



“MAKING SENSE OF THE INTEGRATION OF SENSORY INFORMATION”



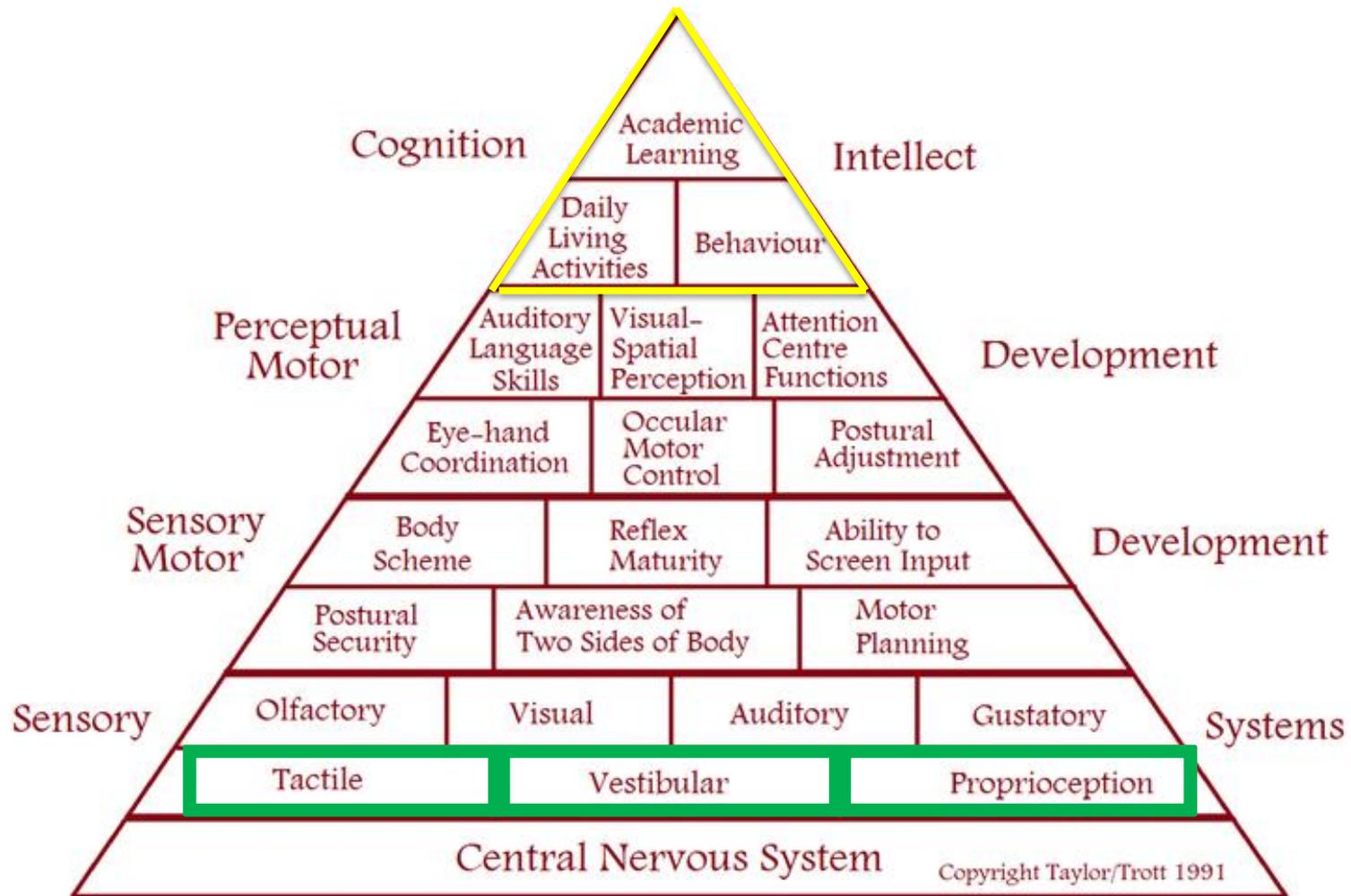
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SENSORY INTEGRATION AND OCCUPATIONAL THERAPY



SENSORY PROCESSING

Sensory Integration Theory, Jean Ayres

SENSORY
INPUT

1. SENSORY REGISTER

2. SENSORY MODULATION - AROUSAL

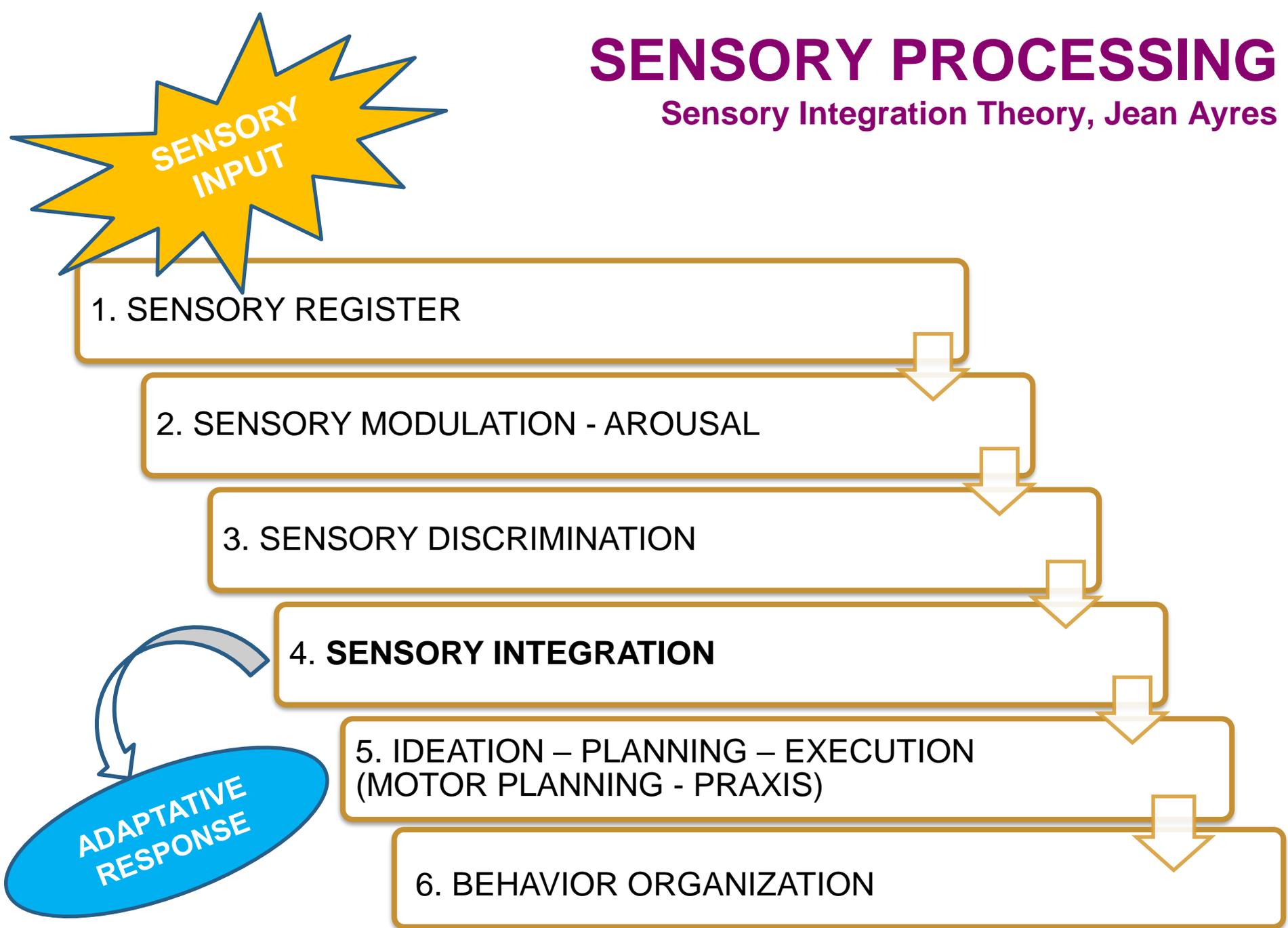
3. SENSORY DISCRIMINATION

4. **SENSORY INTEGRATION**

5. IDEATION – PLANNING – EXECUTION
(MOTOR PLANNING - PRAXIS)

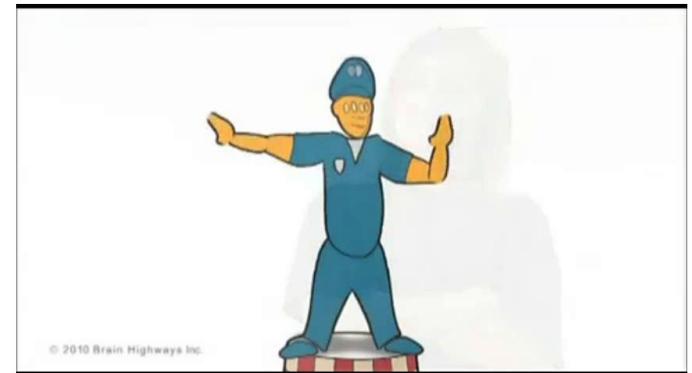
6. BEHAVIOR ORGANIZATION

ADAPTATIVE
RESPONSE



WHAT IS SENSORY PROCESSING DISORDER?

- At times we may experience a **“TRAFFIC JAM”** of information and have difficulty sorting it all out in order to focus our attention and perform optimally.
- Most do not present palpable damage to brain structures.



... WHEN THE BRAIN DOES NOT INTEGRATE THE SENSATIONS WELL ...

LEVEL OF AROUSAL

REGISTRATION

MODULATION

“KNOW TO DO”

DISCRIMINATION

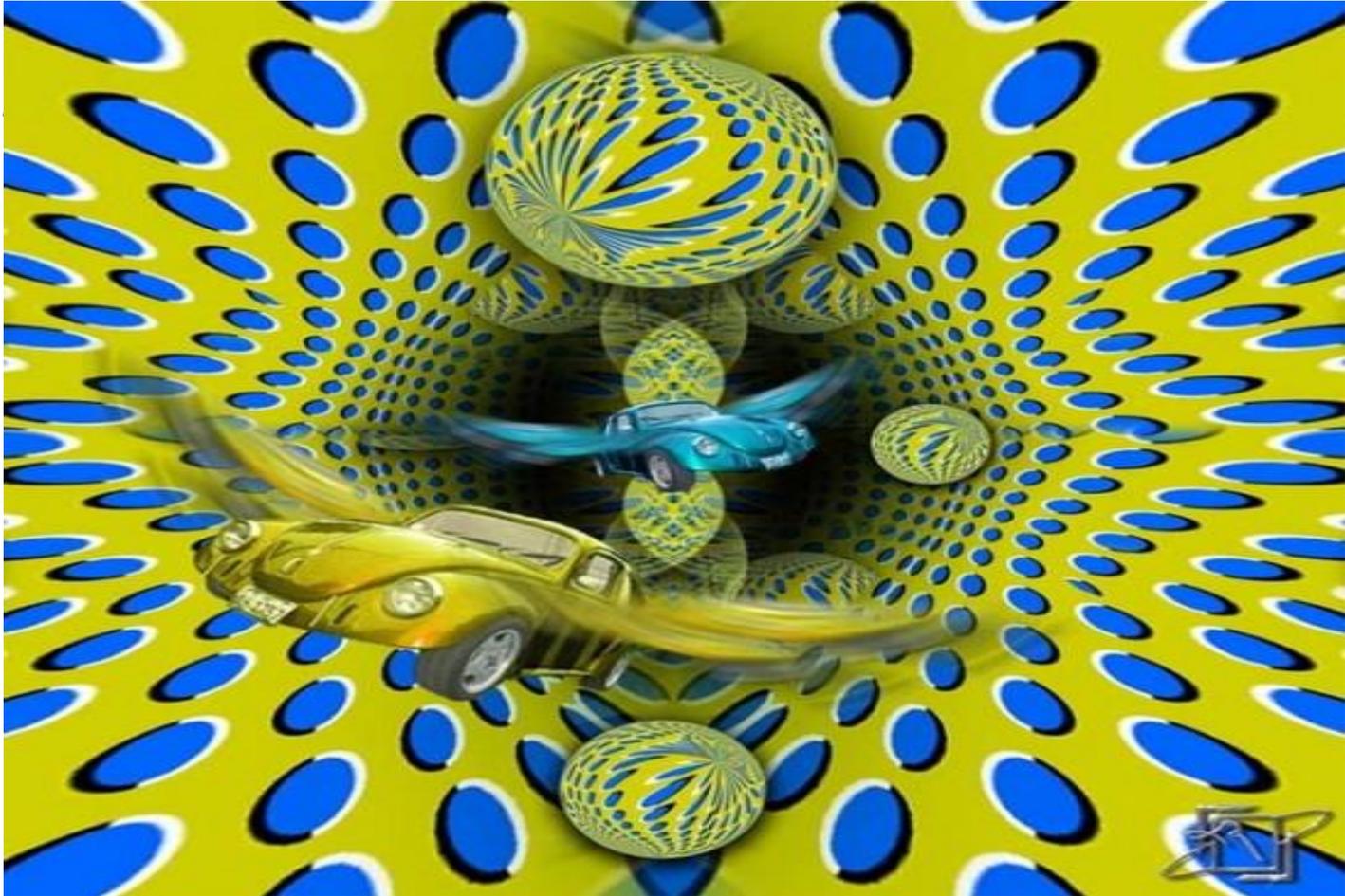
high threshold
HYPO
SENSITIVITY
Do not respond/
Sensory seeker

low threshold
HYPER
SENSITIVITY
Avoid / Flee / Fight

MOTOR PLANNING
PRAXIS

MALADAPTATIVE RESPONSE

HOW CAN A SPD AFFECT A CHILD'S DEVELOPMENT, LEARNING AND BEHAVIOR?



Let's travel through our senses...

PRACTICE: FUNCTIONAL PROBLEMS AND TYPE OF SPD



PRACTICE IN GROUPS OF 5 PEOPLE:

Identify the type of SPD presented by the following pictures, based on the functional problems those children have:

1. Dyspraxia
2. Proprioceptive Hyposensitivity
3. Vestibular Hypersensitivity
4. Vestibular Hyposensitivity
5. Tactile Hypersensitivity
6. Tactile Hyposensitivity

1. DYSPRAXIA



He does not know how to put on his clothes or tie his shoes



She finds it difficult to find toys in game boxes, he can't find his coat on the school hangers...



Cutting meat is difficult for him



He does not know how to build with blocks

1. DYSPRAXIA



She does not know how to follow dance steps during songs



He does not know how to use scissors or cut along the line



She does not know how to comb her hair or slide a bobby pin into his hear



He does not know how to do the somersault or rope jump

1. DYSPRAXIA

- CASE 1. Enrique

Why does he behave like this?

Enrique's problems are related to his motor planning skills. Motor planning is the ability to realize how to move the body and extremities in new situations. When we decide to act in the environment we need:

Having an idea of what to do, for example when they ask us to copy something, we need to know what to copy and how to approach the task.

Join the motor steps to perform the task or perform the motor planning of the sequence of steps necessary to carry it out.

Motor performance: the ability to perform the task, occurs after it has been planned and the areas of the brain responsible for planning send the order to take action.

2. PROPIOCEPTIVE HYPOSENSITIVITY



He likes chewing hard foods



He squeezes the pencil a lot and tends to break his notebooks



She does not calibrate the force to handle objects



He seems weak and lax in his joints



She is moving all the time

3. VESTIBULAR HYPERSENSITIVITY (Gravitational Insecurity)



She never climbs on
swings or plays in
climbing structures

3. VESTIBULAR HYPERSENSITIVITY (Gravitational Insecurity)

- CASE 2. Melisa

Why does she behave like this?

People with Gravitational Insecurity react with fear and anxiety in situations that test their relationship with gravity, such as: being moved backwards in space, jumping, being lifted off the floor ...

In some situations it can happen when we look at open spaces. The fear seems irrational or "neurotic", however in this type of problems the visual, vestibular and proprioceptive systems are not well integrated and the person feels anxiety when they are put to the test.

4. VESTIBULAR HYPOSENSITIVITY



He gets distracted very easily and finds it hard to concentrate on the book he is reading



His play often consists of throwing himself to the ground, hitting and climbing



He's jumping all day, "taking risks", spinning ...



He gets distracted in class and does not answer when they call him in the playground

4. VESTIBULAR HYPOSENSITIVITY

- CASE 3. Tomás

Why does he behave like this?

Thomas may have a diagnosis of ADHD because he does not seem to pay attention and is constantly moving. The underlying reason for their difficulties is that they are hyporesponsive to movement and therefore require an extra dose to stay alert.

Movement, in this case, refers to actively moving the joints and contracting the muscles (proprioception) and also to processing the moved being and movement through space and gravity (vestibular). We need information from these systems to maintain our optimal alert level and develop the ability to react to new situations.

5. HYPERSENSITIVITY TO TOUCH (Tactile Defensiveness)



She does not like painting with her fingers



He does not tolerate being caressed in the head



He does not like brushing his teeth



He dislike textures or lumps in food



Certain types of clothes irritate her



He hits all the time

5. HYPERSENSITIVITY TO TOUCH (Tactile Defensiveness)

- CASE 4. Maira

Why does she behave like this?

Maira is hypersensitive to tactile experiences, what is called Tactile Defensiveness. Your sensory system does not properly filter tactile information. Maira finds it more difficult to have unexpected contact, such as social contact. You may feel comfortable in the tactile experiences she initiates and avoid those she can not control.

Children with TD often seek proprioception or activities that require strength in an attempt to maintain their sense of well-being. This can translate into behaviors that are interpreted as aggressive, such as pushing, pulling, grabbing, hitting, biting others ...

6. *HYPOSENSITIVITY TO TOUCH* (Under-Responsive)



He takes everything
to his mouth and
sucks every kind of
object



She likes being barefoot



He does not realize
when his face or
nose are dirty

GENERALIZED MODULATION DISORDER



She likes to be alone
and "taking refuge"
when there is too much
noise



She cries at birthdays and
in children's play areas

GENERALIZED MODULATION DISORDER

- CASE 5. Sonia

Why does she behave like that?

Sonia is hypersensitive to many sensory experiences (Generalized Modulation Disorder) and consequently feels overwhelmed in many situations that are natural to most people. It can be sensitive to auditory, visual, olfactory and tactile (DT) information, as well as being sensitive to movement (IG).

For Sonia it is difficult to maintain her optimal alert level and how to function in the environment. Your central nervous system does not filter information from the outside world, which affects your sense of security and control.

Now, let's see some clinical cases

Do you know who I am?

CASO 1

CASO 2

CASO 3

CASO 4 CASO 4'



**Thanks for
your
attention!!!**



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