

Interpret the meaning of the results

HOW TO COMPLETE AN EXPERIMENT IN COGNITIVE NEUROSCIENCE

Select a cognitive function to investigate

Isolate the function as much as possible from other functions

Create a test to measure the function

Administer the test to participants

Analyze the data

Interpret the meaning of the results

COMMUNICATE YOUR INTERPRETATION

SISSA PER LA SCUOLA

ma per seguir virtute e canoscenza
SISSA

WE ARE OUR BRAINS

Role-playing game

SISSA medialab

SIS CATALYST

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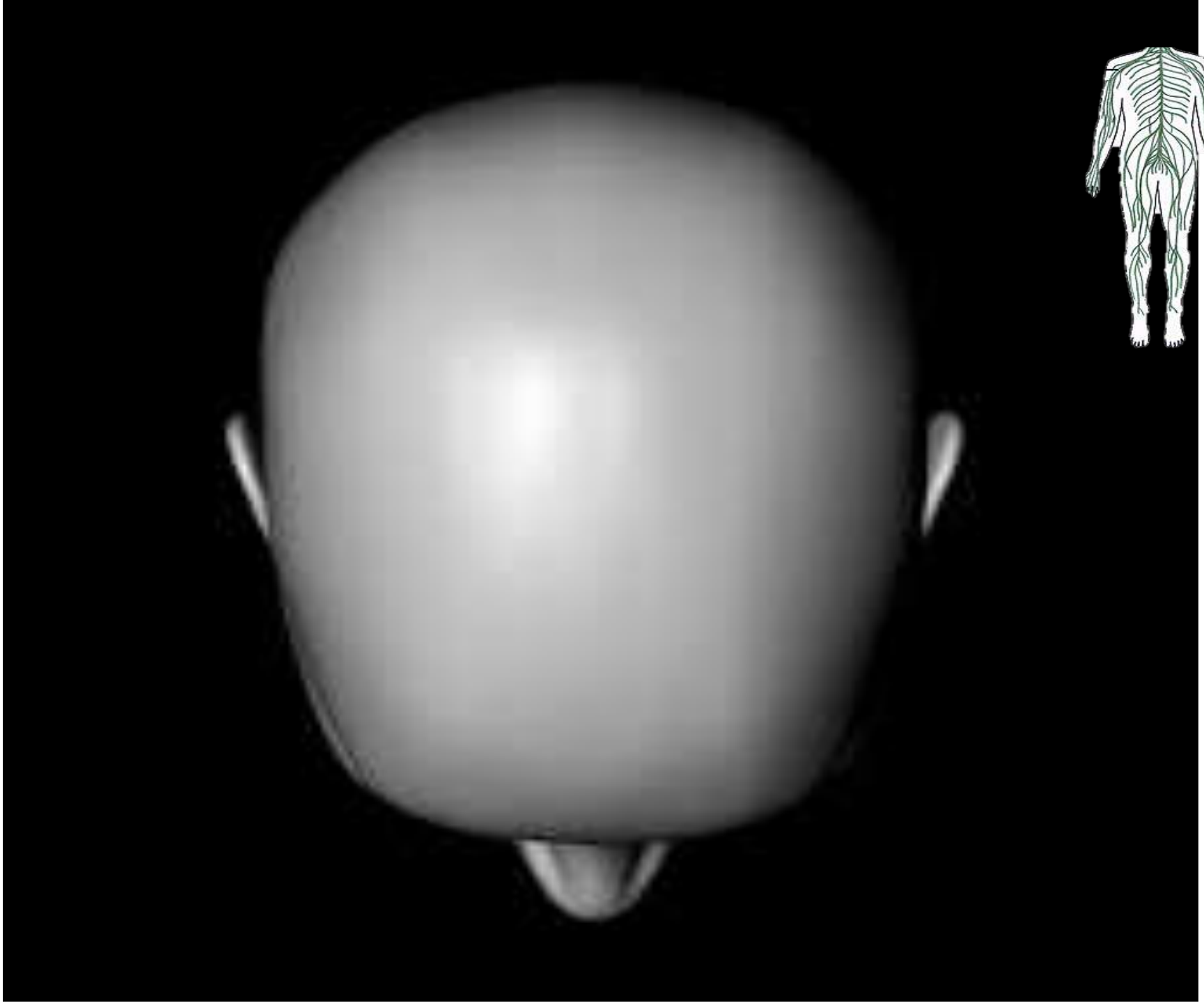
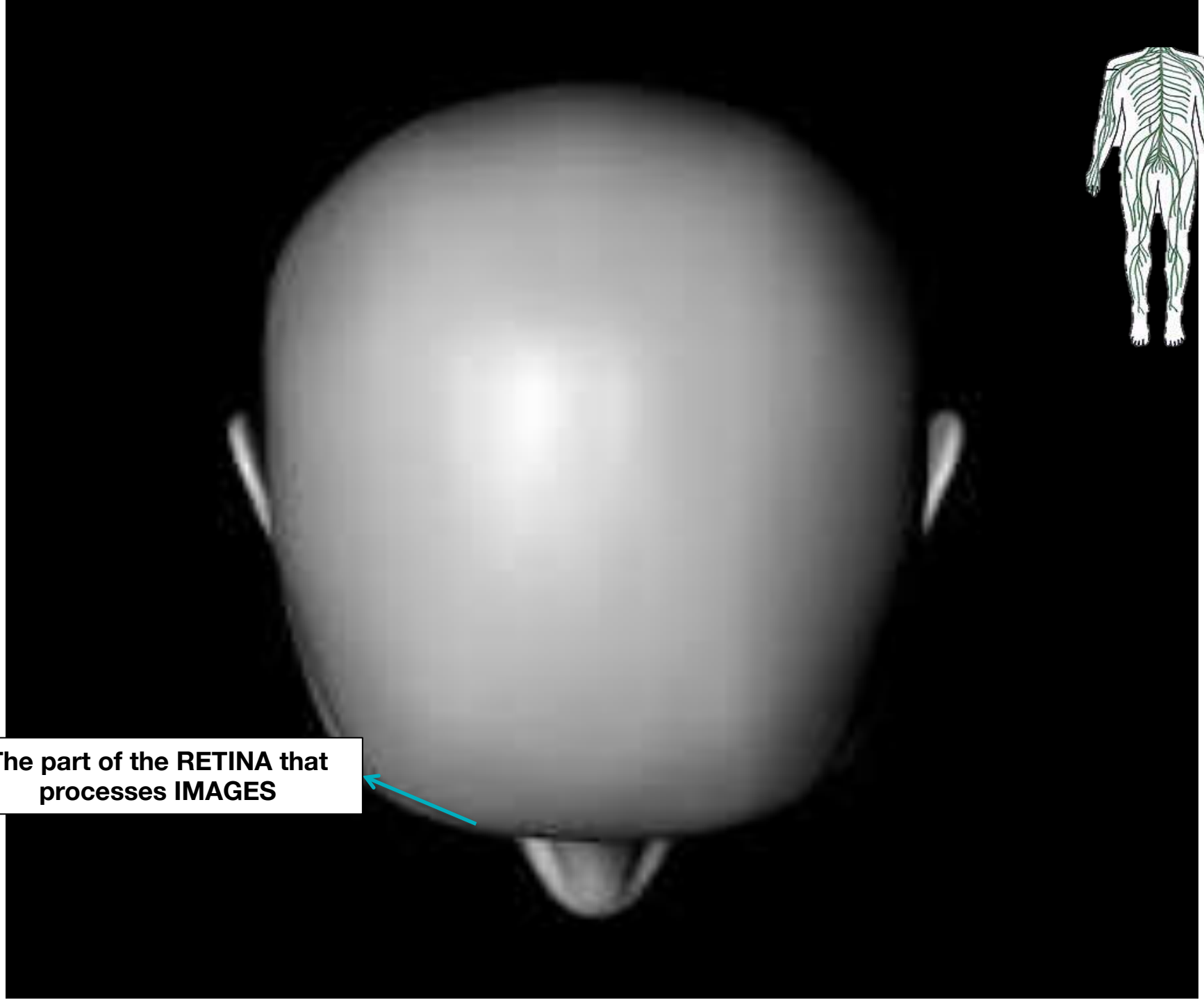
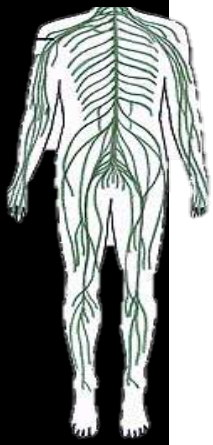
SEVENTH FRAMEWORK PROGRAMME

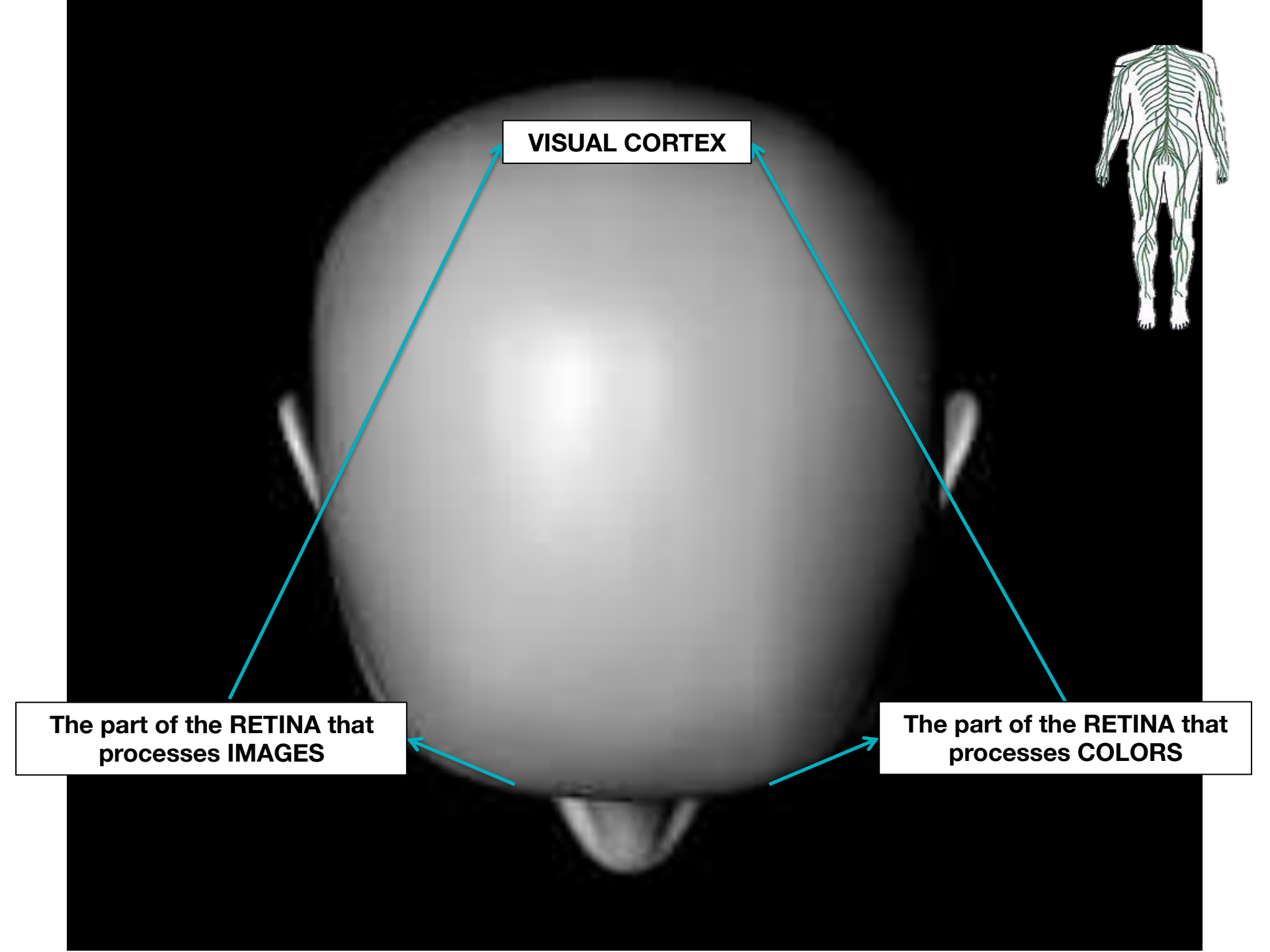


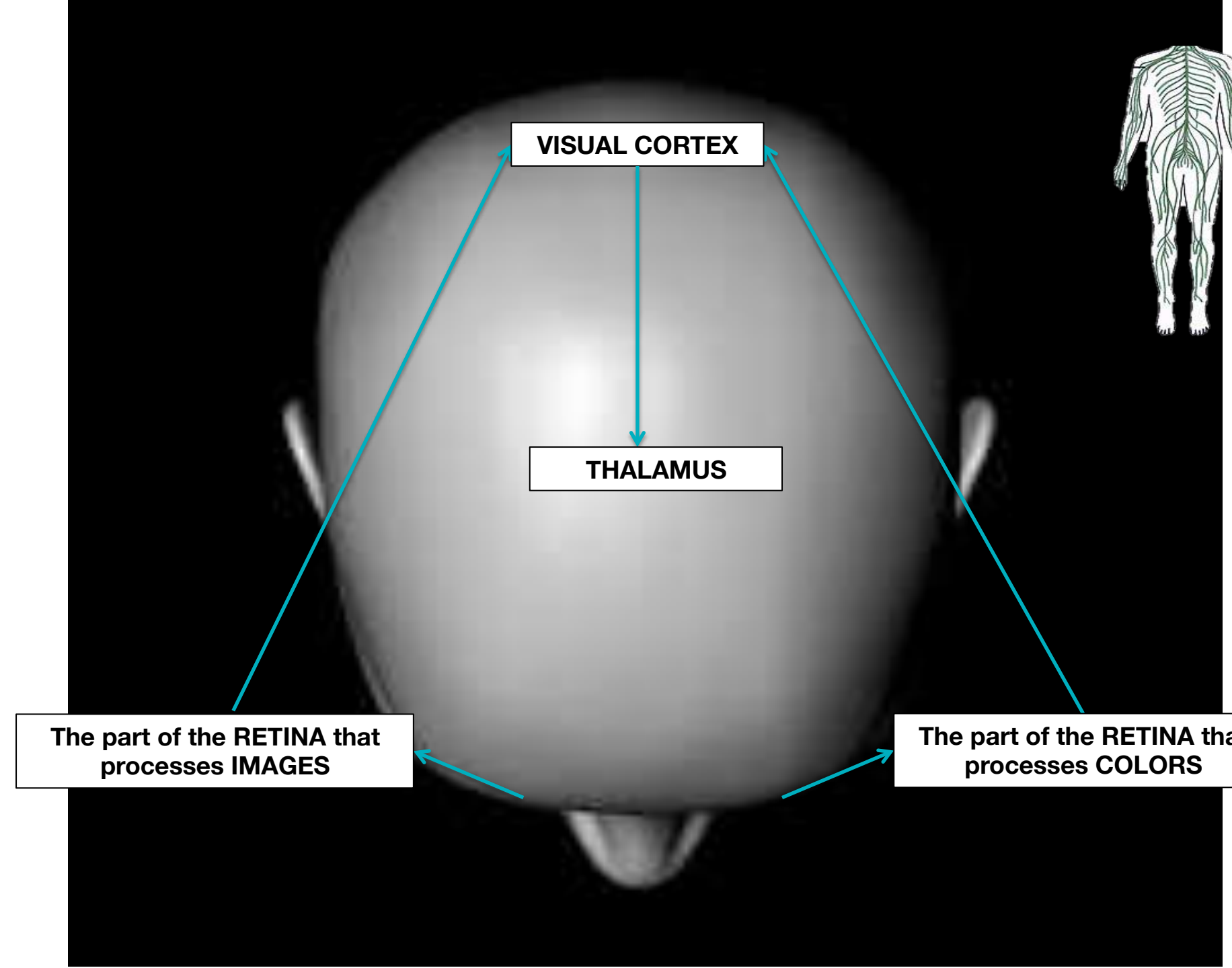

The part of the RETINA that processes IMAGES

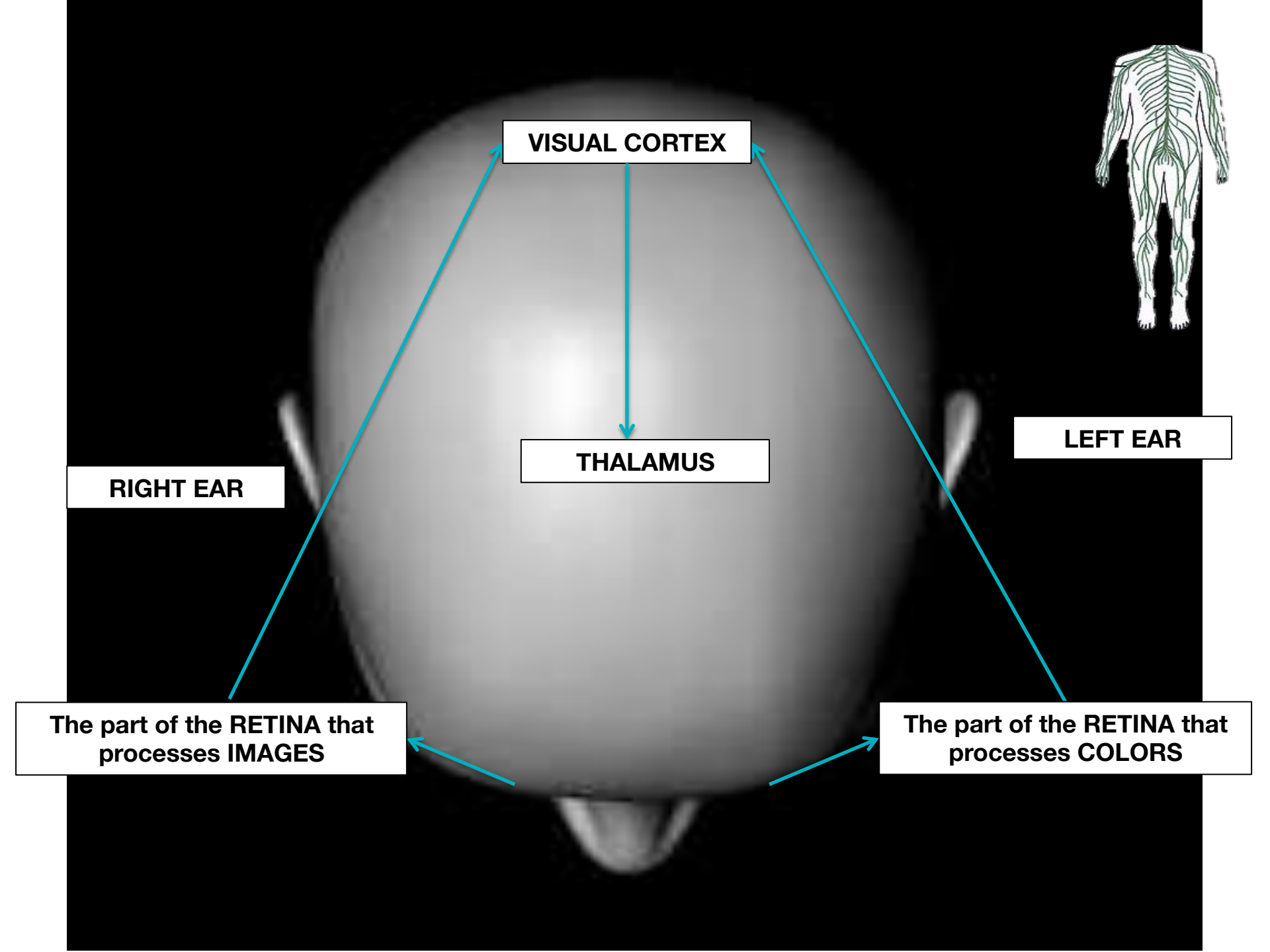


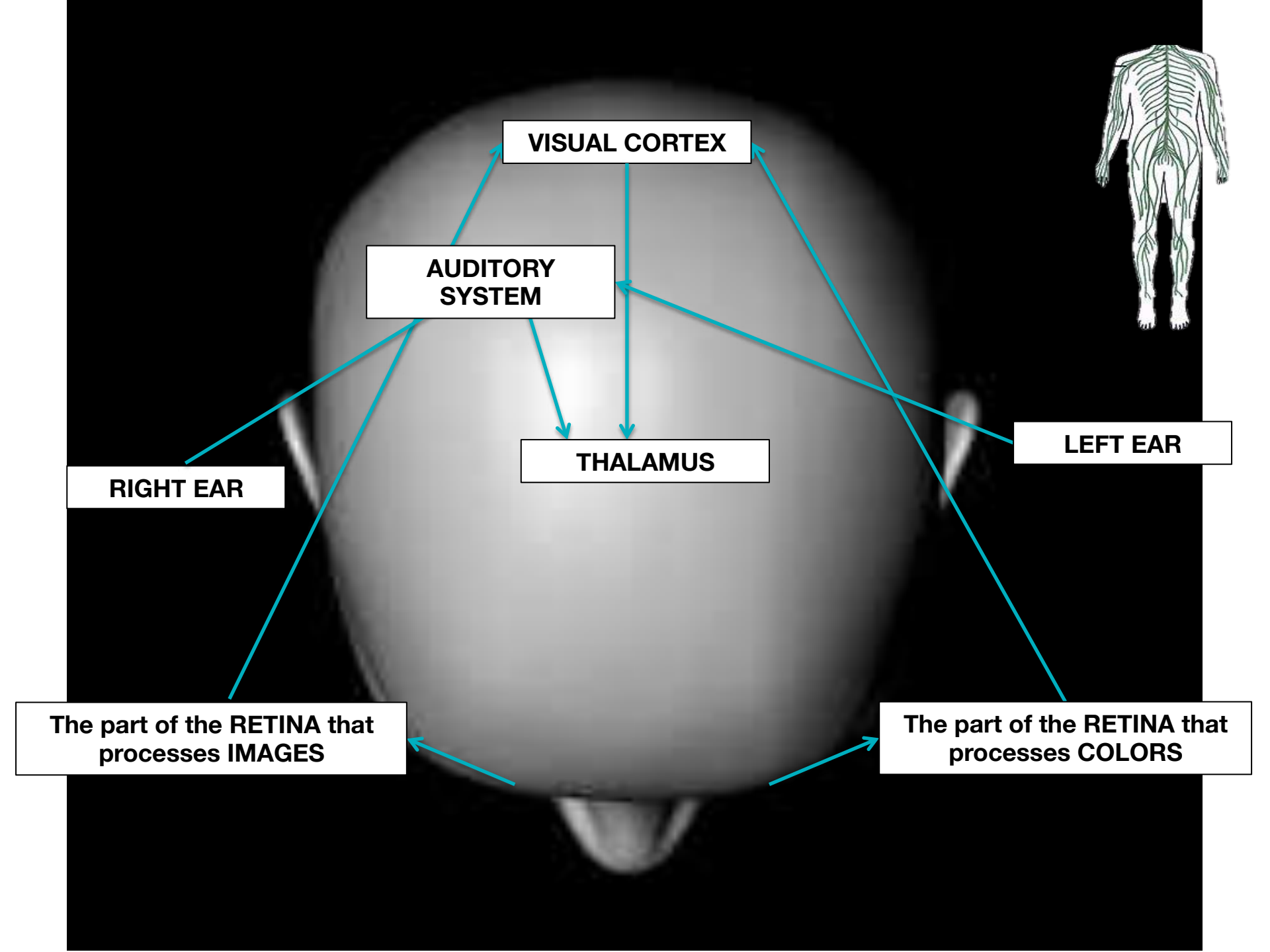
The part of the RETINA that processes IMAGES

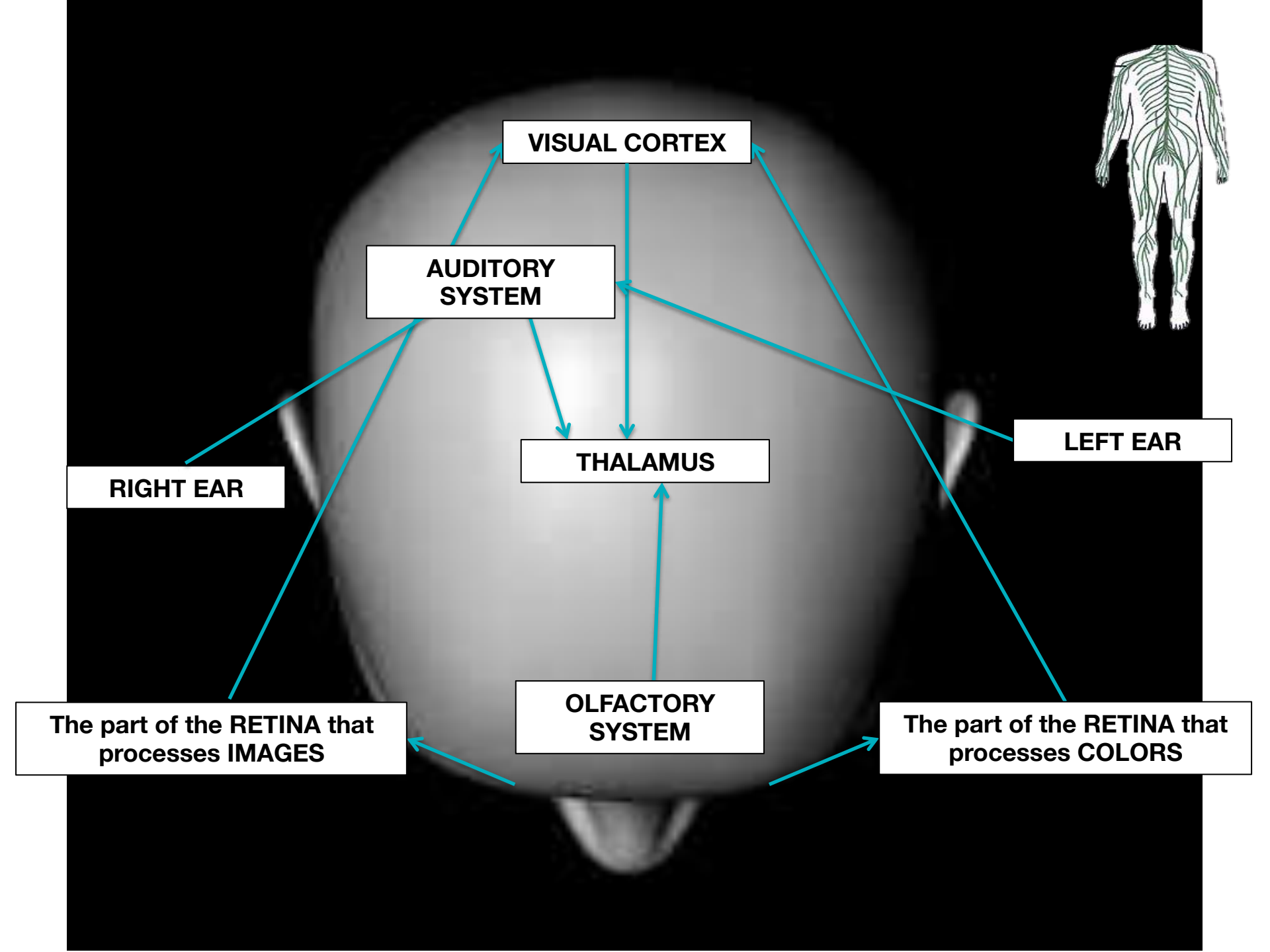
The part of the RETINA that processes COLORS


VISUAL CORTEX
The part of the RETINA that processes IMAGES
The part of the RETINA that processes COLORS


VISUAL CORTEX
THALAMUS
The part of the RETINA that processes IMAGES
The part of the RETINA that processes COLORS


VISUAL CORTEX
THALAMUS
RIGHT EAR
LEFT EAR
The part of the RETINA that processes IMAGES
The part of the RETINA that processes COLORS


VISUAL CORTEX
AUDITORY SYSTEM
THALAMUS
RIGHT EAR
LEFT EAR
The part of the RETINA that processes IMAGES
The part of the RETINA that processes COLORS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AUDITORY SYSTEM
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THALAMUS
OLFACTORY SYSTEM
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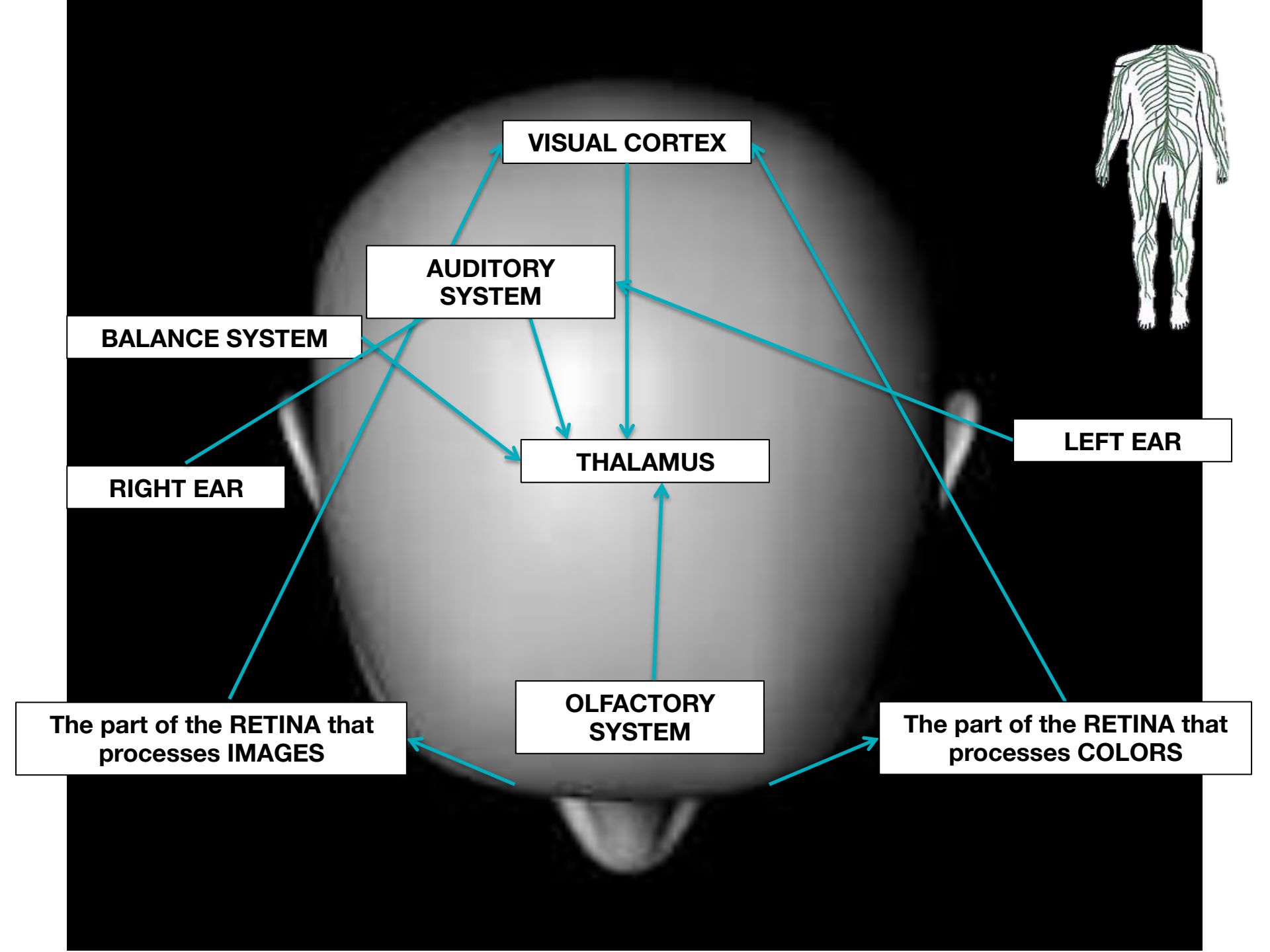
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BALANCE SYSTEM
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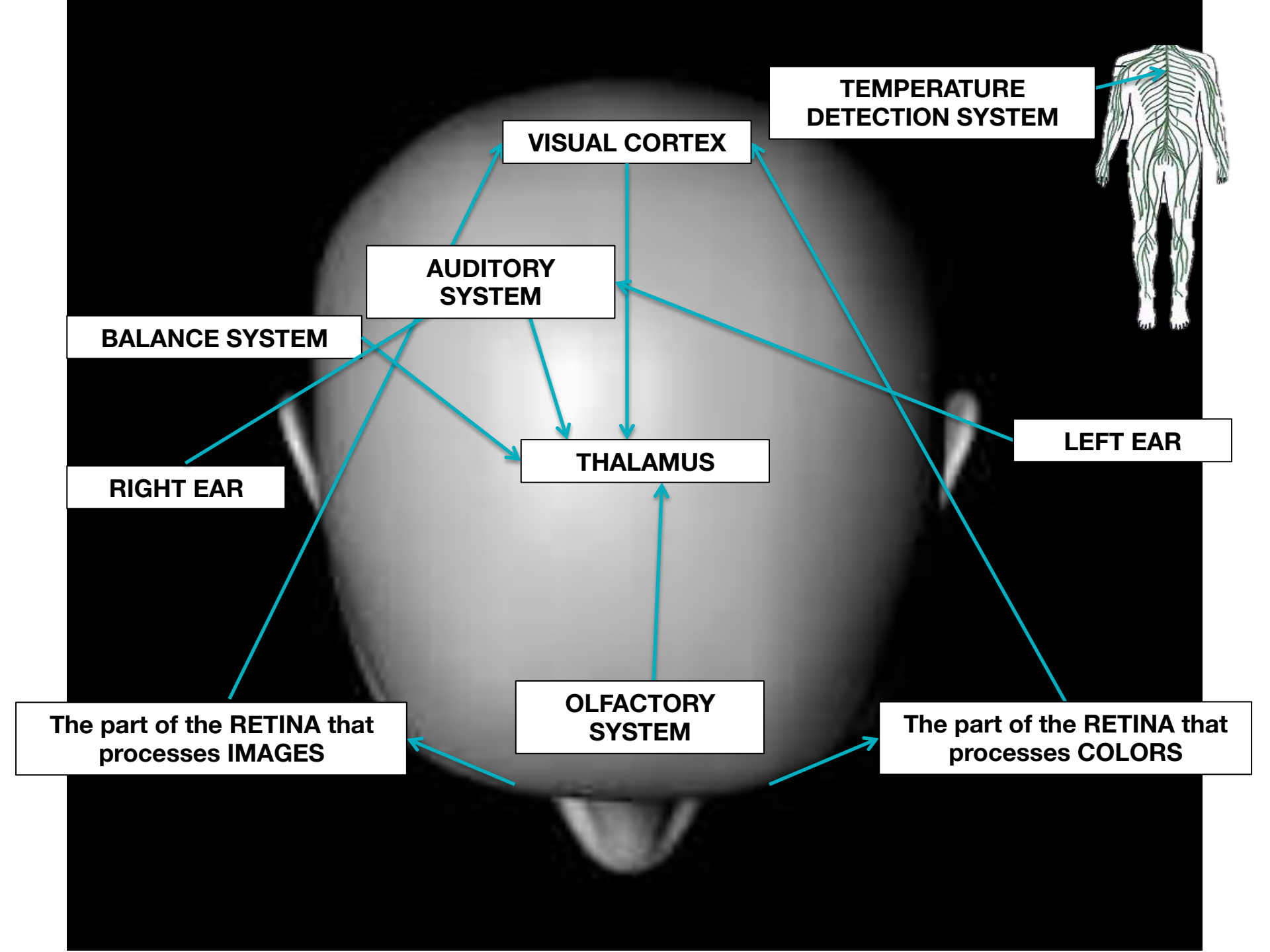
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VISUAL CORTEX
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BALANCE SYSTEM
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OLFACTORY SYSTEM
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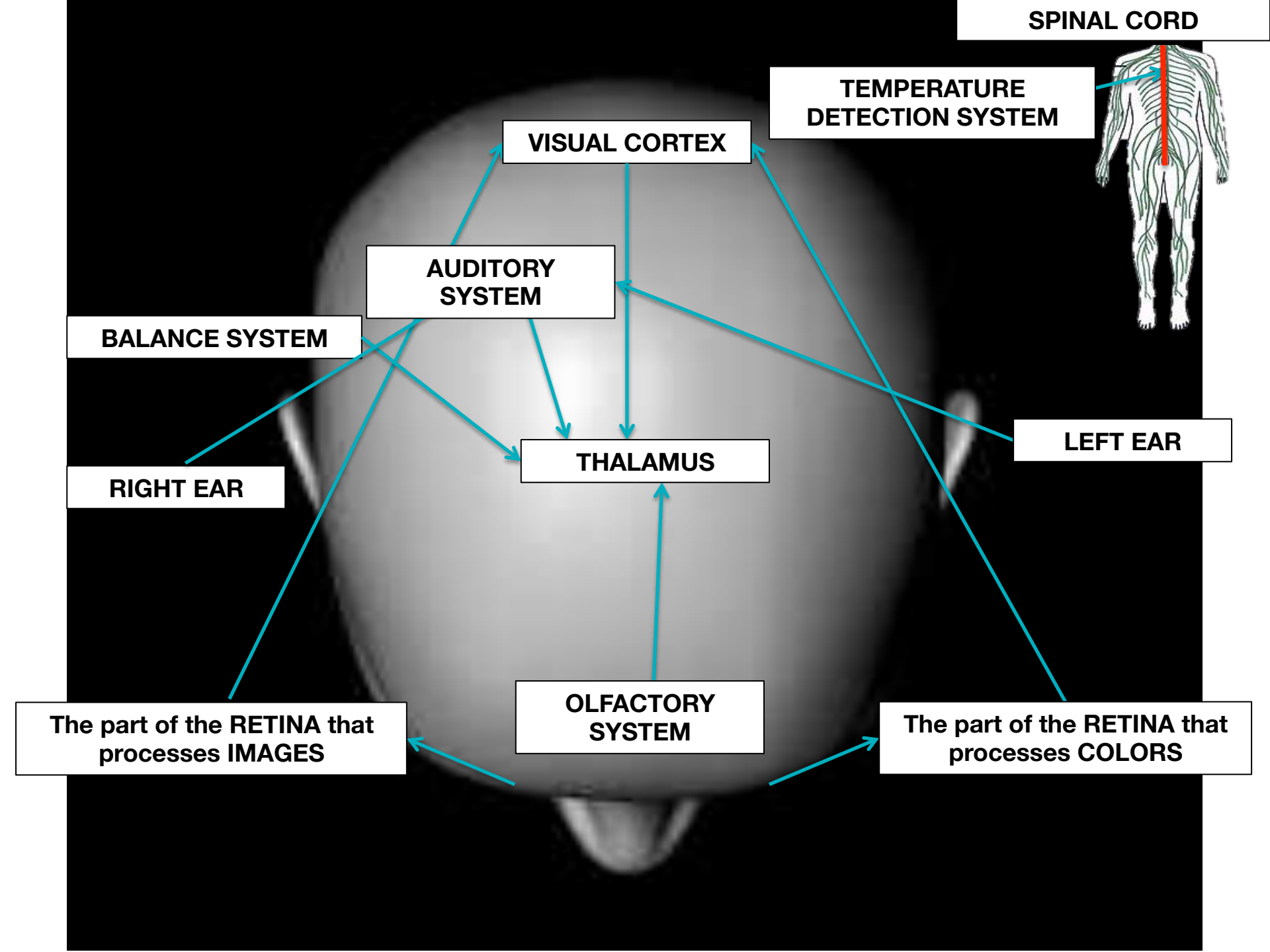
SPINAL CORD
TEMPERATURE DETECTION SYSTEM
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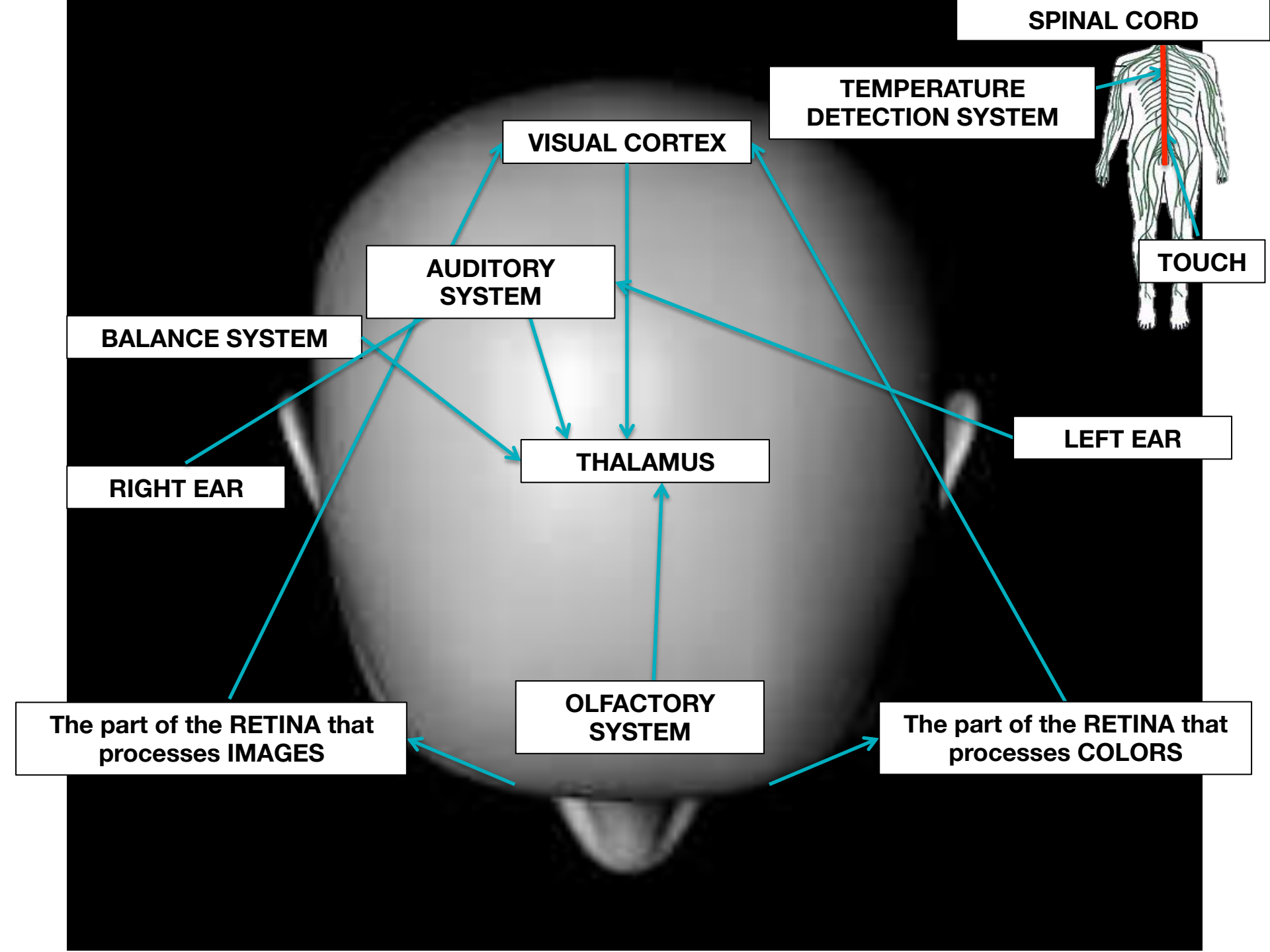
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TEMPERATURE DETECTION SYSTEM
VISUAL CORTEX
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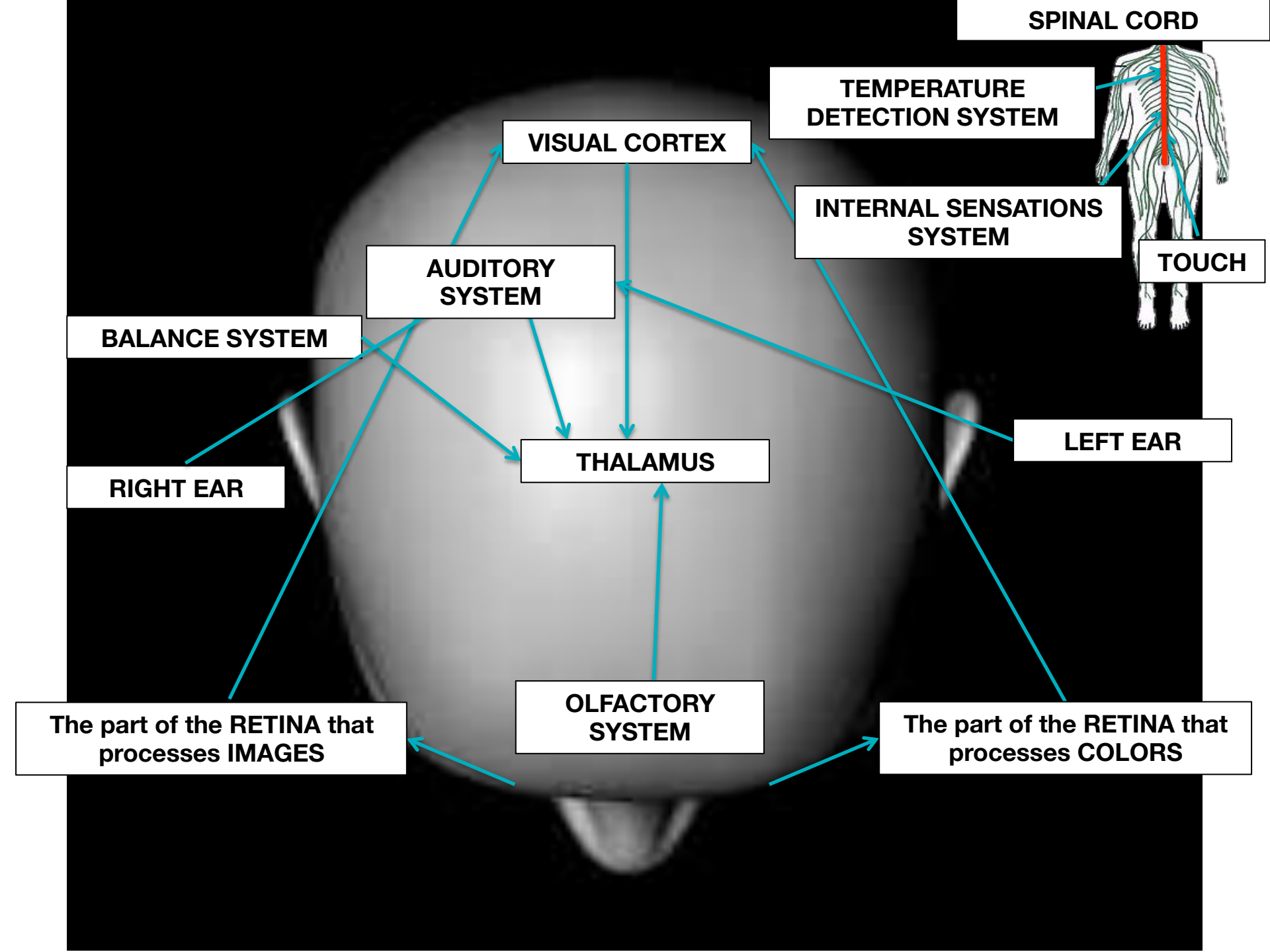
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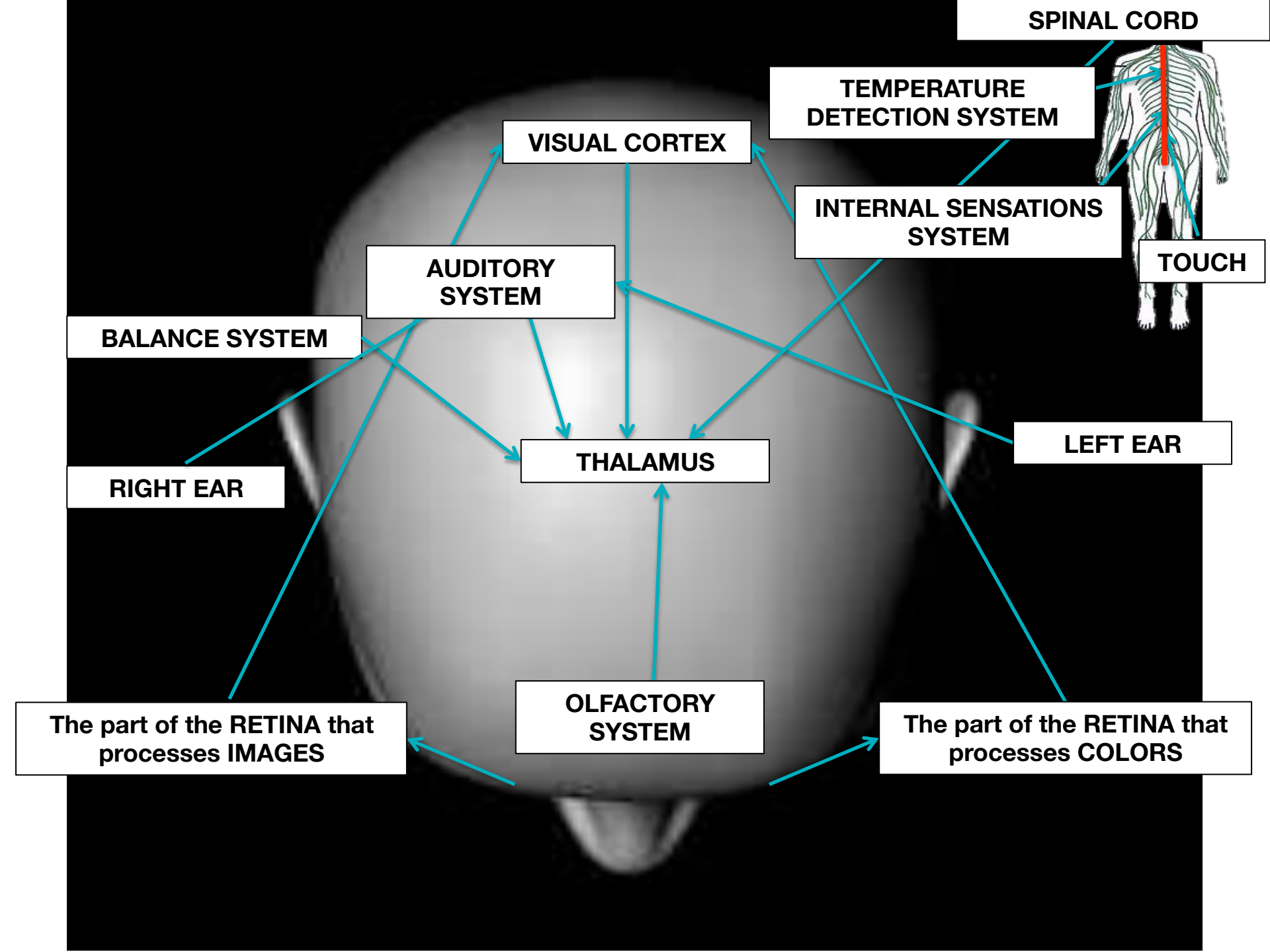
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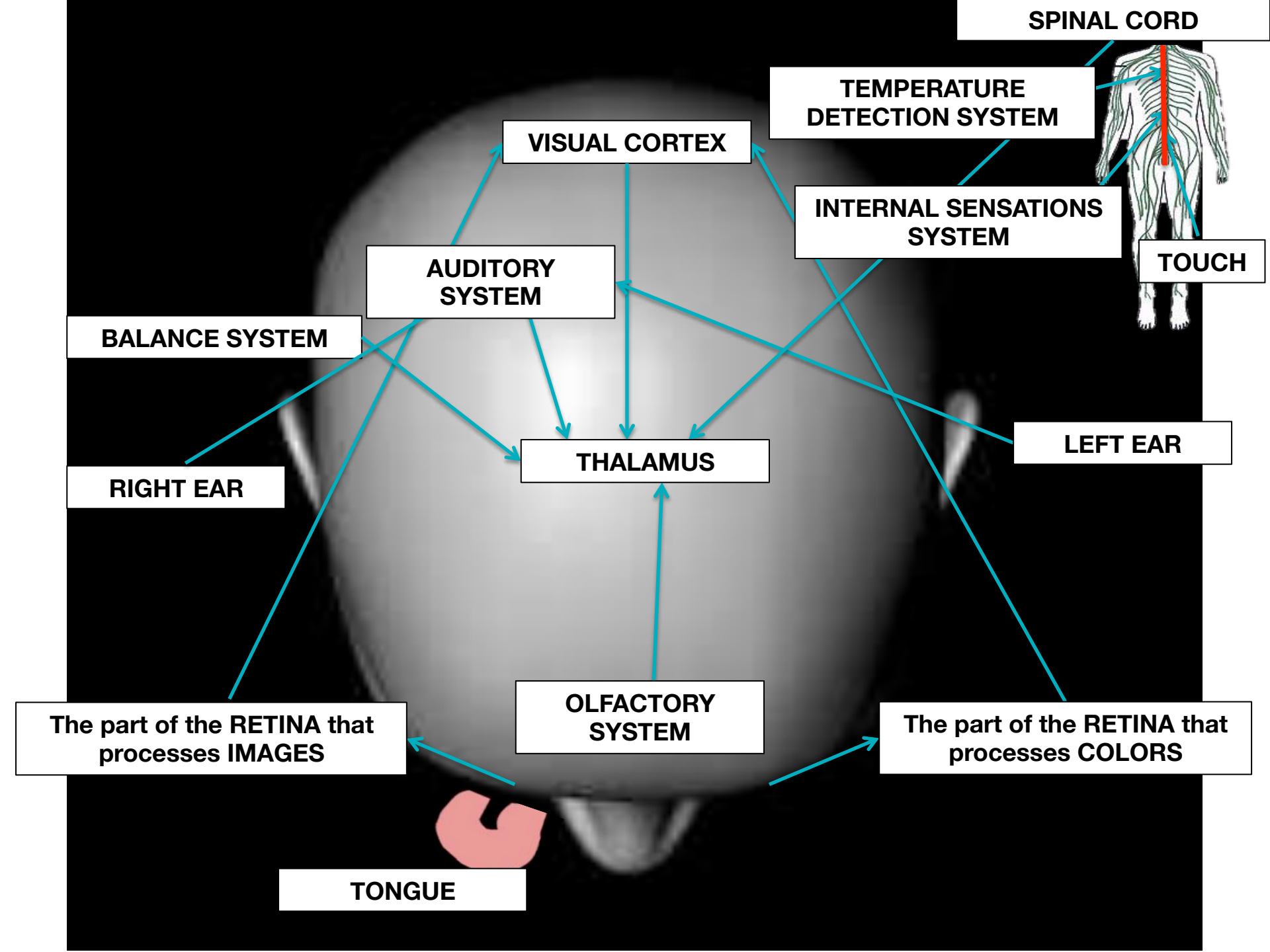
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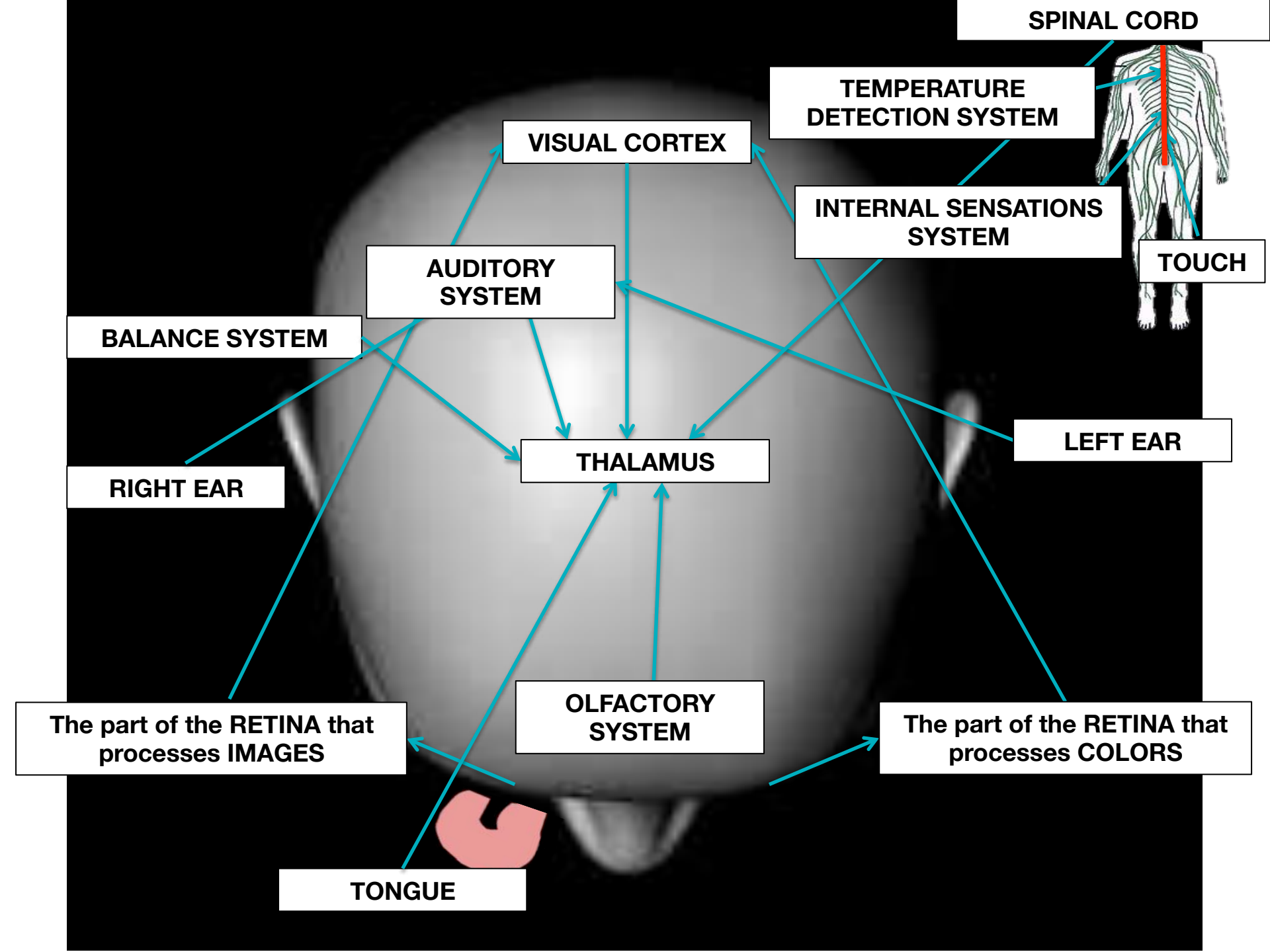
TONGUE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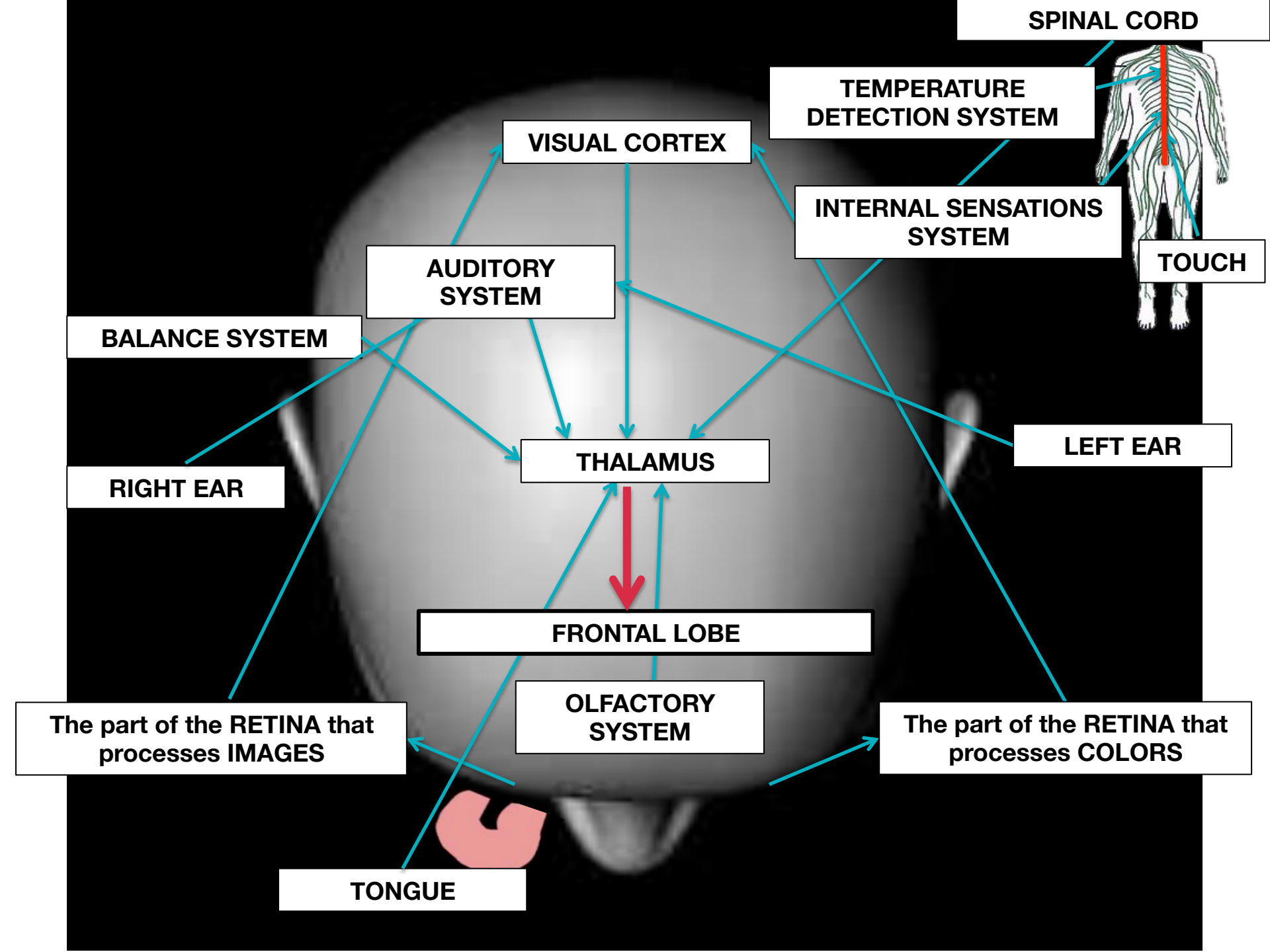
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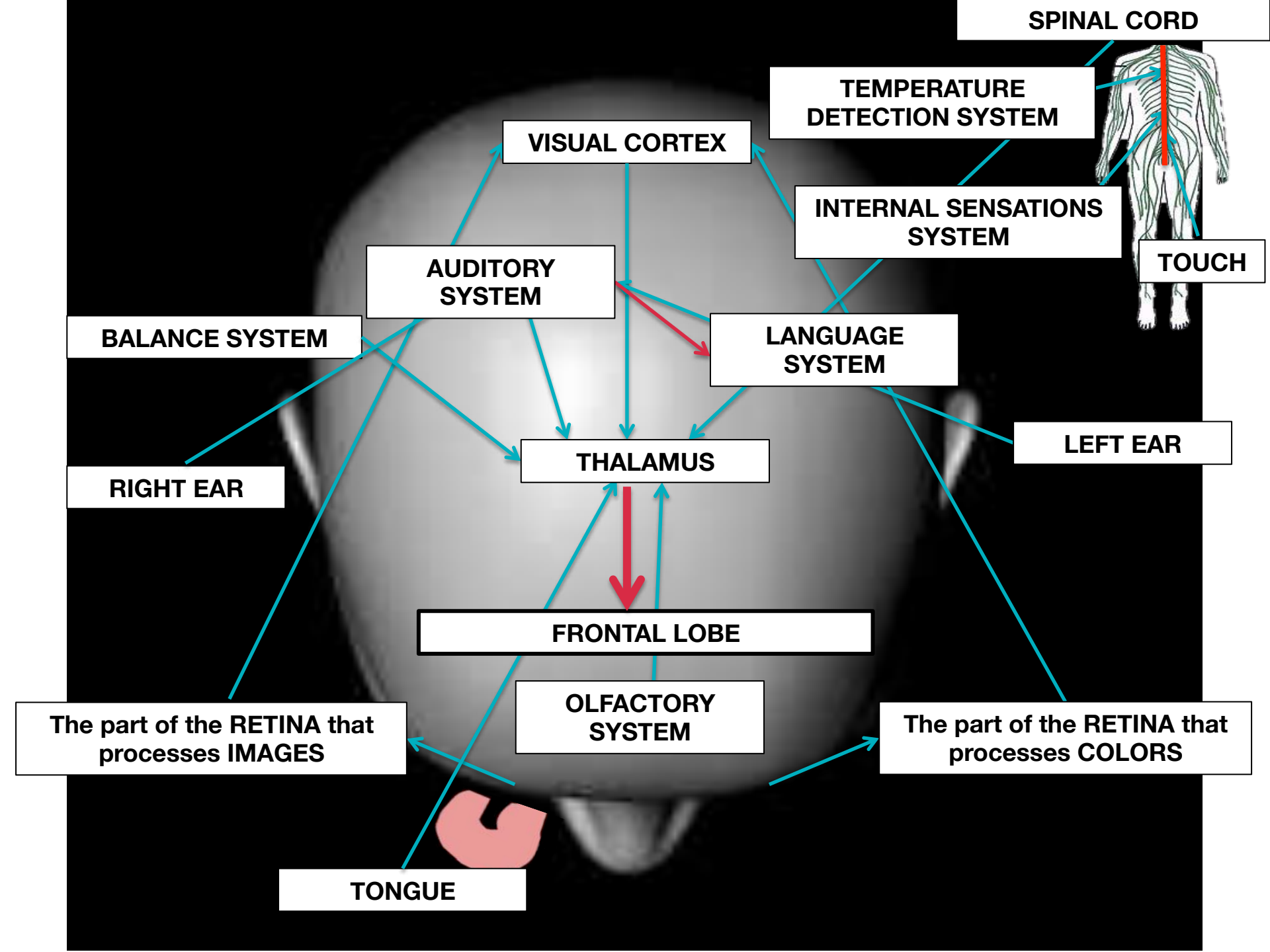
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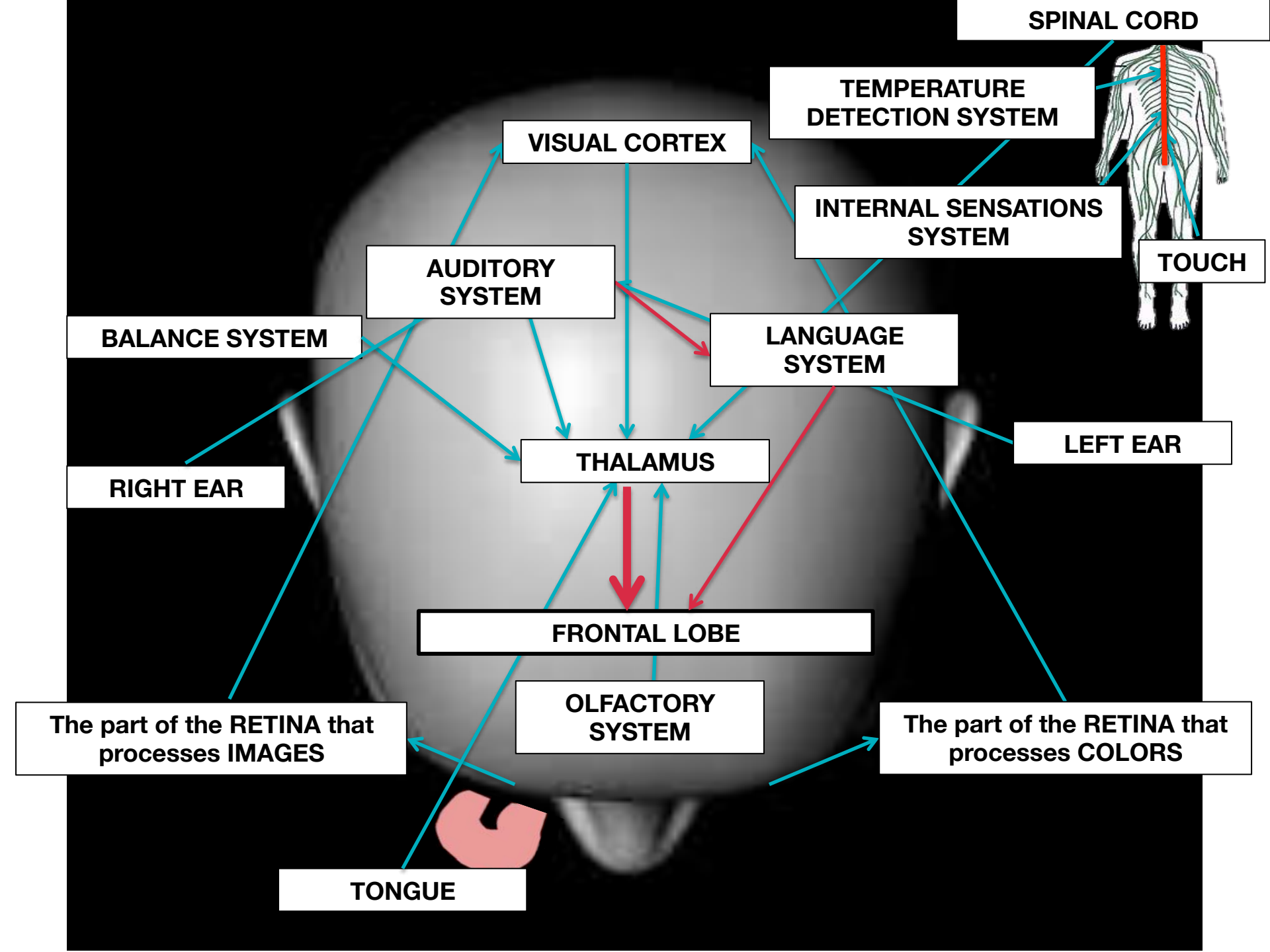
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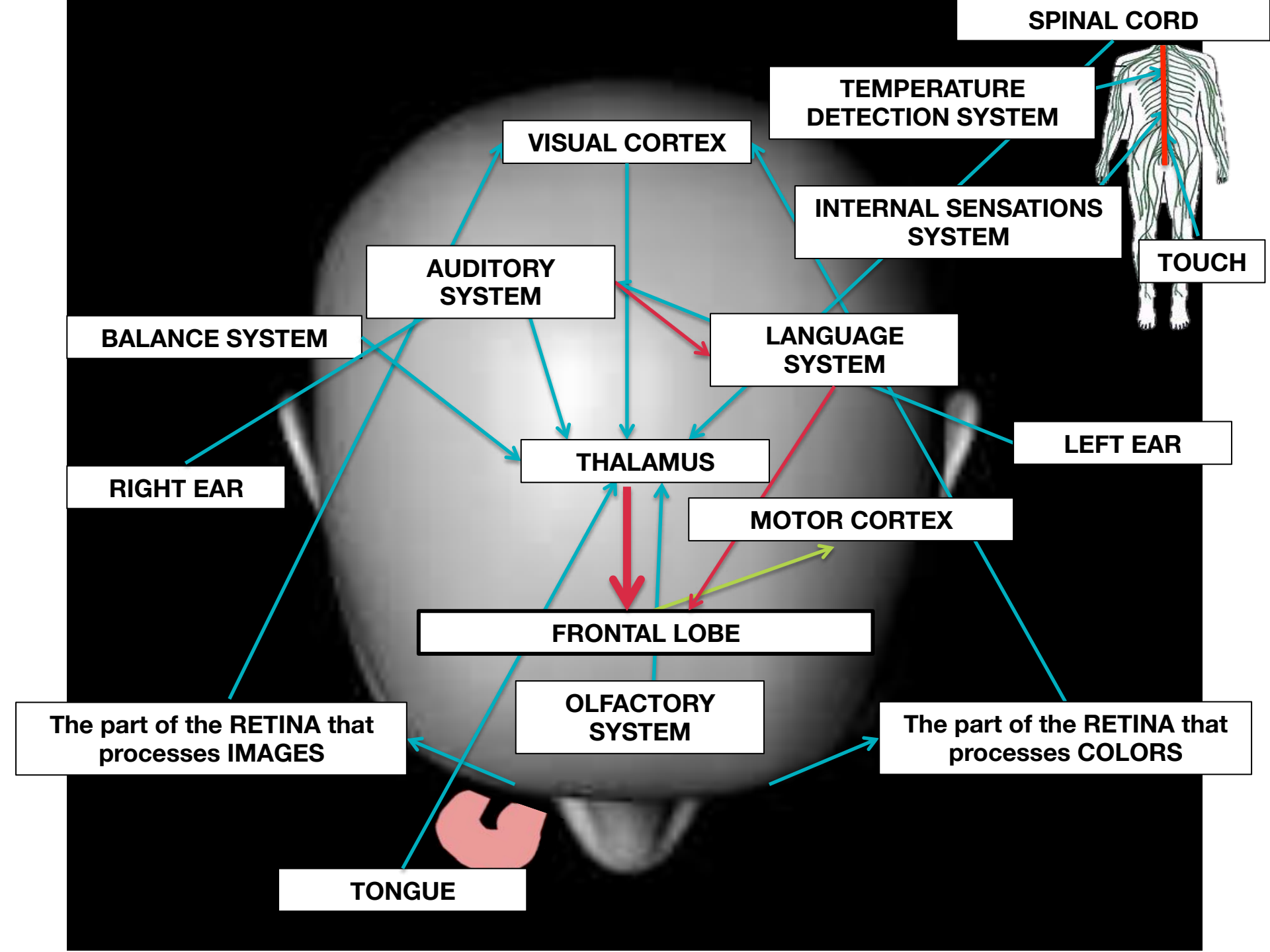
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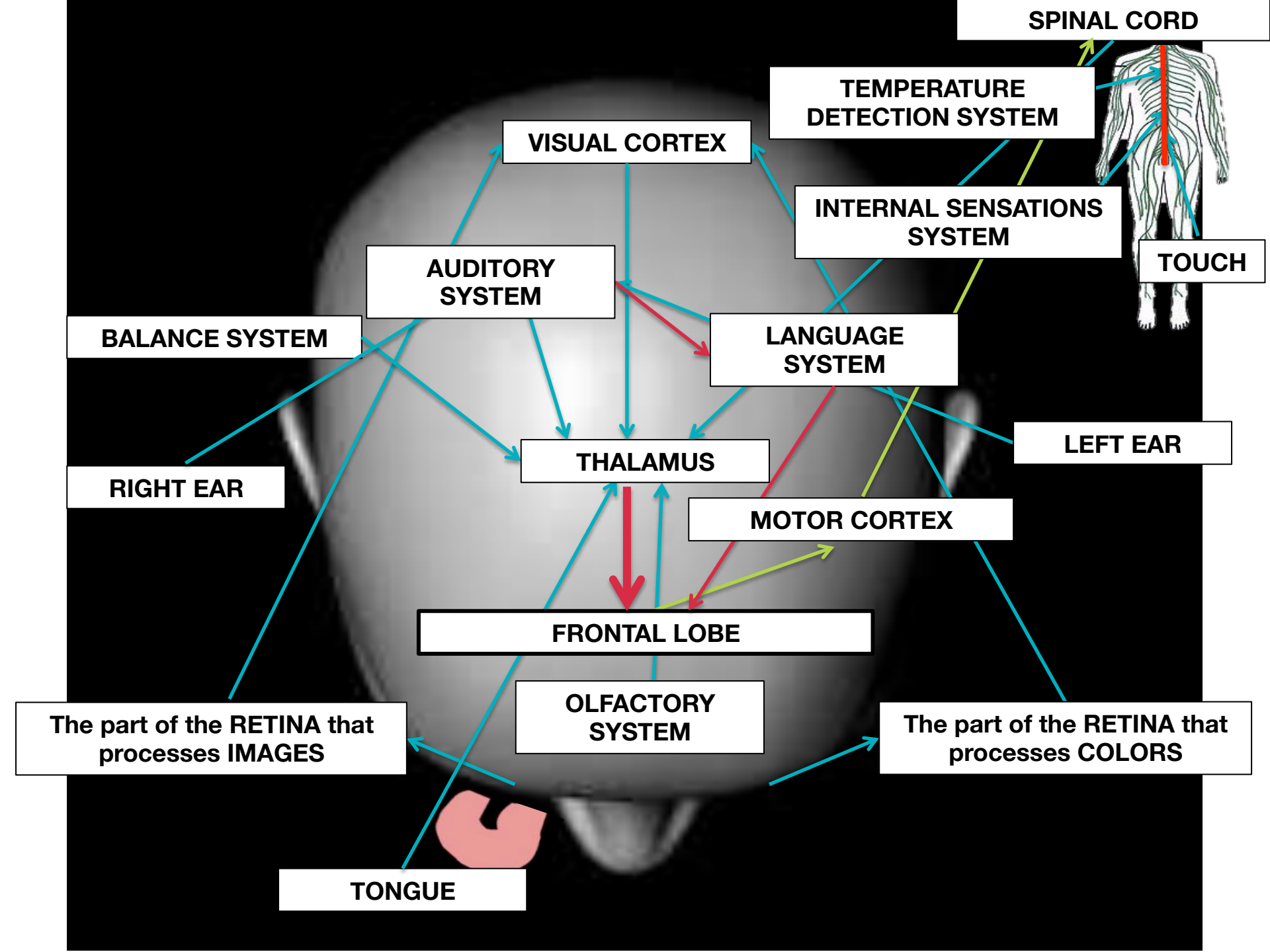
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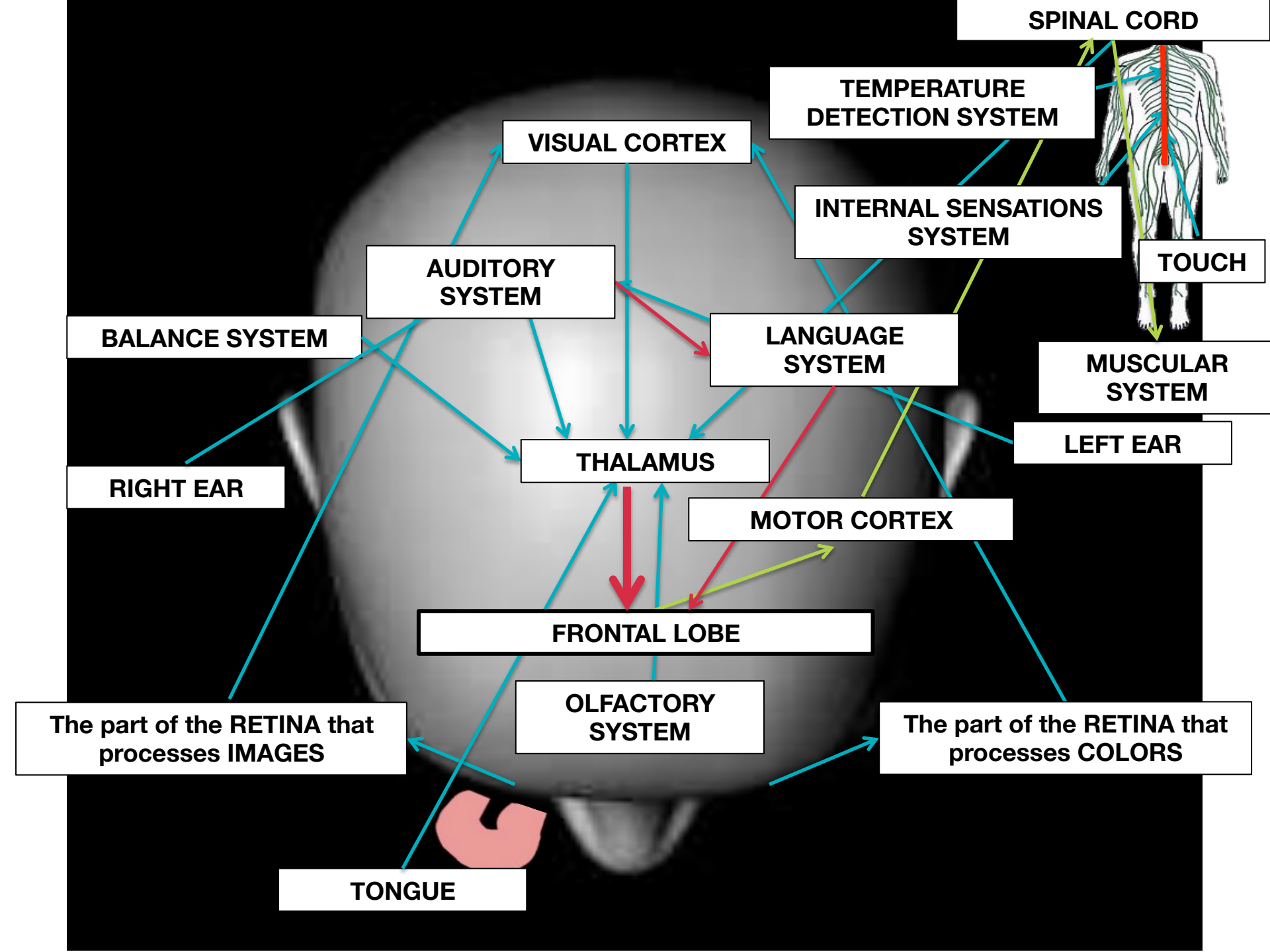
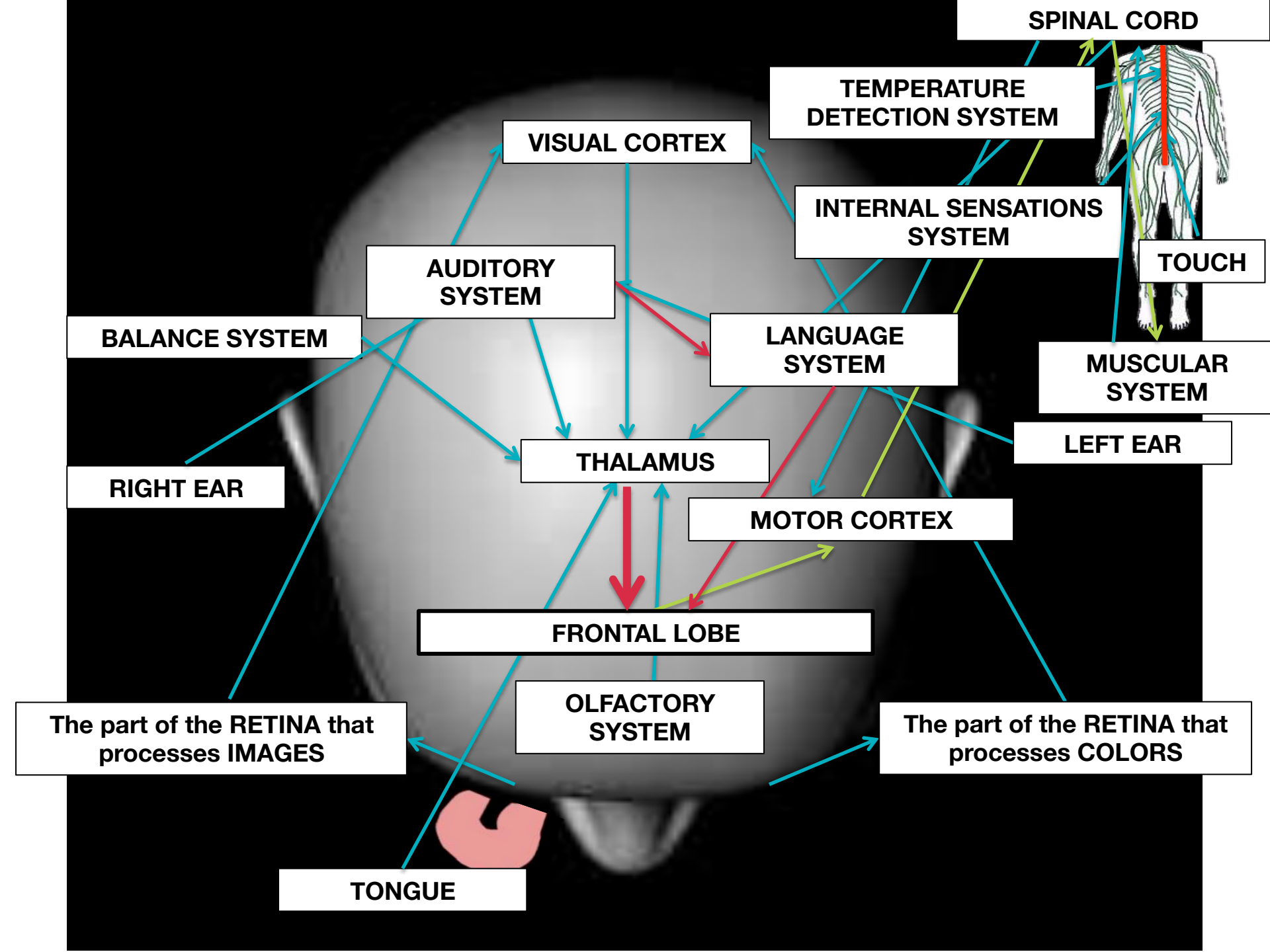
OLFACTORY SYSTEM
The part of the RETINA that processes IMAGES
The part of the RETINA that processes COLORS
TONGUE


SPINAL CORD
TEMPERATURE DETECTION SYSTEM
VISUAL CORTEX
INTERNAL SENSATIONS SYSTEM
TOUCH
AUDITORY SYSTEM
BALANCE SYSTEM
LANGUAGE SYSTEM
MUSCULAR SYSTEM
LEFT EAR
THALAMUS
RIGHT EAR
MOTOR CORTEX
FRONTAL LOBE
OLFACTORY SYSTEM
The part of the RETINA that processes IMAGES
The part of the RETINA that processes COLORS
TONGUE


SPINAL CORD
TEMPERATURE DETECTION SYSTEM
VISUAL CORTEX
INTERNAL SENSATIONS SYSTEM
TOUCH
AUDITORY SYSTEM
BALANCE SYSTEM
LANGUAGE SYSTEM
MUSCULAR SYSTEM
LEFT EAR
THALAMUS
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FRONTAL LOBE
OLFACTORY SYSTEM
The part of the RETINA that processes IMAGES
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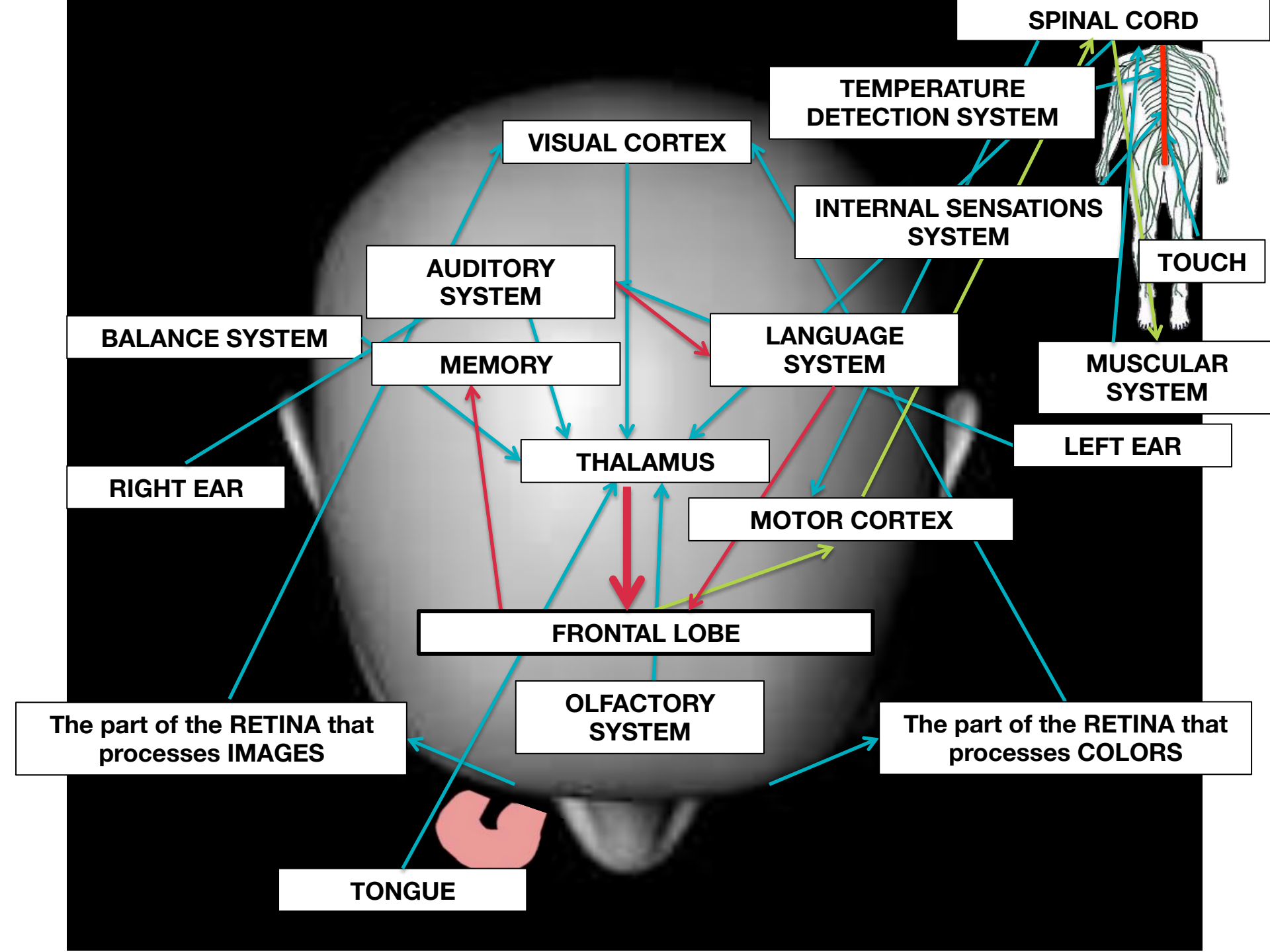
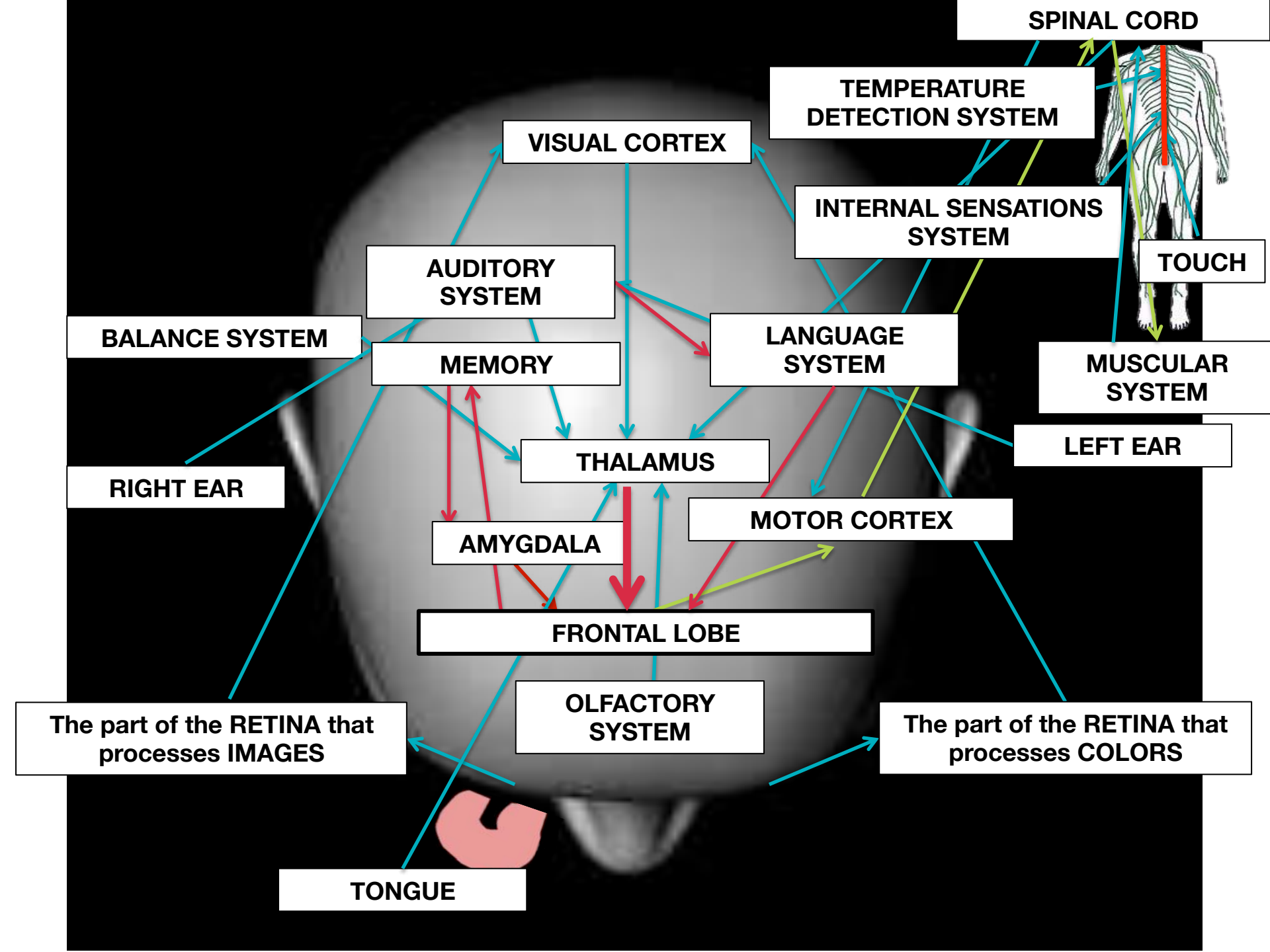
TONGUE


SPINAL CORD
TEMPERATURE DETECTION SYSTEM
VISUAL CORTEX
INTERNAL SENSATIONS SYSTEM
TOUCH
AUDITORY SYSTEM
BALANCE SYSTEM
LANGUAGE SYSTEM
MEMORY
MUSCULAR SYSTEM
LEFT EAR
THALAMUS
RIGHT EAR
MOTOR CORTEX
FRONTAL LOBE
OLFACTORY SYSTEM
The part of the RETINA that processes IMAGES
The part of the RETINA that processes COLORS
TONGUE


SPINAL CORD
TEMPERATURE DETECTION SYSTEM
VISUAL CORTEX
INTERNAL SENSATIONS SYSTEM
TOUCH
AUDITORY SYSTEM
BALANCE SYSTEM
LANGUAGE SYSTEM
MEMORY
MUSCULAR SYSTEM
LEFT EAR
THALAMUS
RIGHT EAR
MOTOR CORTEX
AMYGDALA
FRONTAL LOBE
OLFACTORY SYSTEM
The part of the RETINA that processes IMAGES
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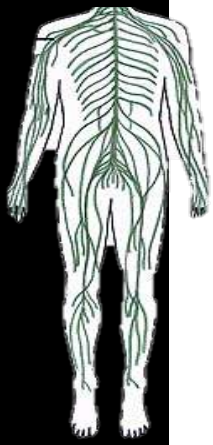
TONGUE



What is happening?

FRONTAL LOBE