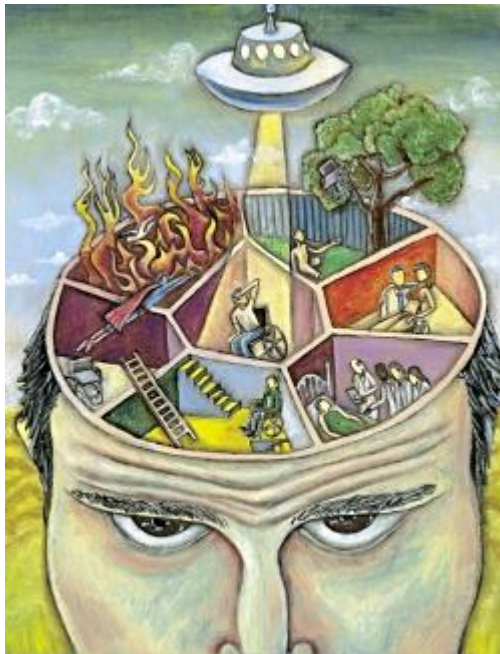


# The I.G.U.S. framework

*Operationalising the biopsychosocial model*



## Applications

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The challenge:

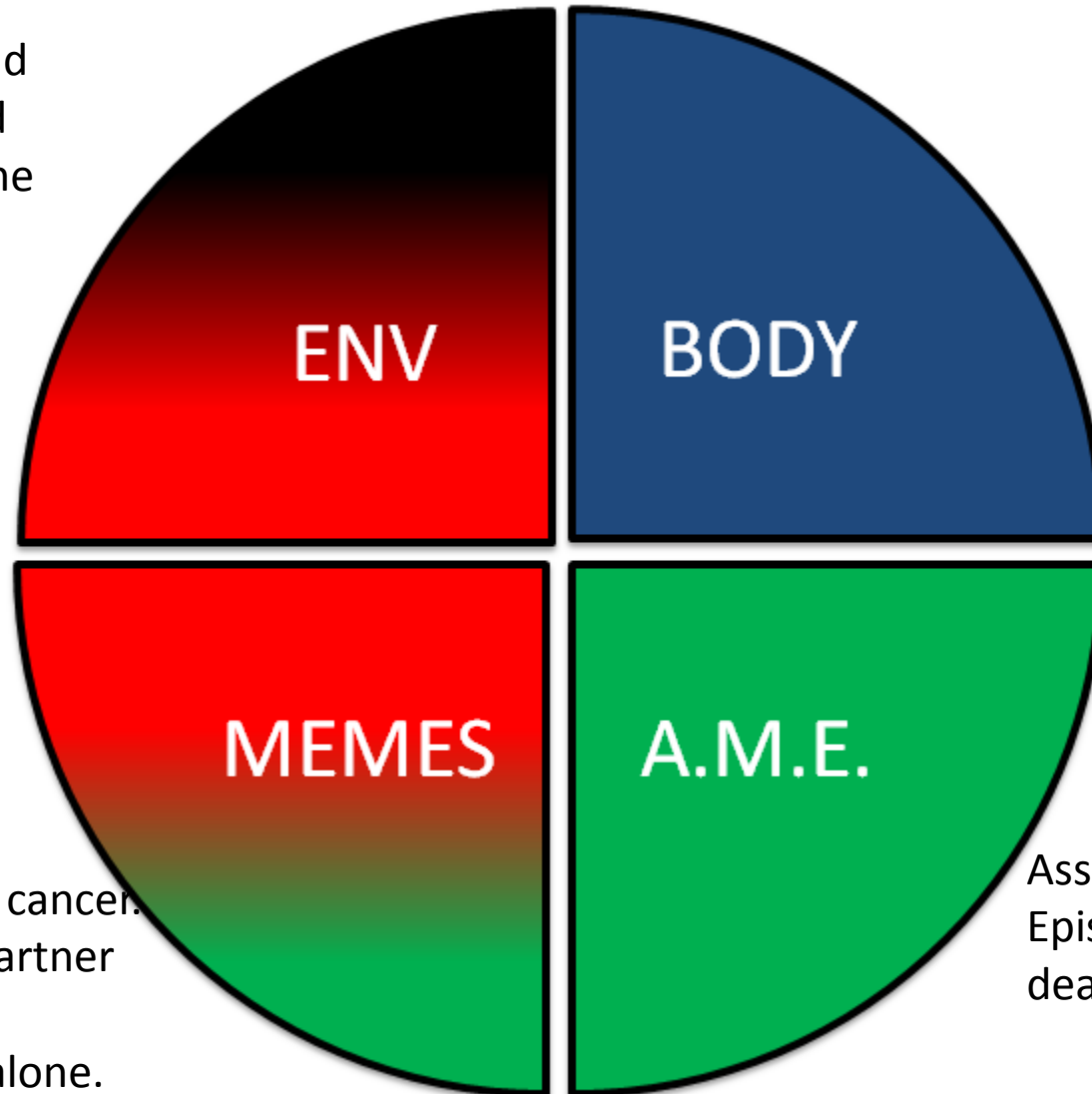
**MUST BE APPLICABLE  
TO ANY HUMAN ACTIVITY**

# A list of areas we have explored

- Generic disorder framework (applied to stuttering & pain)
- Common language for psychotherapies
- Information paradigm for psychology
- Operationalization of psychotherapies (applied to same)
- Census of an individual's state
- Unifying paradigm for all human disciplines
- Basis for social interactions and social sciences
- Basis for cultural evolution
- Applicable to all species and evolution.
- Other applications: Self-motivation, sports coaching, politics, human resources, marketing.

**Impact of event on human (4-sytem IGUS): Example**  
**IMPLEMENTATION**

# Impact of death of partner



Corpse of husband  
Grave to be cared  
Social events alone  
Lack of skills of  
deceased.

Stress  
High cortisol level  
Prone to depression

ENV

BODY

MEMES

A.M.E.

He died of painful cancer.  
Finding another partner  
is betrayal.  
I cannot manage alone.

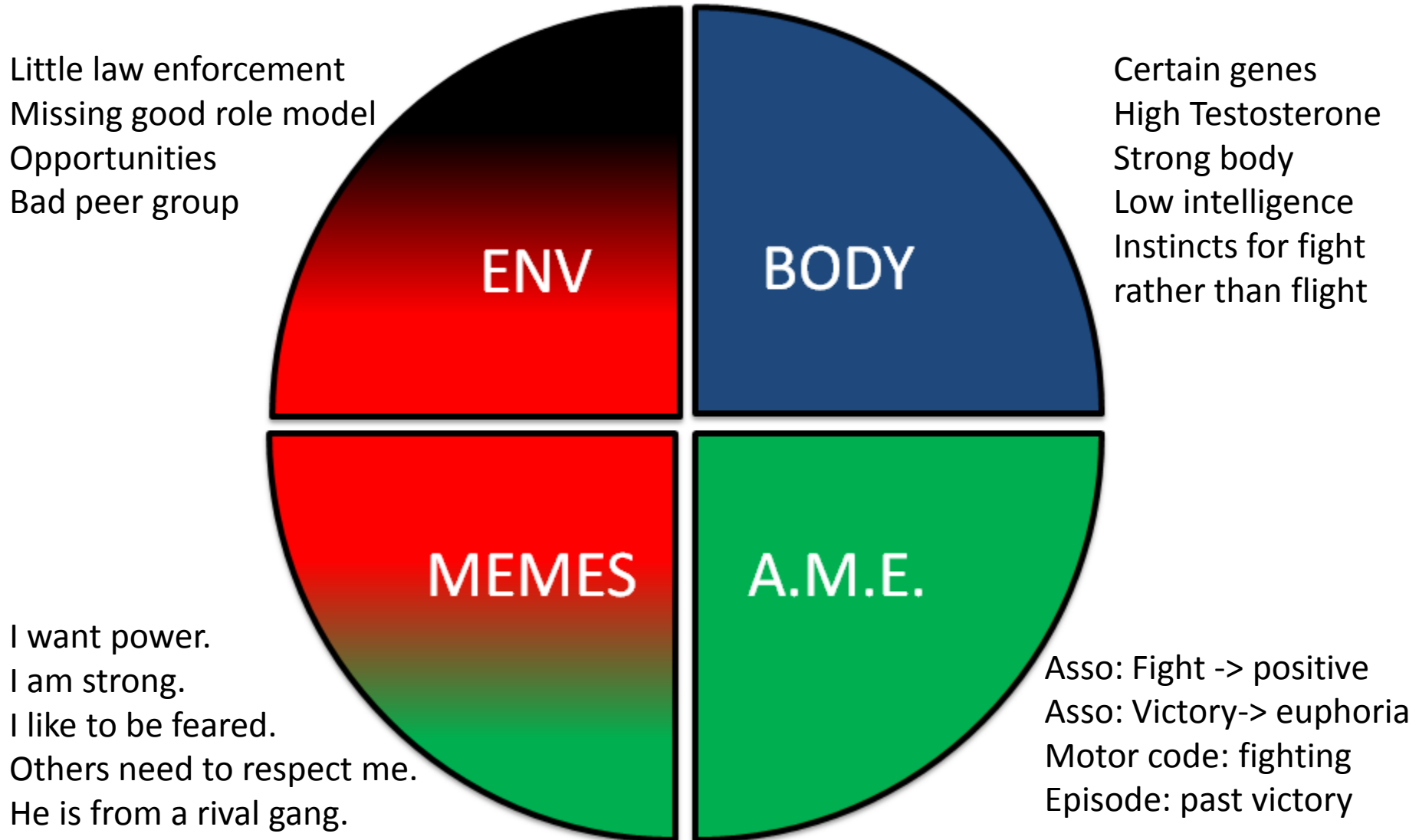
Asso: Picture -> sadness  
Episode: wedding, on  
death bed, funeral.

# Note on Impact of death of partner

- Death of partner is NOT a state of a human being.
- You cannot point to the death of partner as such.
- You can only point to elements of the four systems that changed as a result of death of partner.
- Death of partner is a conceptualisation of a set of changes in the physical world by the human mind.
  
- Most models today constantly mix states and processes.
- Framework puts memories (major topic in general psychology) at the core of the theory of clinical psychology

**Elements driving Psychological Profile: Example**  
**IMPLEMENTATION**

# Profile of a violent person's state

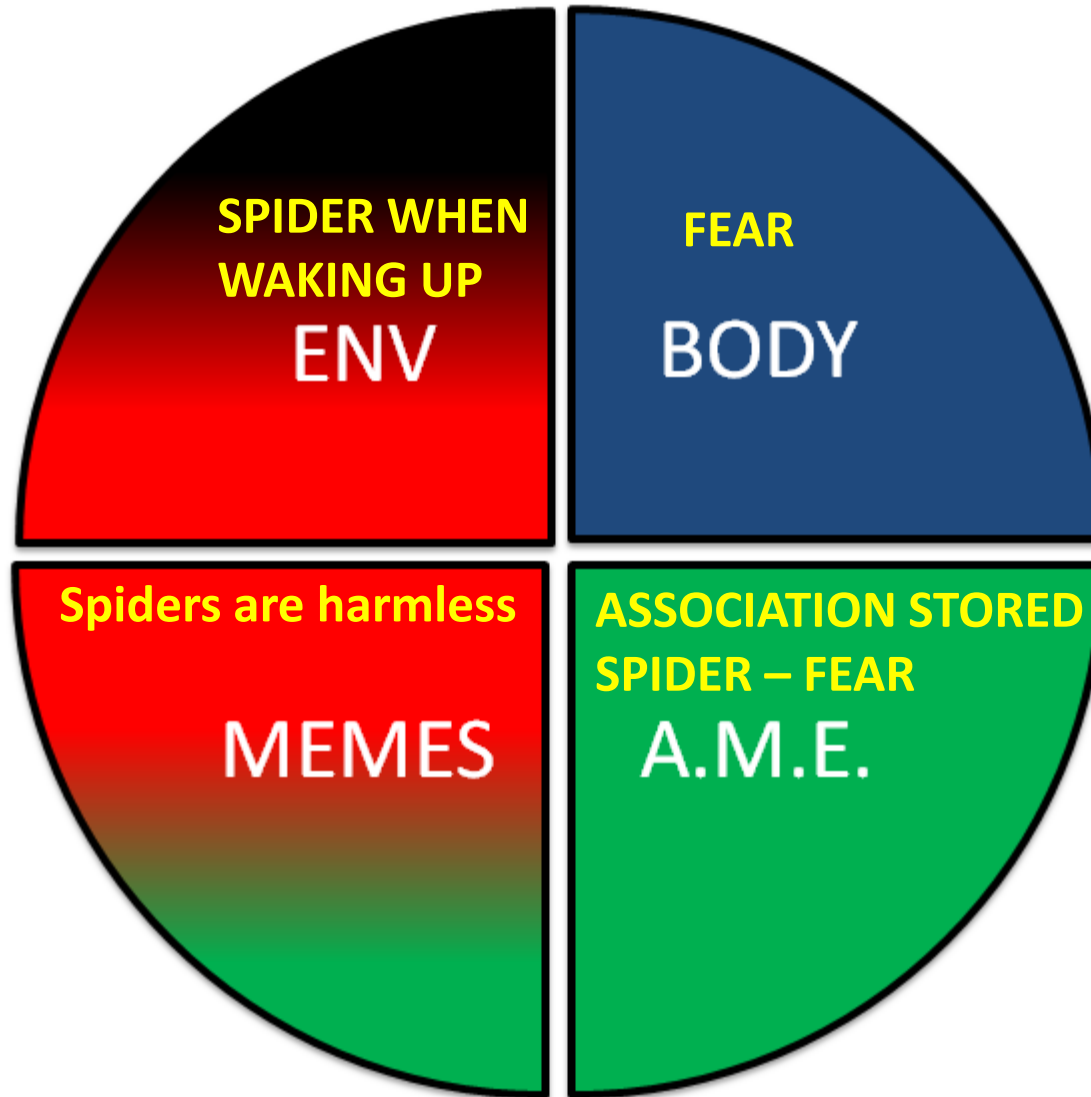




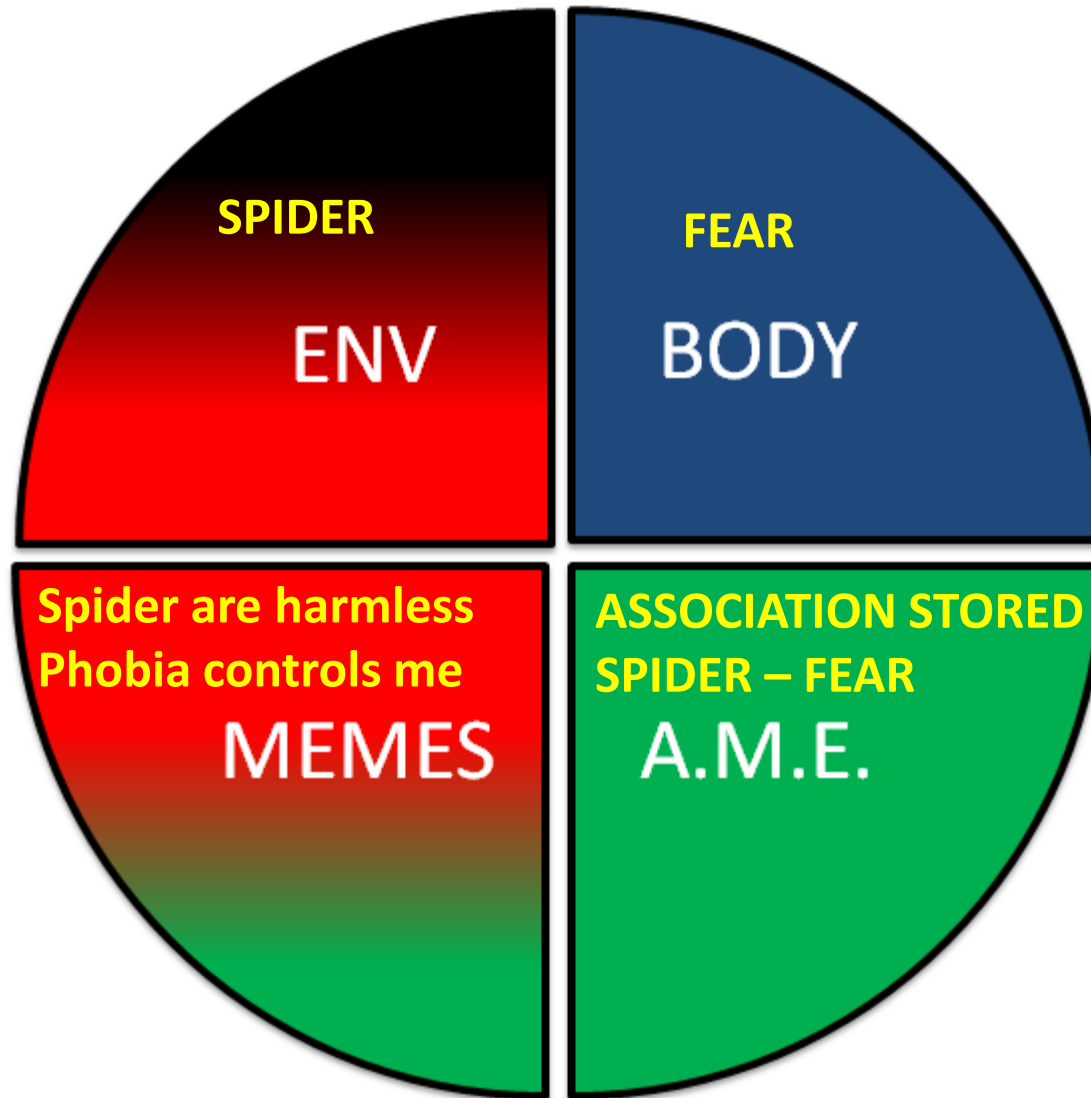
**Understanding phobia within humans**

**IMPLEMENTATION**

# Developing a spider phobia



# Living with a spider phobia



# Treating a spider phobia

Repeated exposure  
to spiders (flooding)

ENV

anti-anxiety drugs  
(if necessary)

BODY

Spider are harmless  
Phobia controls me

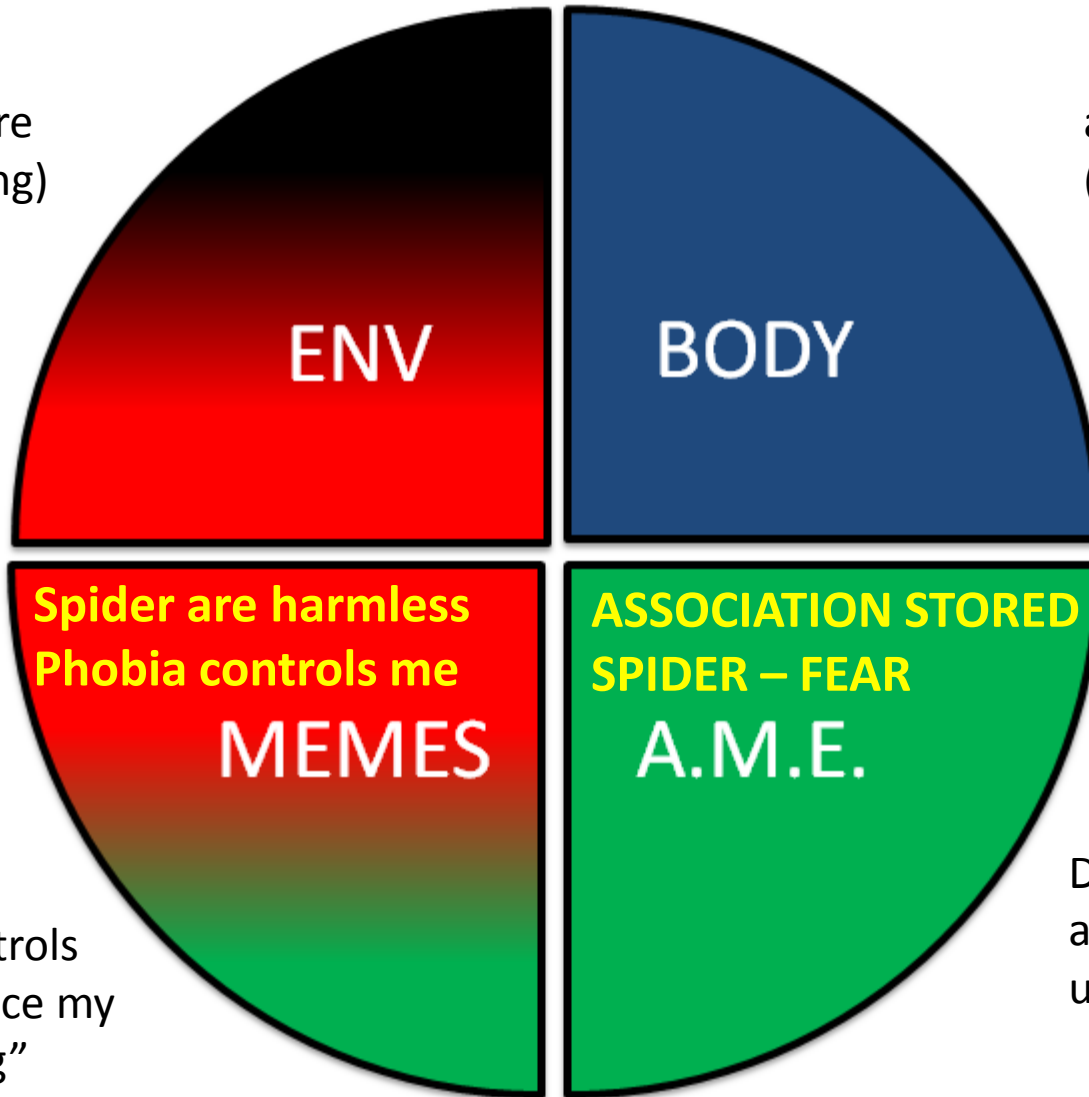
MEMES

ASSOCIATION STORED  
SPIDER – FEAR

A.M.E.

Change meme:  
From “phobia controls  
me” to “I can reduce my  
phobia by flooding”

Delete/reduce  
association e.g.  
using flooding



**Disorder Model: Depression**

**IMPLEMENTATION**

# Depression: States seen in patients

Signs of death of partner  
Abusive relationship  
Seasonal light exposure  
Low social support  
...

ENV

Genes predisposing  
Monoamine deficiency  
Overactive HPA  
Impaired circadian rhythm  
...

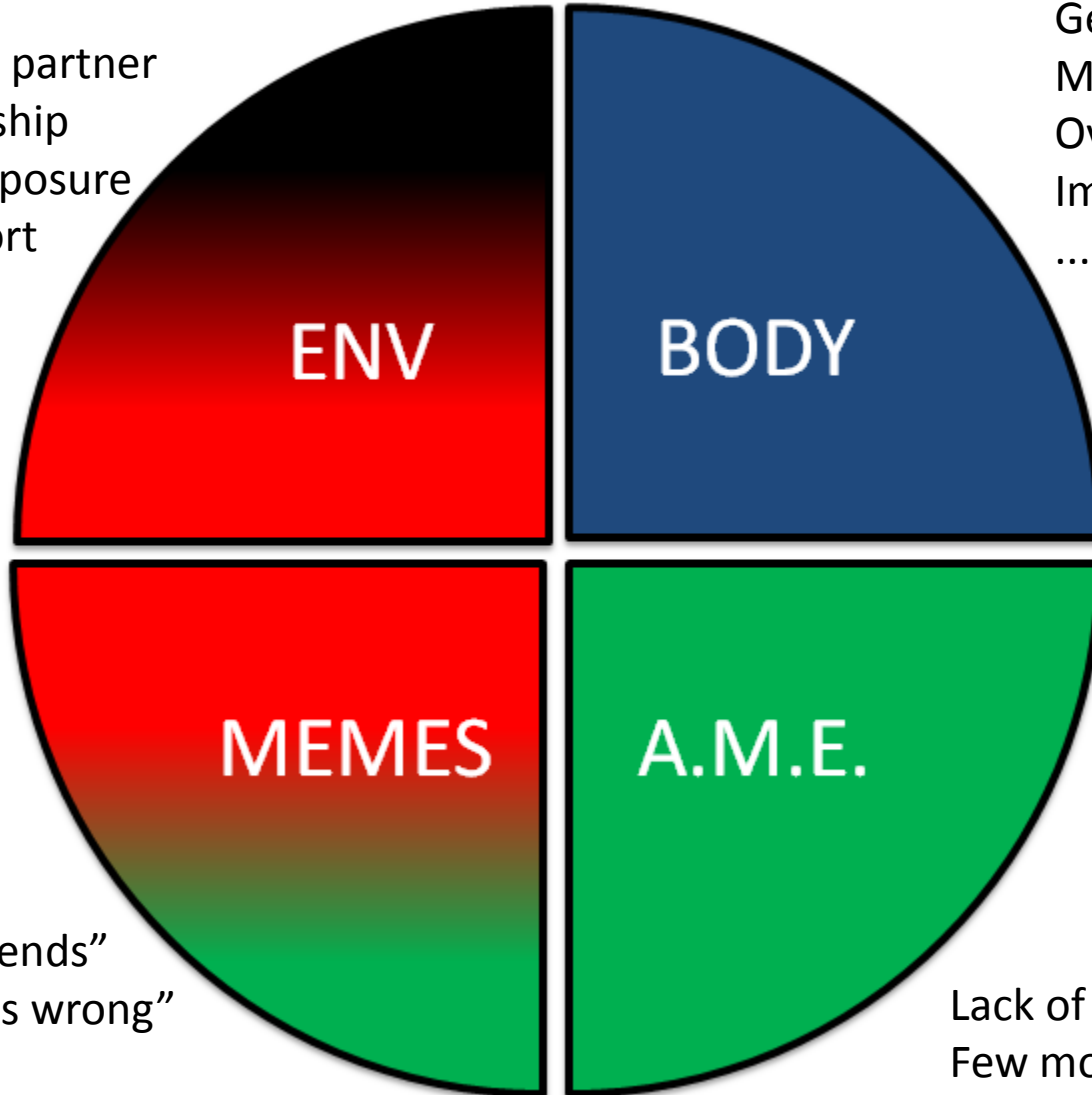
BODY

MEMES

"I am a loser"  
"I don't have friends"  
"Everything goes wrong"  
...

A.M.E.

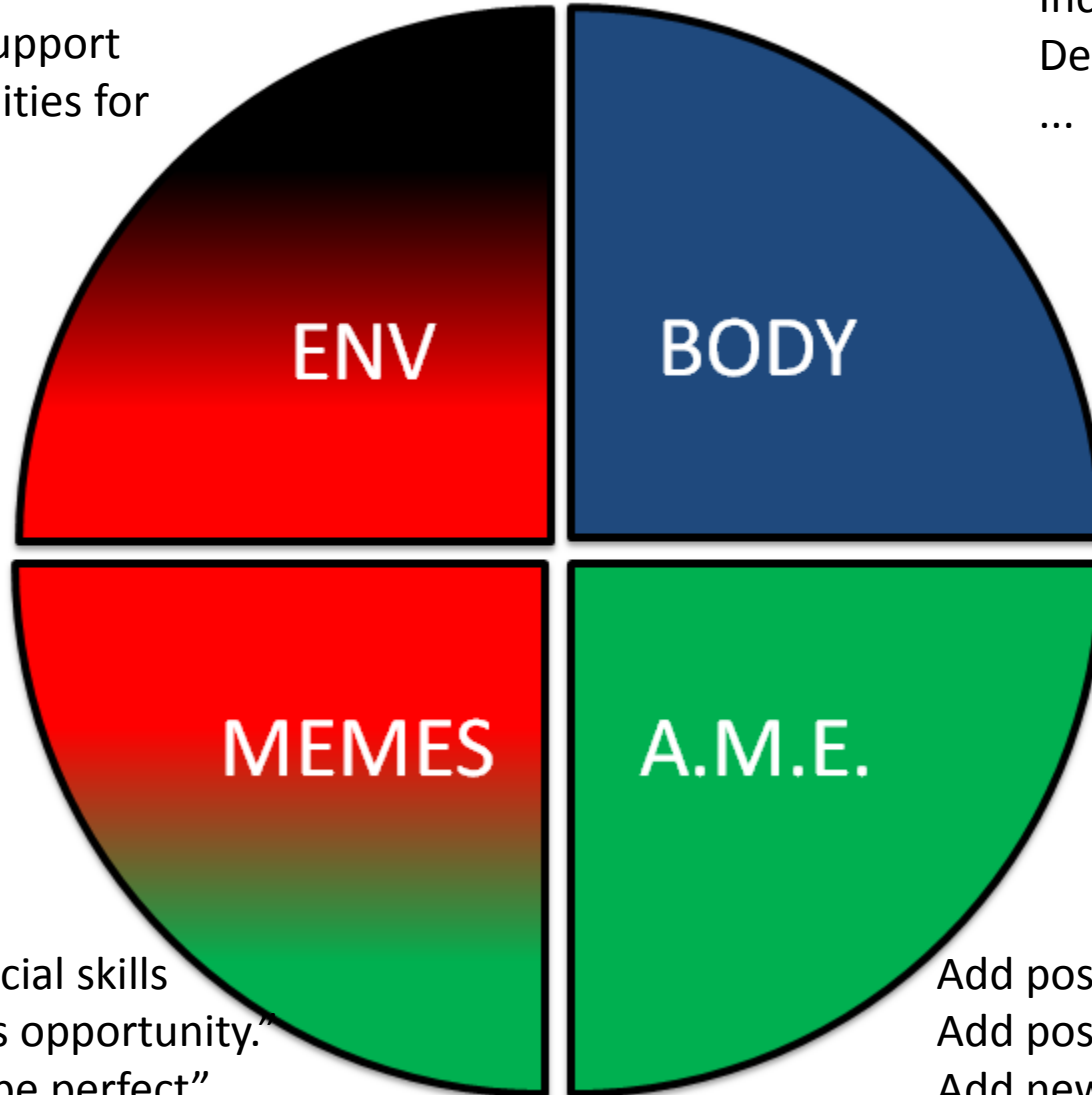
Lack of positive associations  
Few motor code for activities  
Episode: trauma, loss



# Depression: Possible Treatment Targets

Activate social support  
Create opportunities for  
active social life  
...

Increase serotonin  
Decrease cortisol  
...



ENV

BODY

MEMES

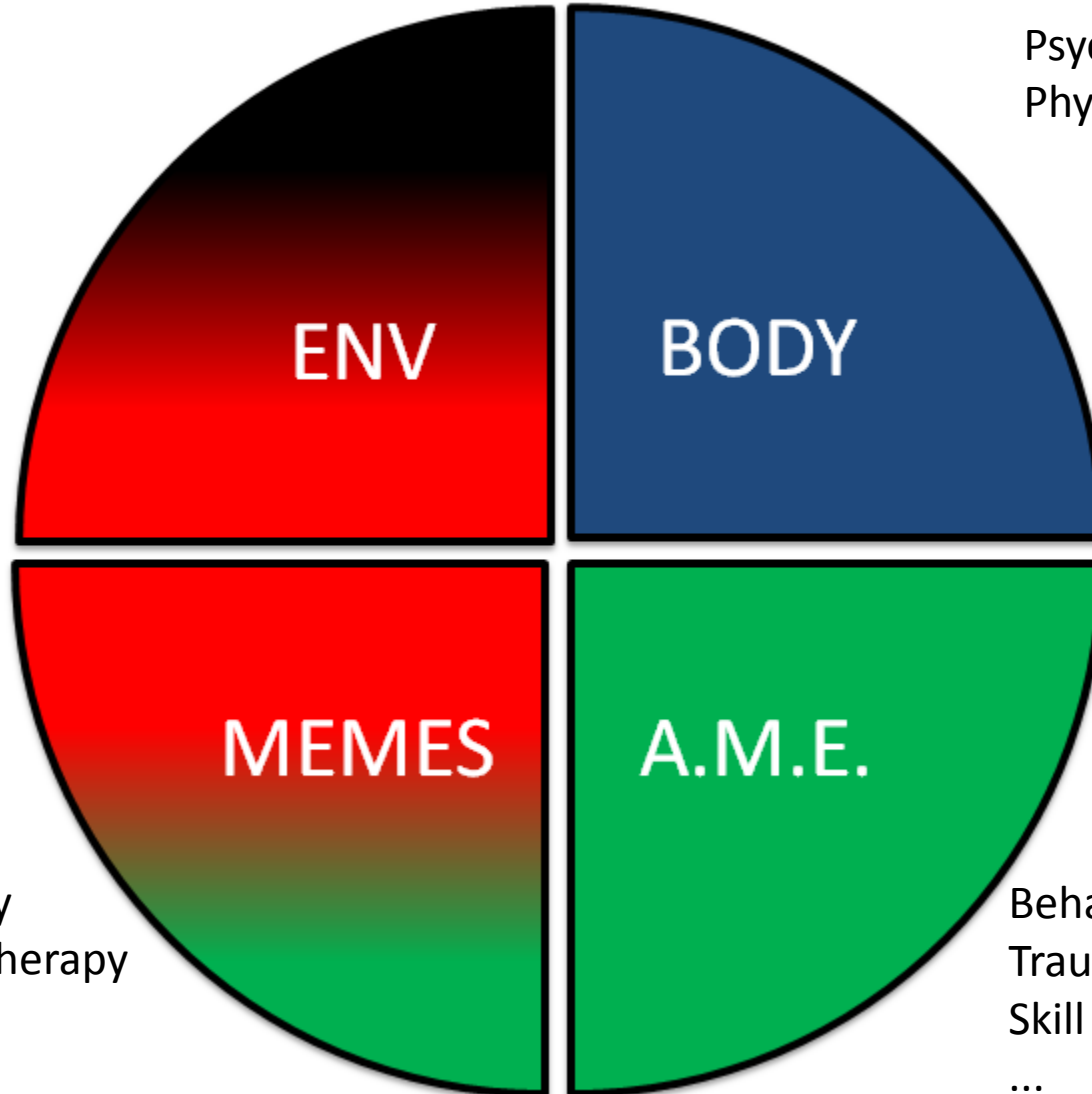
A.M.E.

Add memes for social skills  
Add "Failure offers opportunity."  
Replace "Have to be perfect"  
with "I don't have to be perfect."

Add positive associations  
Add positive episodes.  
Add new motor codes.

# Depression: Treatment options

Group therapy  
Family therapy  
Light therapy  
Self-help group  
...



Psychopharmacological  
Physical Activity (Sports)

Cognitive Therapy  
Psychodynamic Therapy  
Self-help group  
...

Behavioural Therapy  
Trauma Therapy  
Skill Training  
...



**IMPACT ON CULTURAL  
PSYCHOLOGY AND SOCIOLOGY**

# Mememes and cultural transmission

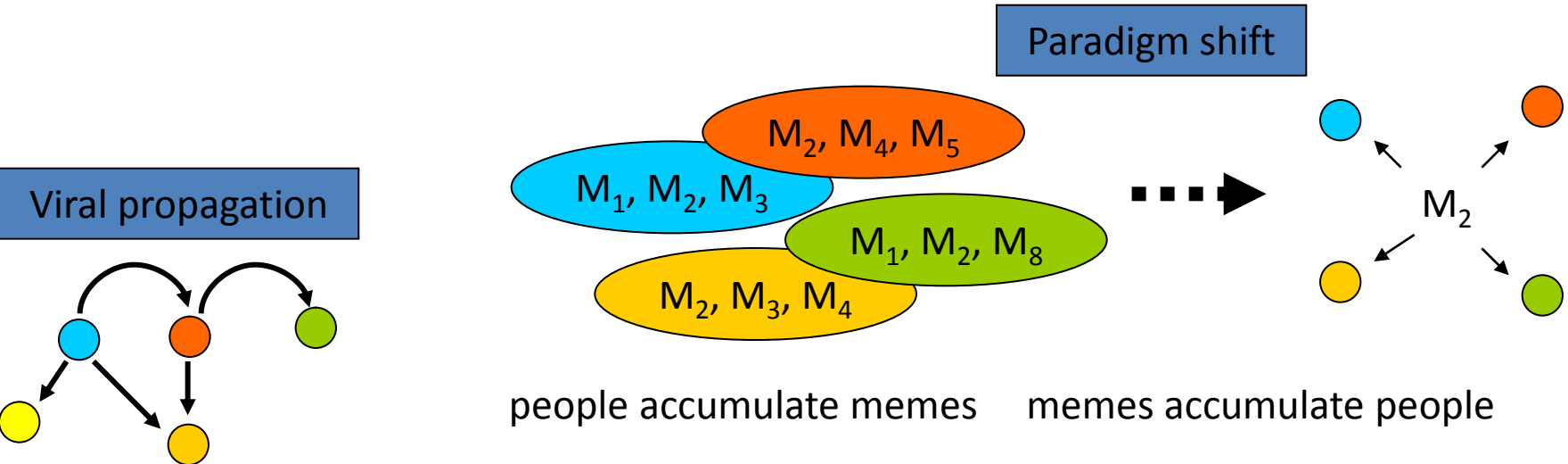
**An idea considered important enough to be stored in the long-term semantic declarative memory system.**

- Therefore it can lastingly influence behavior and experience through retrieval during thought processes.
- The meme expressed explicitly in language or implicitly in behavior or an artifact can be observed by other humans.
- Such an observation inspires others to imitate resulting in the formation of a similar idea catching the essence of the language received, the behavior or the artifact, or to ideate resulting in the creation of a new idea.
- Such a process can repeat itself resulting in a meme spreading to many different brains while keeping its functional identity. Looking at the evolution of memes across populations is more efficient in a framework with the meme behaving as if it were an active agent.
- This active agent view is reflected in Dennett's definition.

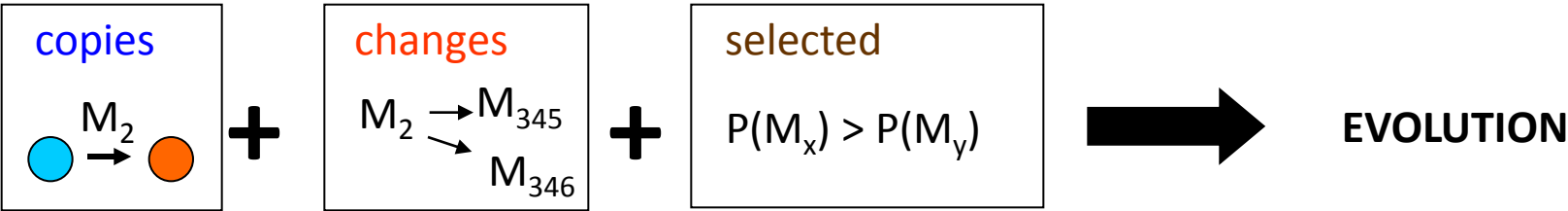
## **Cognitive definition by Dennett**

A meme is a complex idea, that forms themselves into memorable units, replicating all by themselves, keeping intact a certain identity of effect (phenotypic effect) .

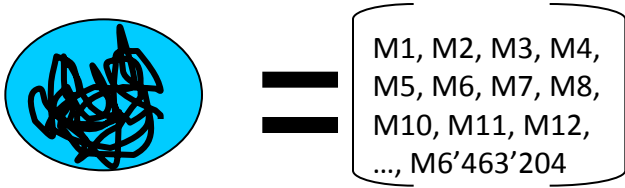
# A replicator shaping cultural evolution?



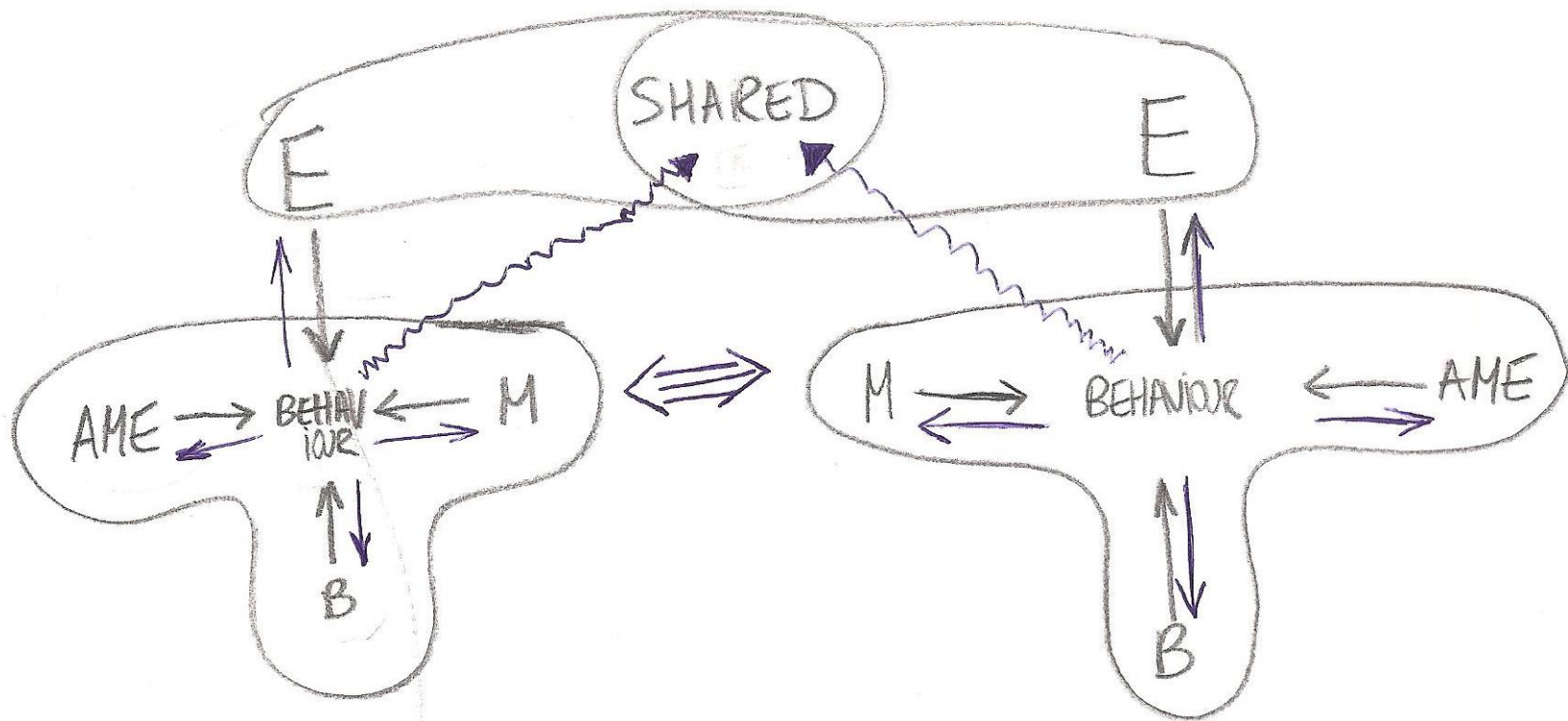
**A new replicator causing cultural evolution**



**Approximation of cultural content as discrete units**

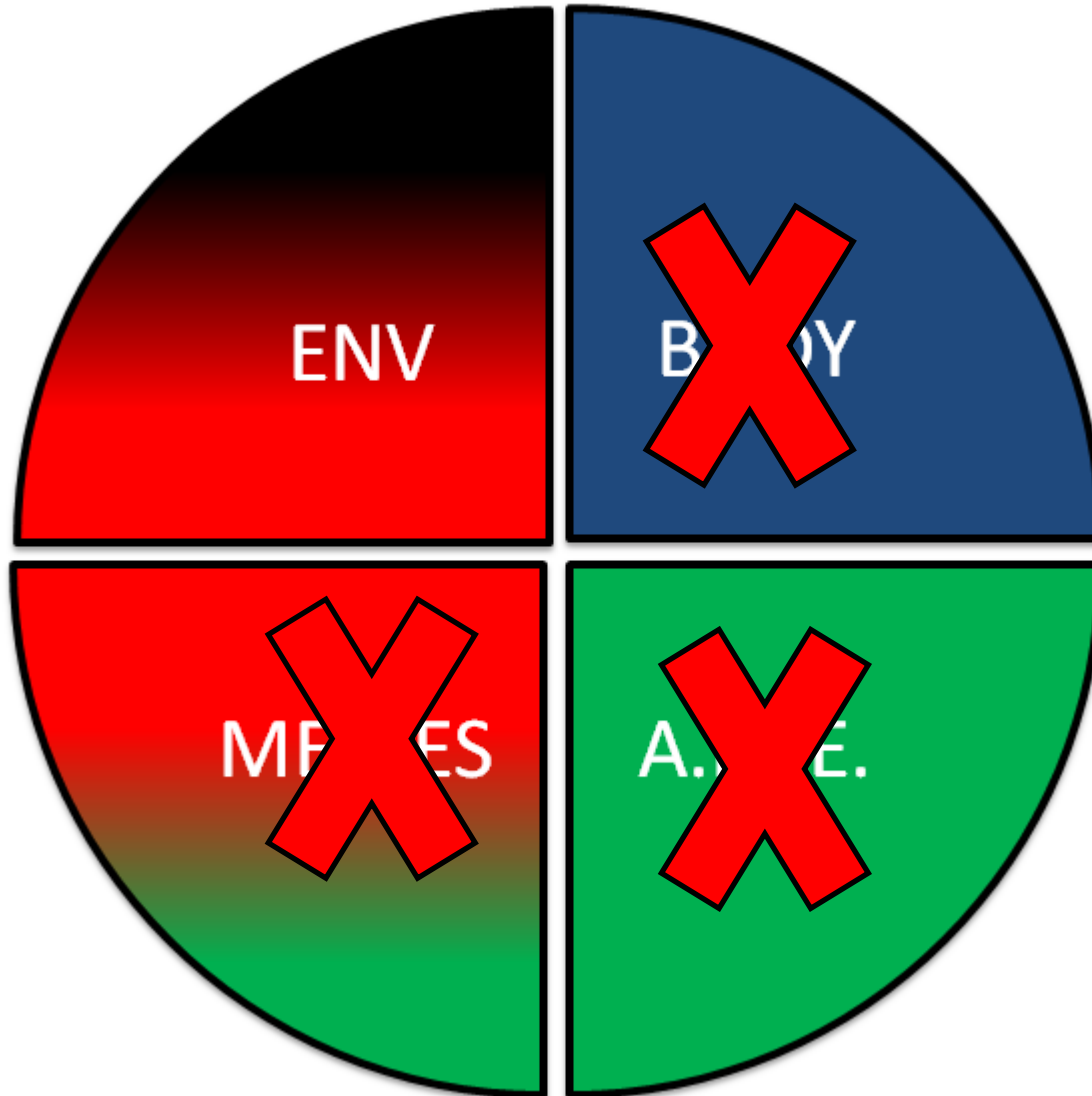


# Building up a model of two humans

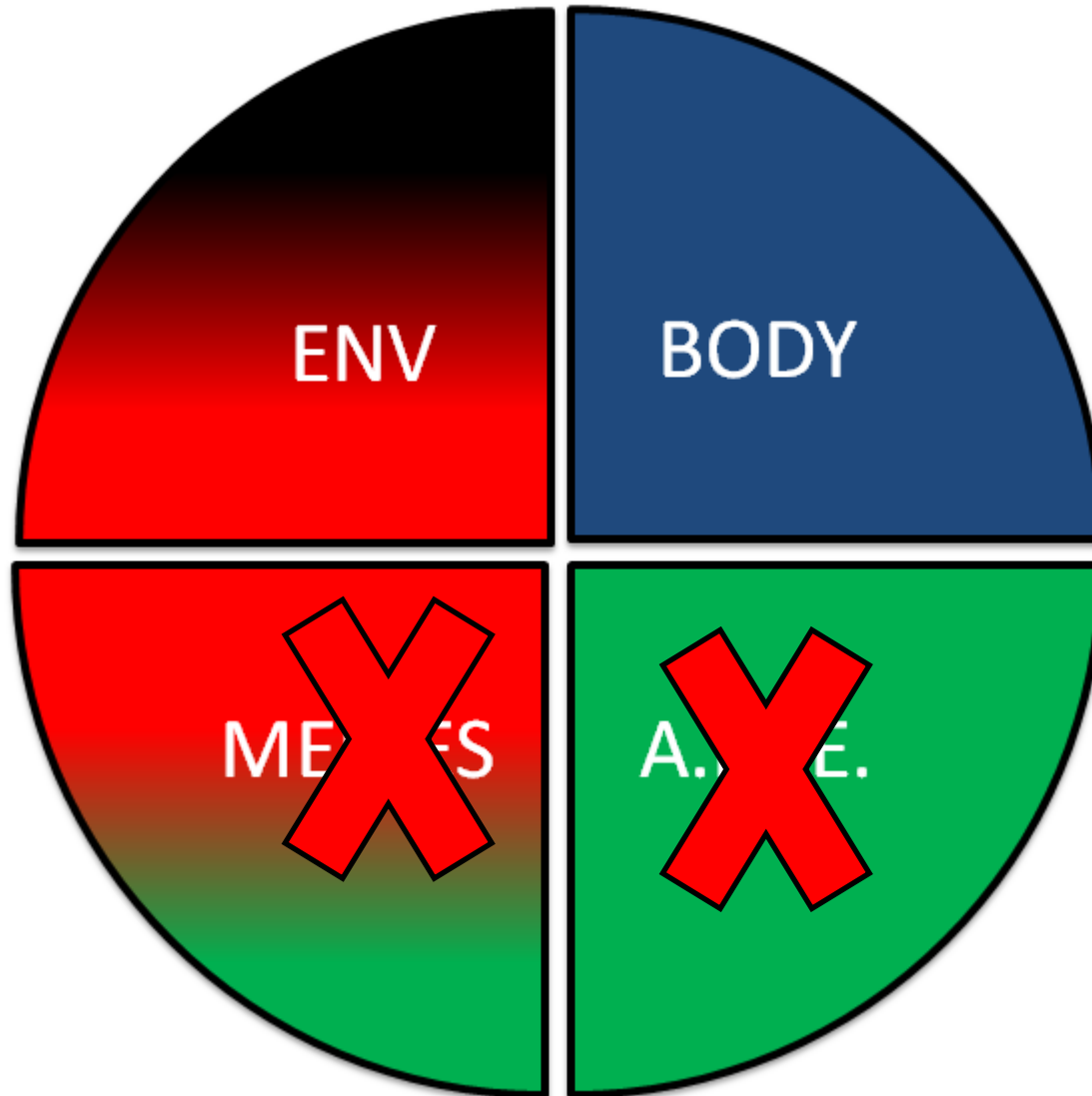


# **IMPACT ON EVOLUTION**

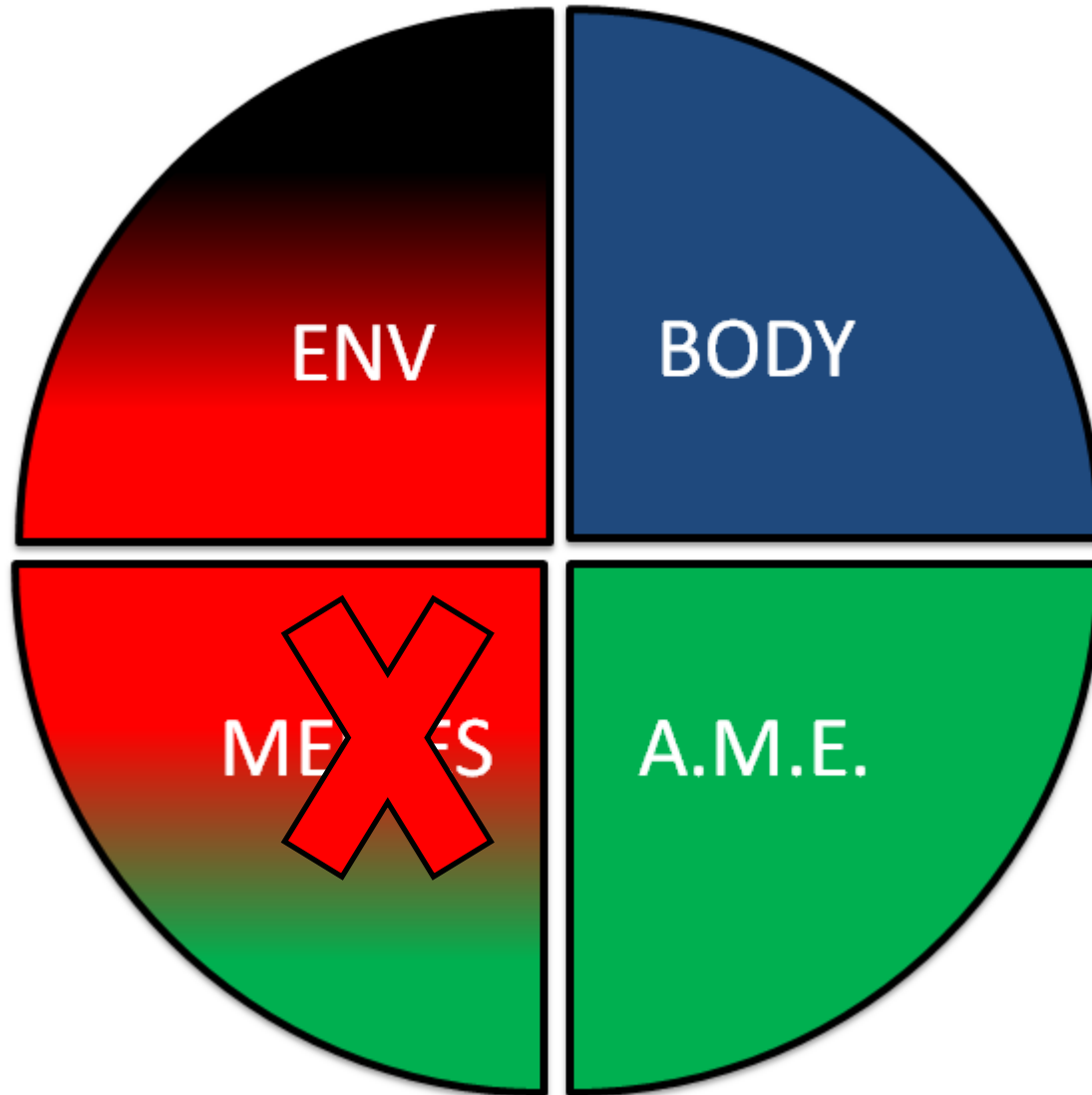
# A stone



# A bacteria

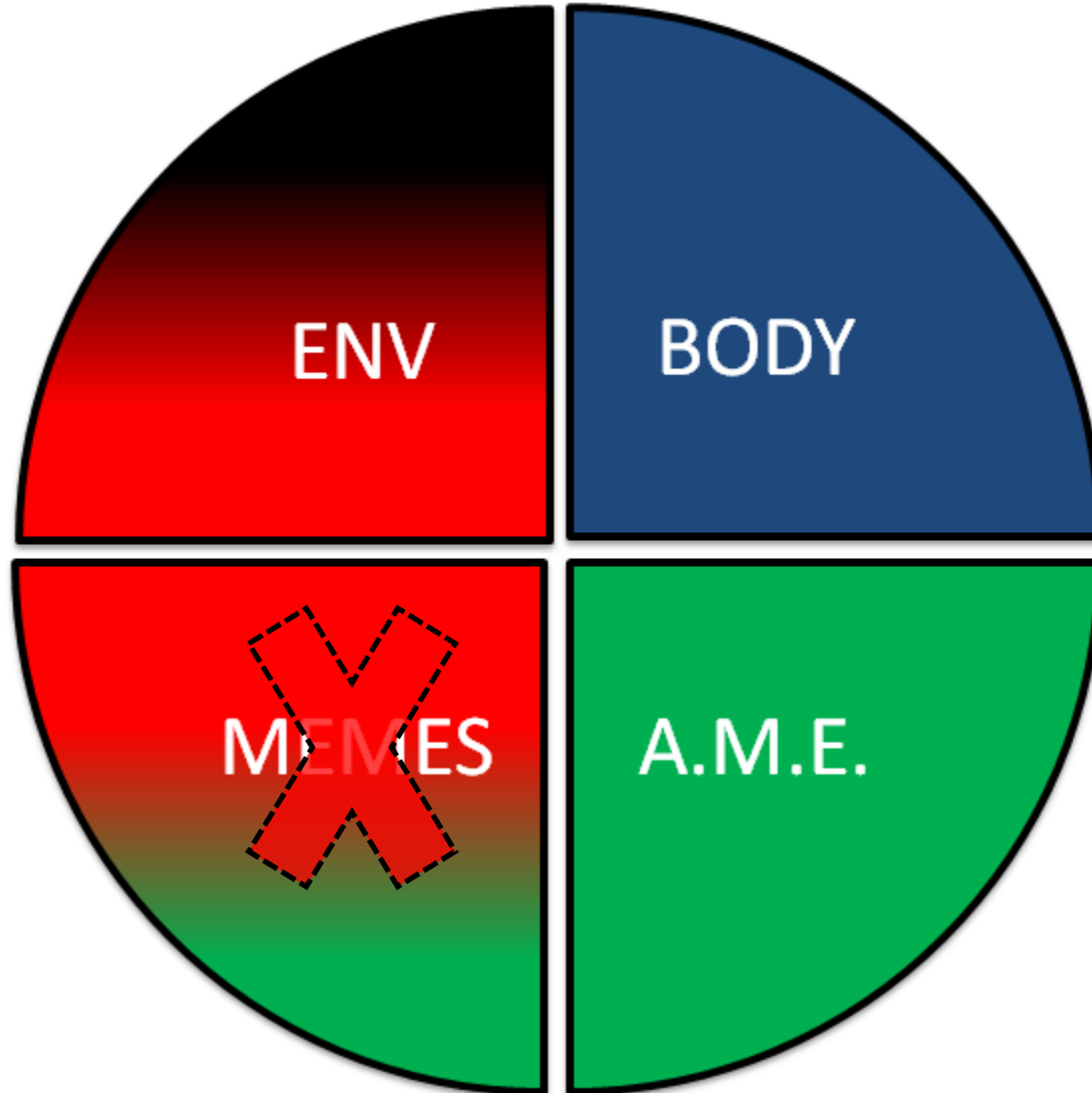


# A fly

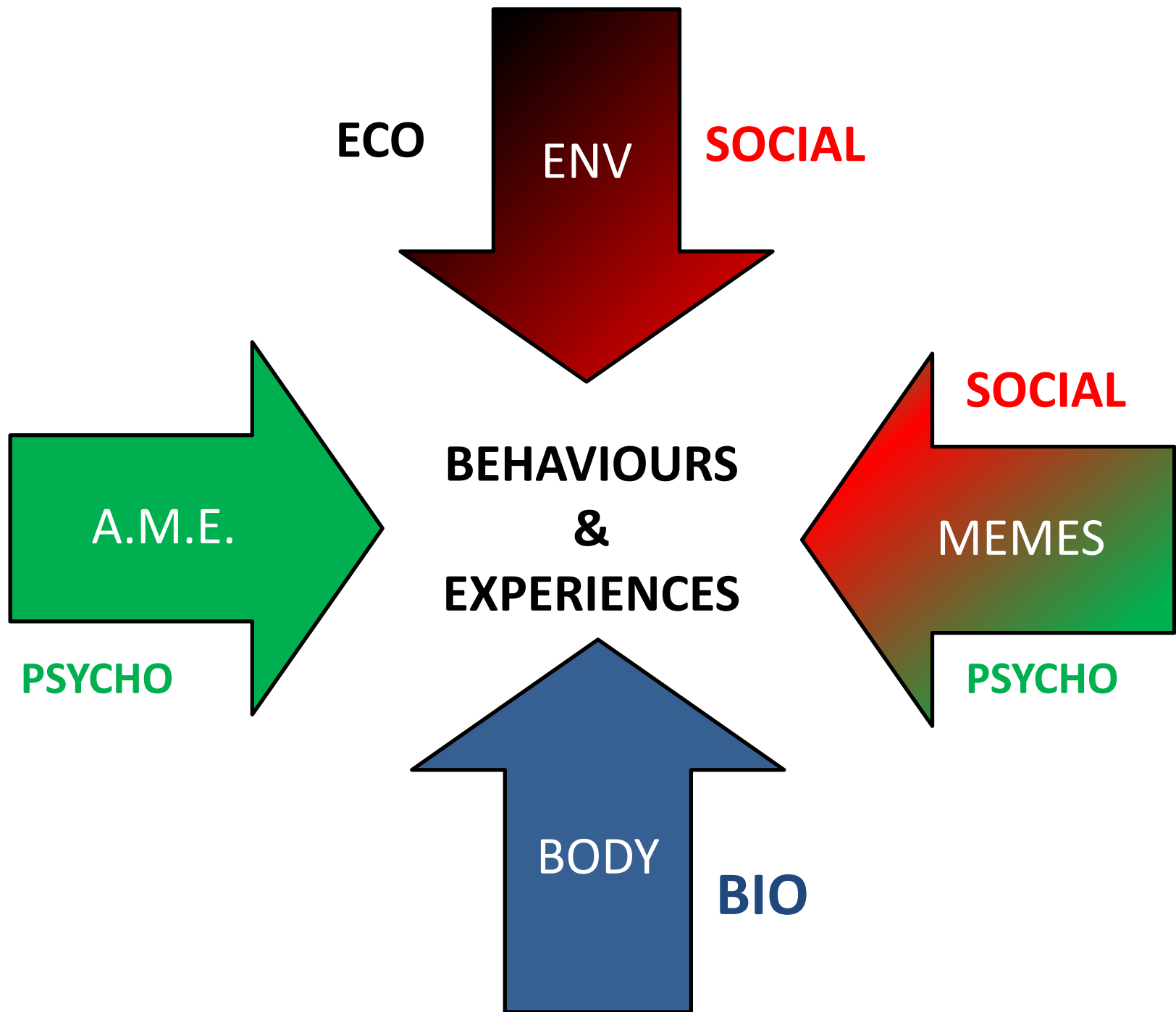




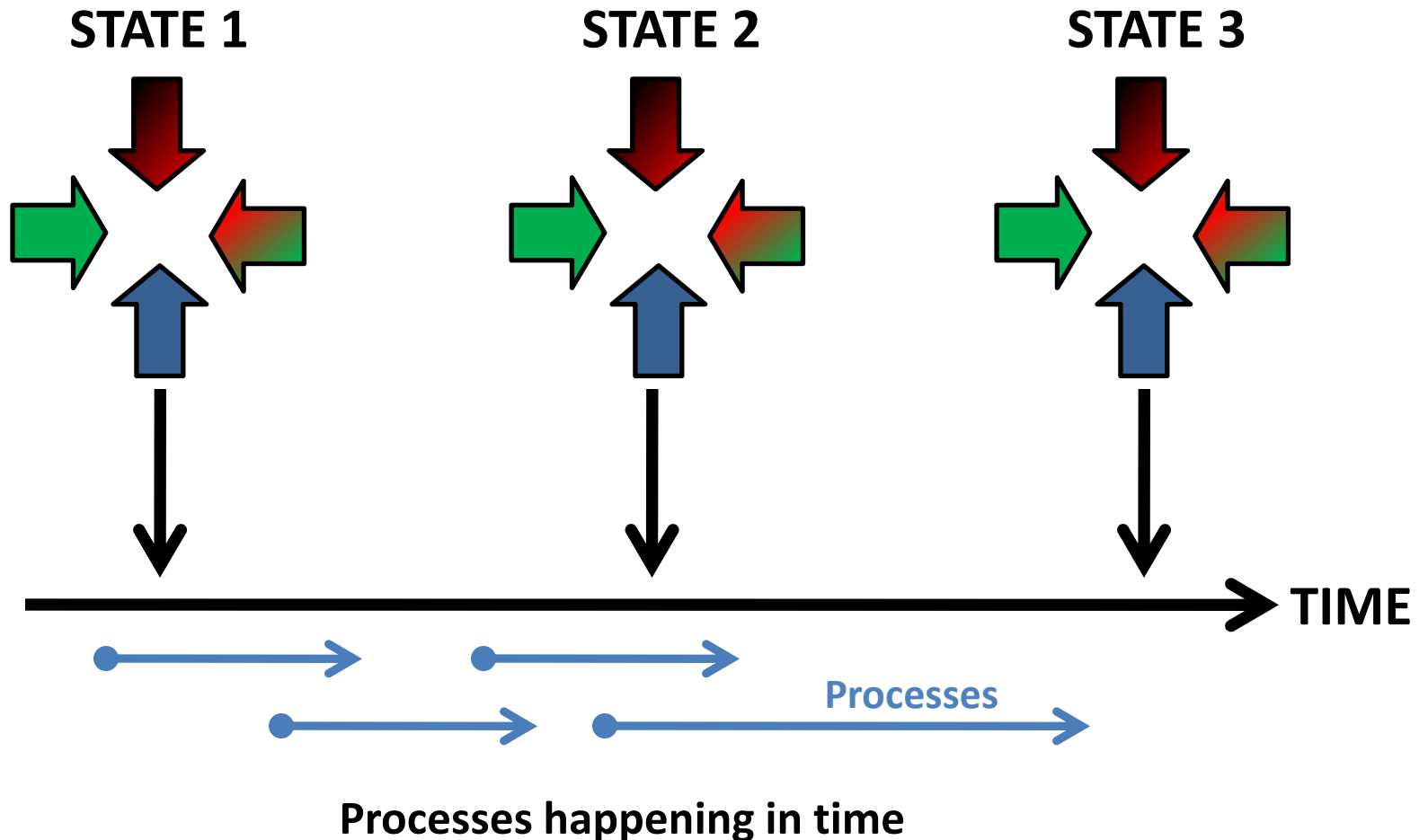
# An ape



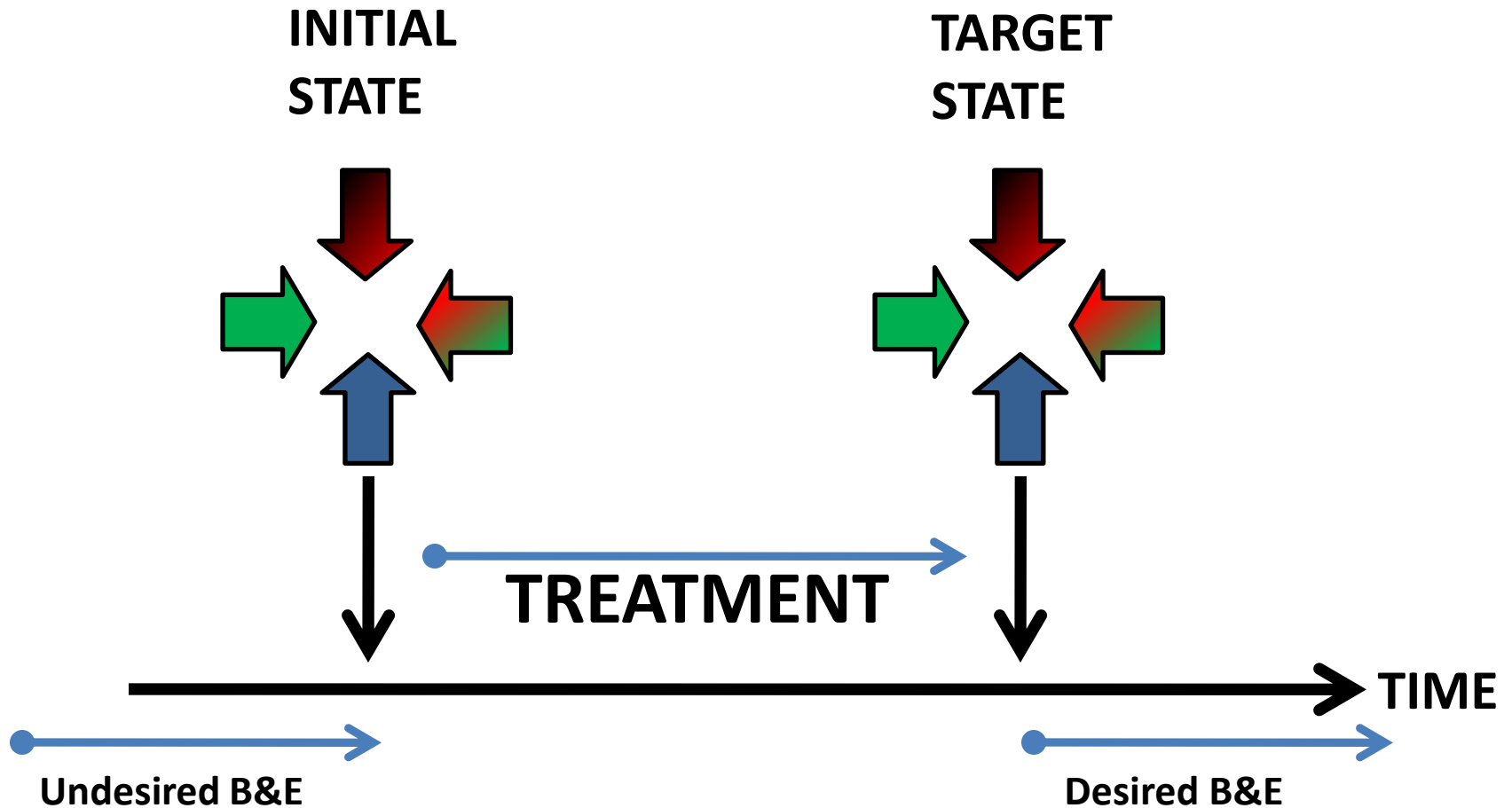
**Operationalizing psychotherapies with 4-system IGUS  
IMPLEMENTATION**



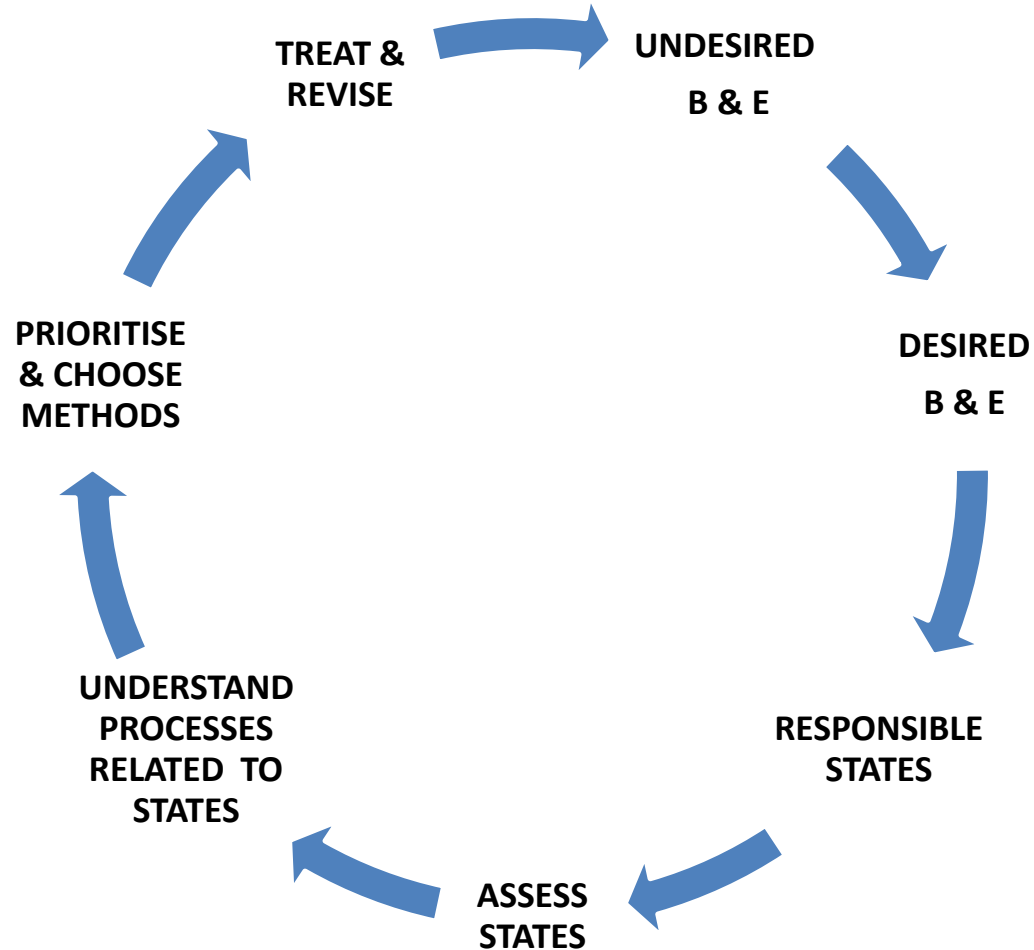
# Processes are changes of states



# Treat=Change state to change B&E



# Treatment cycle



# A: Identify undesired B&Es

Behaviour: Panik with spider  
Behaviour: Smile  
Behaviour: Play football  
Behaviour: Cry when sad  
Behaviour: Insult others often  
Behaviour: Chase girls  
.....  
Experience: Sad when loosing  
Experience: Feel good at home  
Experience: Love partner  
Experience: Hate Britney Spears  
Experience: Disgust at horse meat  
Experience: Stomache Aches  
.....



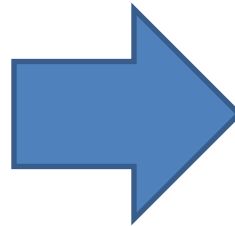
Behaviour: Panik with spider  
Behaviour: Insult others often  
.....  
Experience: Stomache Aches  
.....

Undesired by patient using introspection, reflection on therapist's feedback and environment's reactions and expectations.

# B: Choose desired target B & E

Behaviour A: Panik with spider  
Behaviour B: Insult others  
Behaviour C: ....  
Behaviour D: ....  
Behaviour E: ....  
Behaviour F: ....

Experience G: ....  
Experience H: ....  
Experience I: ....  
Experience J: ....  
Experience K: ....  
Experience L: Stomache Aches



Behaviour A1: Calm with spider  
Behaviour B1: Do not insult others  
Behaviour C1  
Behaviour D1  
Behaviour E1  
Behaviour F1

Experience G1  
Experience H1  
Experience I1  
Experience J1  
Experience K1  
Experience L1: No stomach aches



# C: Find states shaping undesired B&E

Meme 1  
Meme 2  
Meme 3  
**Meme 4**  
**Meme 5**  
Meme 6  
Meme 7  
Meme 8  
Meme 9  
Meme 10  
Meme 11  
Meme 12  
Meme 13  
Meme 14  
Meme 15  
.....  
Meme 24'453

AME 1  
**AME 2**  
**AME 3**  
AME 4  
AME 5  
AME 6  
AME 7  
AME 8  
AME 9  
AME 10  
**AME 11**  
**AME 12**  
**AME 13**  
AME 14  
.....  
AME 19'421

Body 1  
Body 2  
Body 3  
Body 4  
**Body 5**  
**Body 6**  
**Body 7**  
**Body 8**  
**Body 9**  
Body 10  
Body 11  
Body 12  
Body 13  
Body 14  
.....  
Body 22'767'453

Env 1  
Env 2  
Env 3  
Env 4  
Env 5  
Env 6  
Env 7  
Env 8  
Env 9  
Env 10  
Env 11  
Env 12  
**Env 13**  
**Env 14**  
Env 15  
.....  
Env 2'438

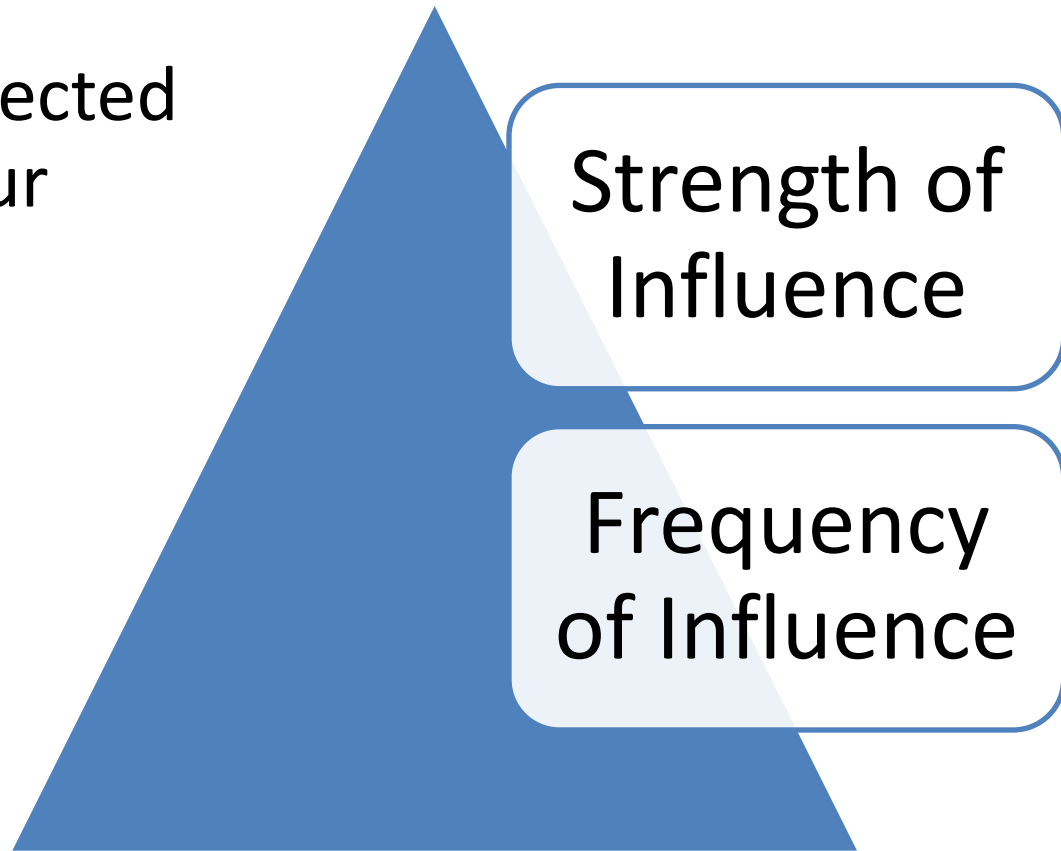
# D: Find states shaping desired B&E

Meme 1	AME 1	Body 1	Env 1
Meme 2	<b>AME 2 - Weak</b>	Body 2	Env 2
Meme 3	<b>AME 3</b>	Body 3	Env 3
<b>Meme 4-Mod</b>	AME 4	Body 4	Env 4
<b>Meme 5</b>	AME 5	<b>Body 5</b>	Env 5
<b>Meme 5-Alt</b>	AME 6	<b>Body 6</b>	Env 6
Meme 7	AME 7	<b>Body 7</b>	Env 7
Meme 8	<b>AME 8 - Strong</b>	<b>Body 8</b>	Env 8
Meme 9	AME 9	<b>Body 9</b>	Env 9
Meme 10	AME 10	Body 10	Env 10
Meme 11	<b>AME 11 - Weak</b>	Body 11	Env 11
Meme 12	<b>AME 12 - Weak</b>	Body 12	Env 12
Meme 13	<b>AME 13</b>	Body 13	<b>Env 13</b>
Meme 14	<b>AME New 1</b>	Body 14	<b>Env 14 - Alt</b>
<b>Meme New1</b>	AME New 1	.....	<b>Env New 1</b>
.....	.....	Body 22'767'453	.....
Meme 24'453	AME 19'421		Env 2'438

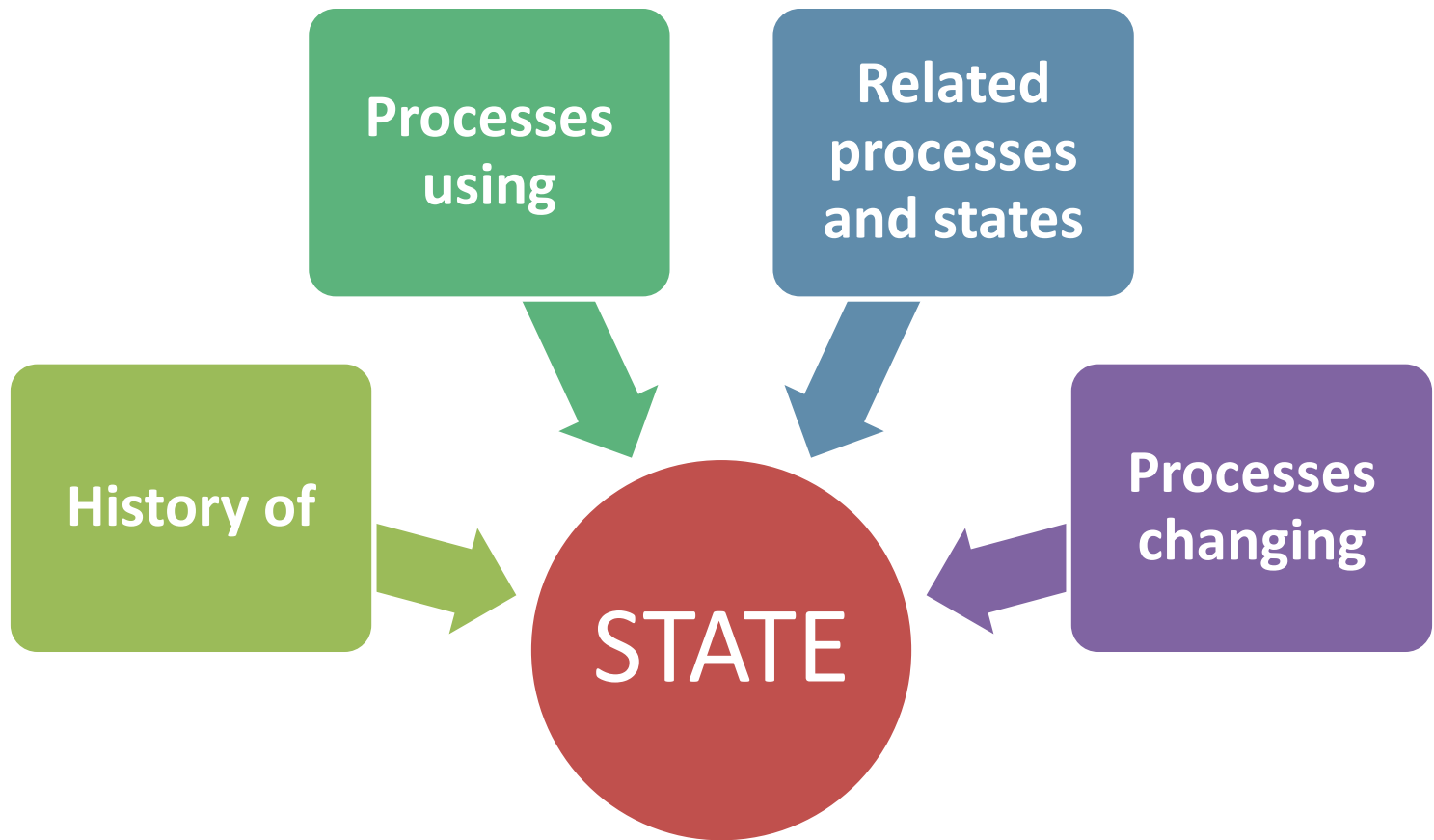
# D: Identify most influential states on B&E

Go through all selected elements in four systems:

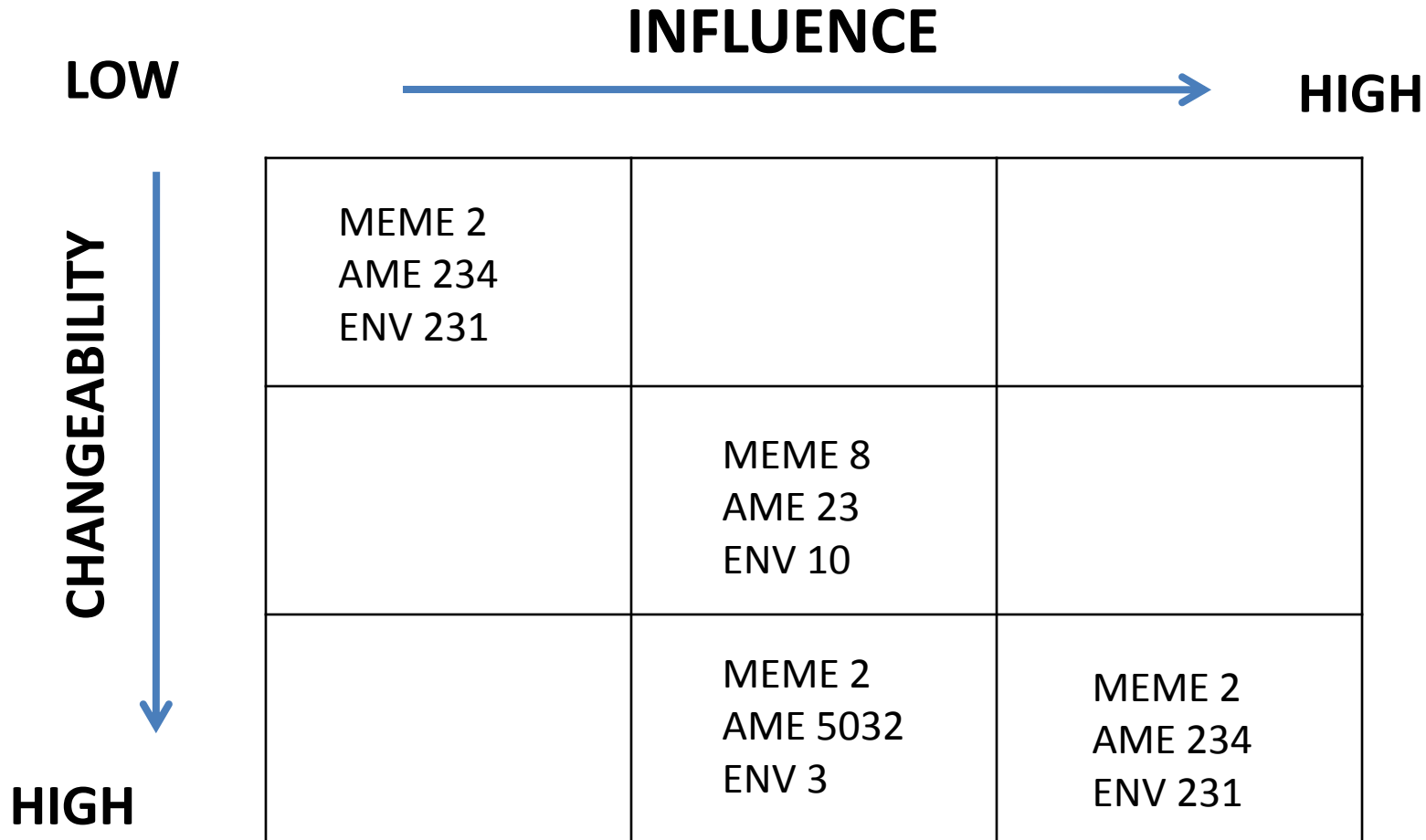
Mememes,  
AMEs,  
Body,  
Environment.



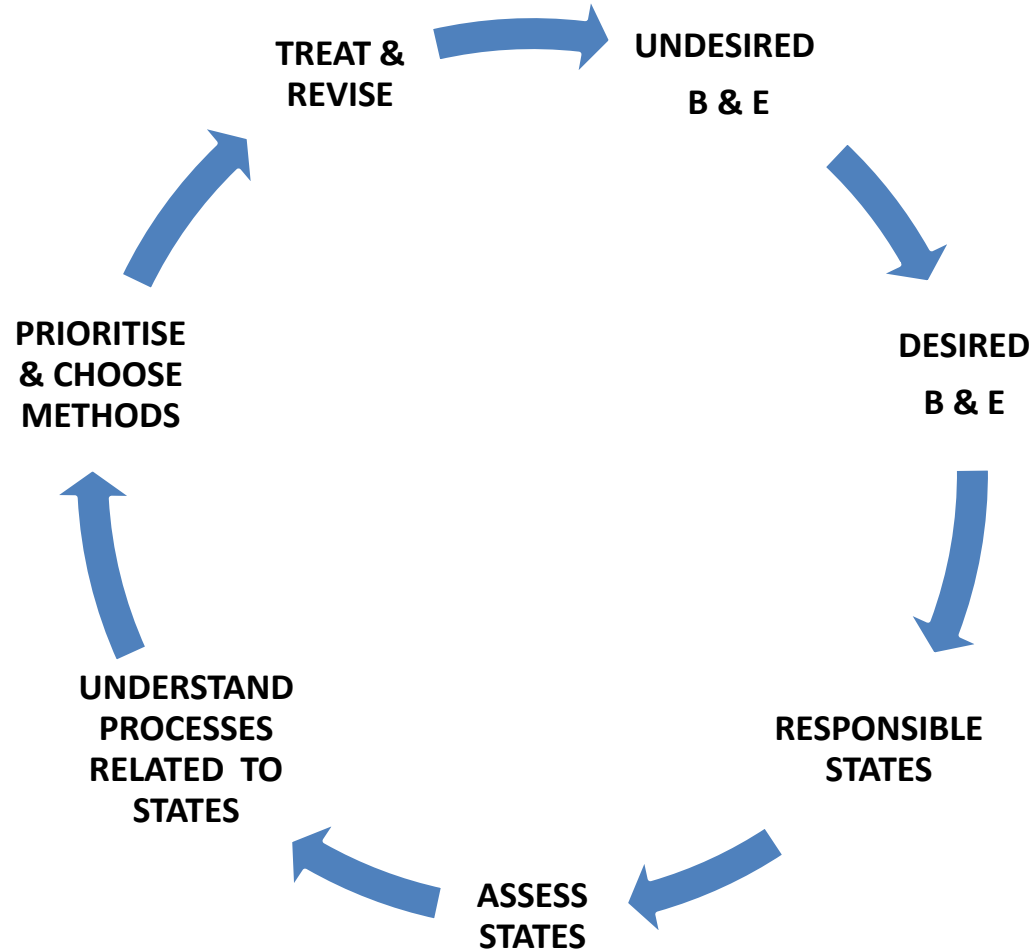
# C: Look at processes linked to states



# D: Prioritise and choose technique



# E: Treat, revise, treat, and so on



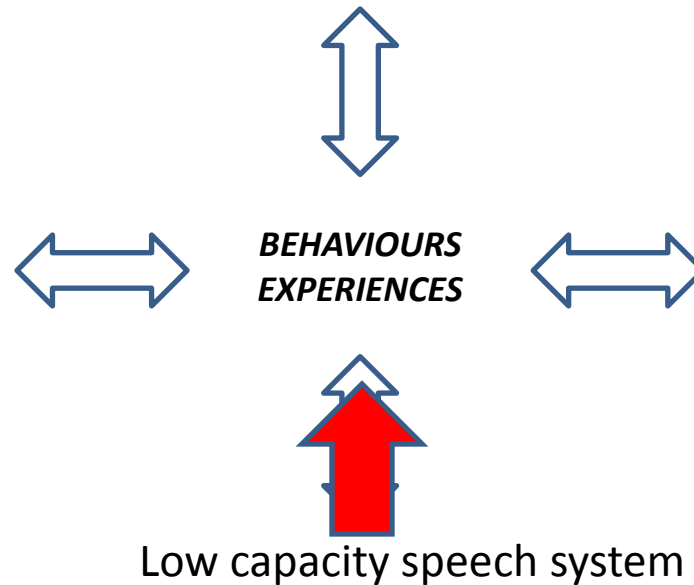
# Let's look at a case study

Reduce the 10'000s of elements in each system to those relevant to stuttering

**The development and treatment of stuttering**  
**IMPLEMENTATION**

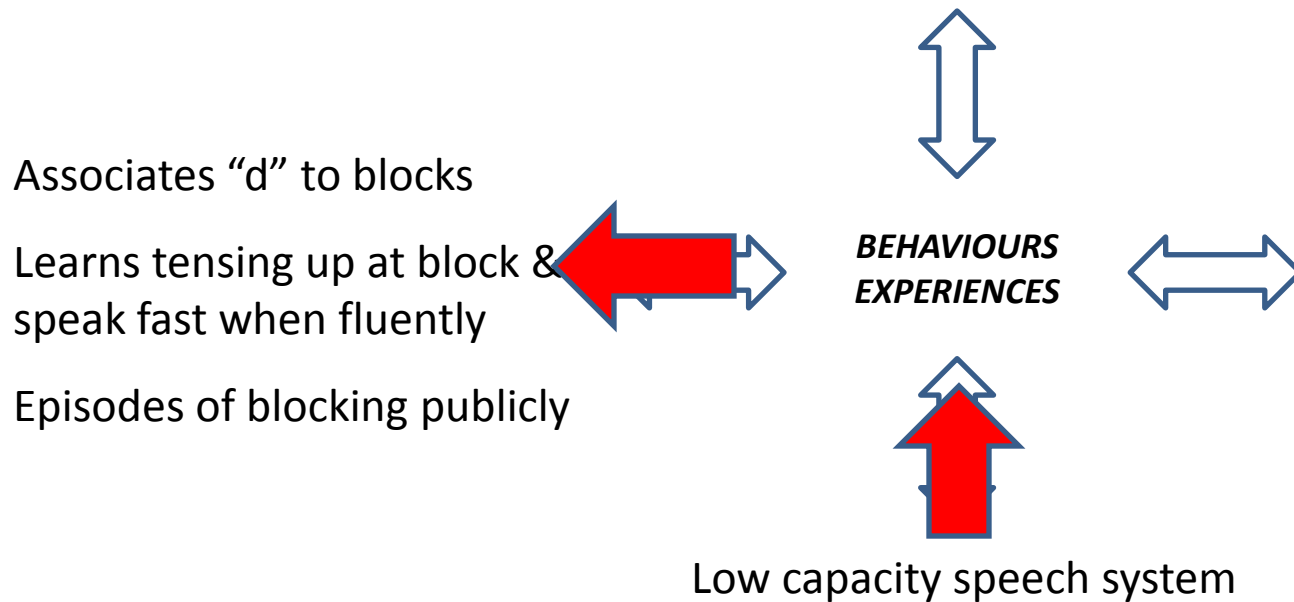


# BODY: the low capacity leads to stuttering



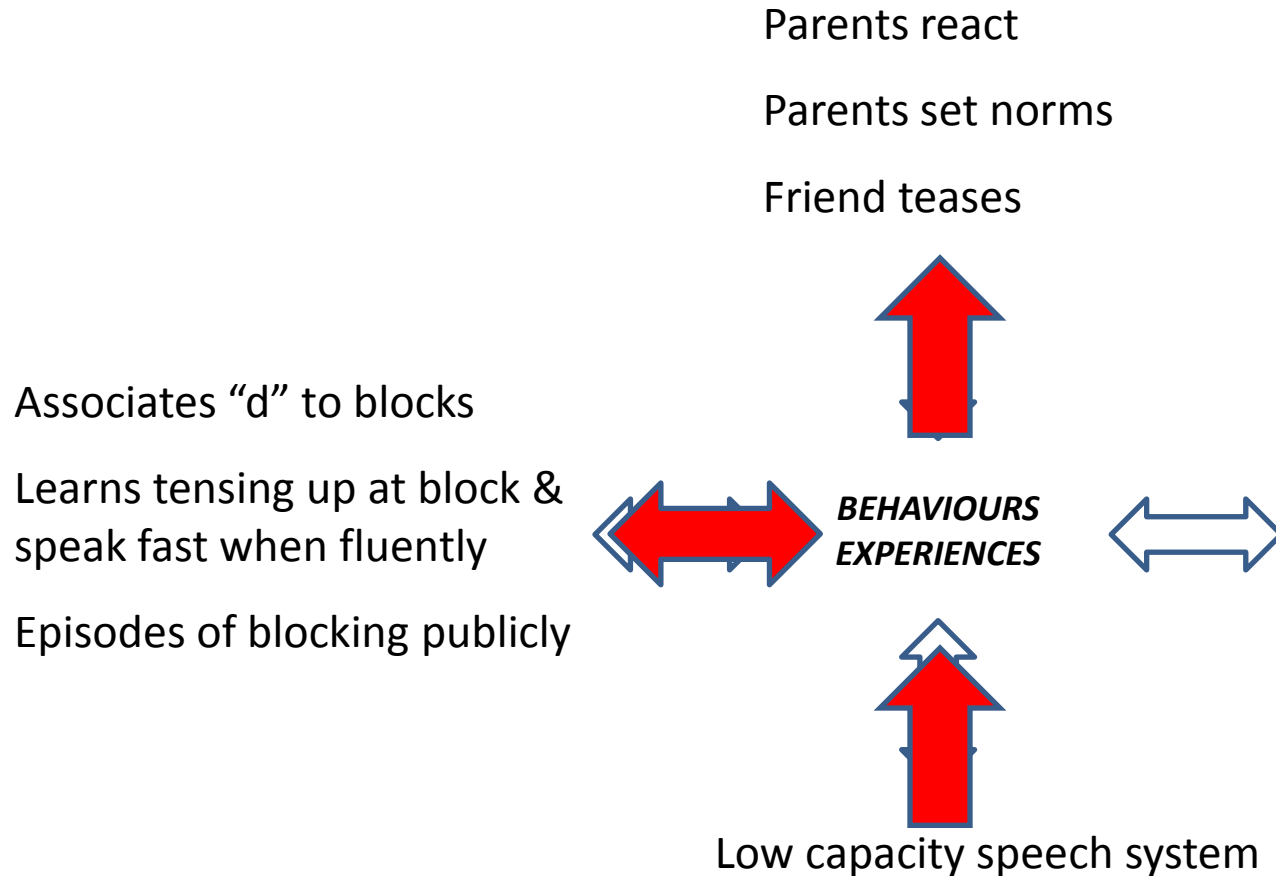
**The low capacity system in the bio system jams at high demand and creates stuttering behaviour and experiences of stuttering.**

# AME are created as kid adapts



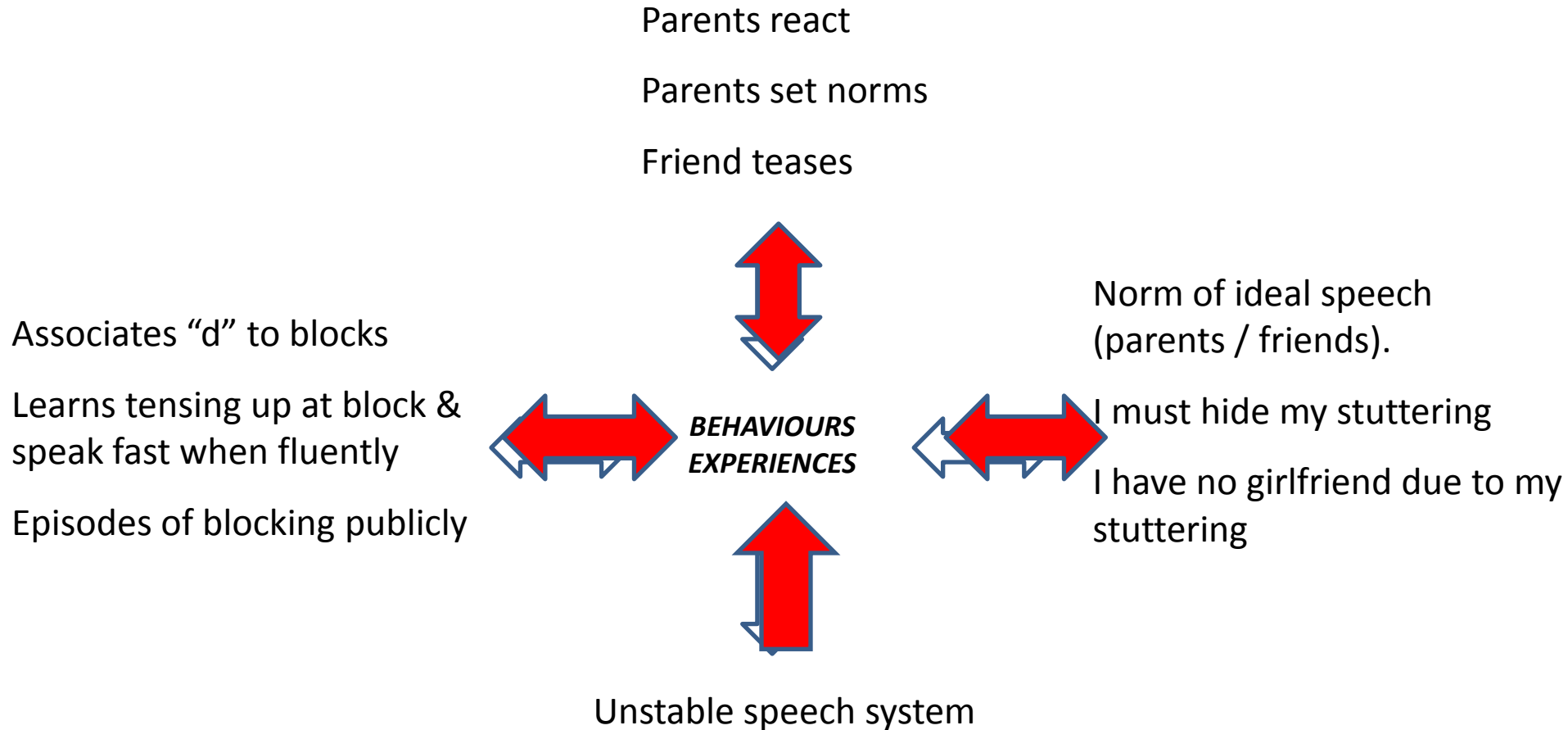
**Stuttering behaviours and experiences from jamming in biological system creates associations, motor codes, and episodes. While low capacity system keeps on jamming!**

# ENVIRONMENT changes



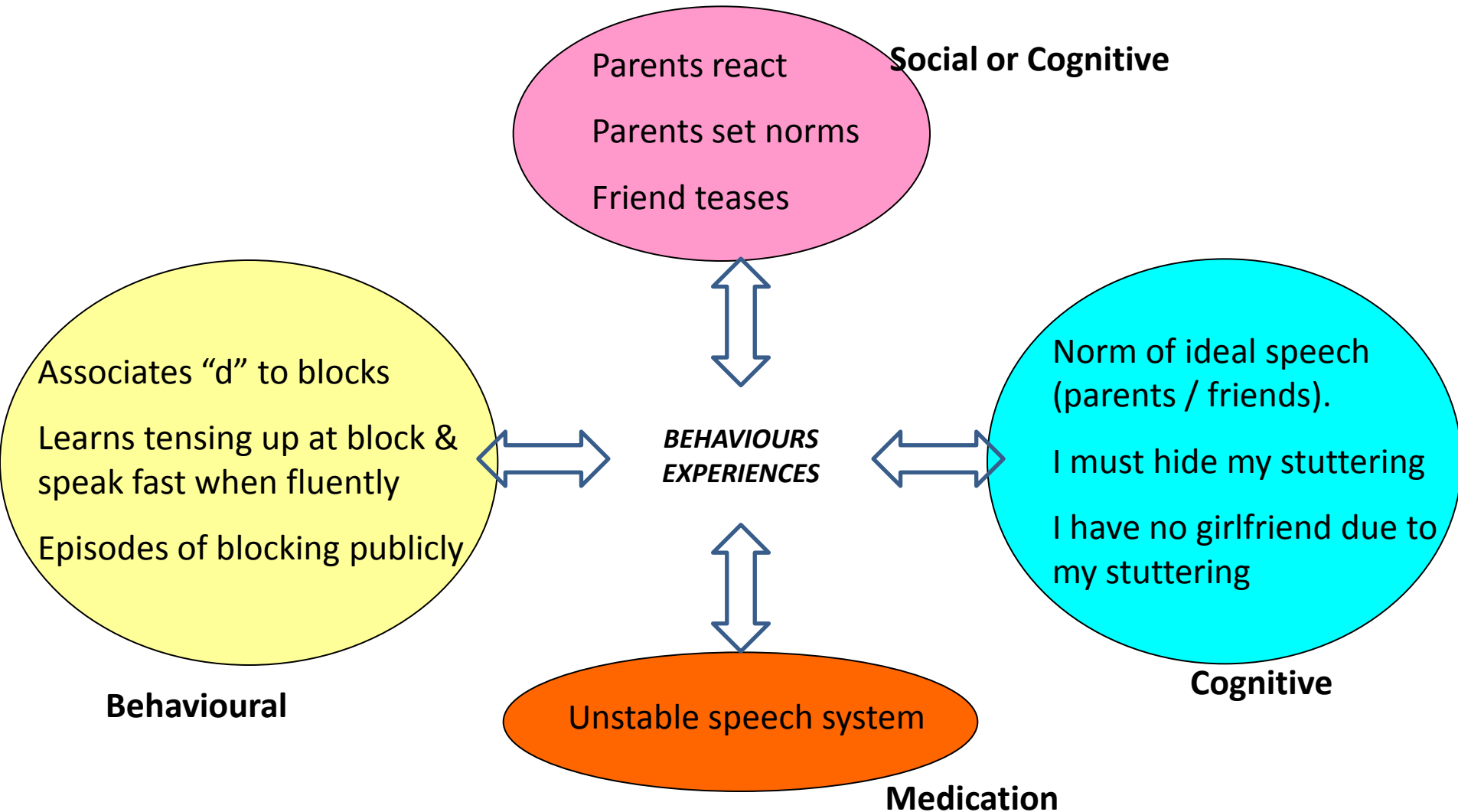
**The associations, motor code, and episode are fuelling the stuttering behaviours and experiences with primary and secondary stuttering on top of the jamming. All of this has an impact on the environment.**

# Beliefs are created as kid adapts

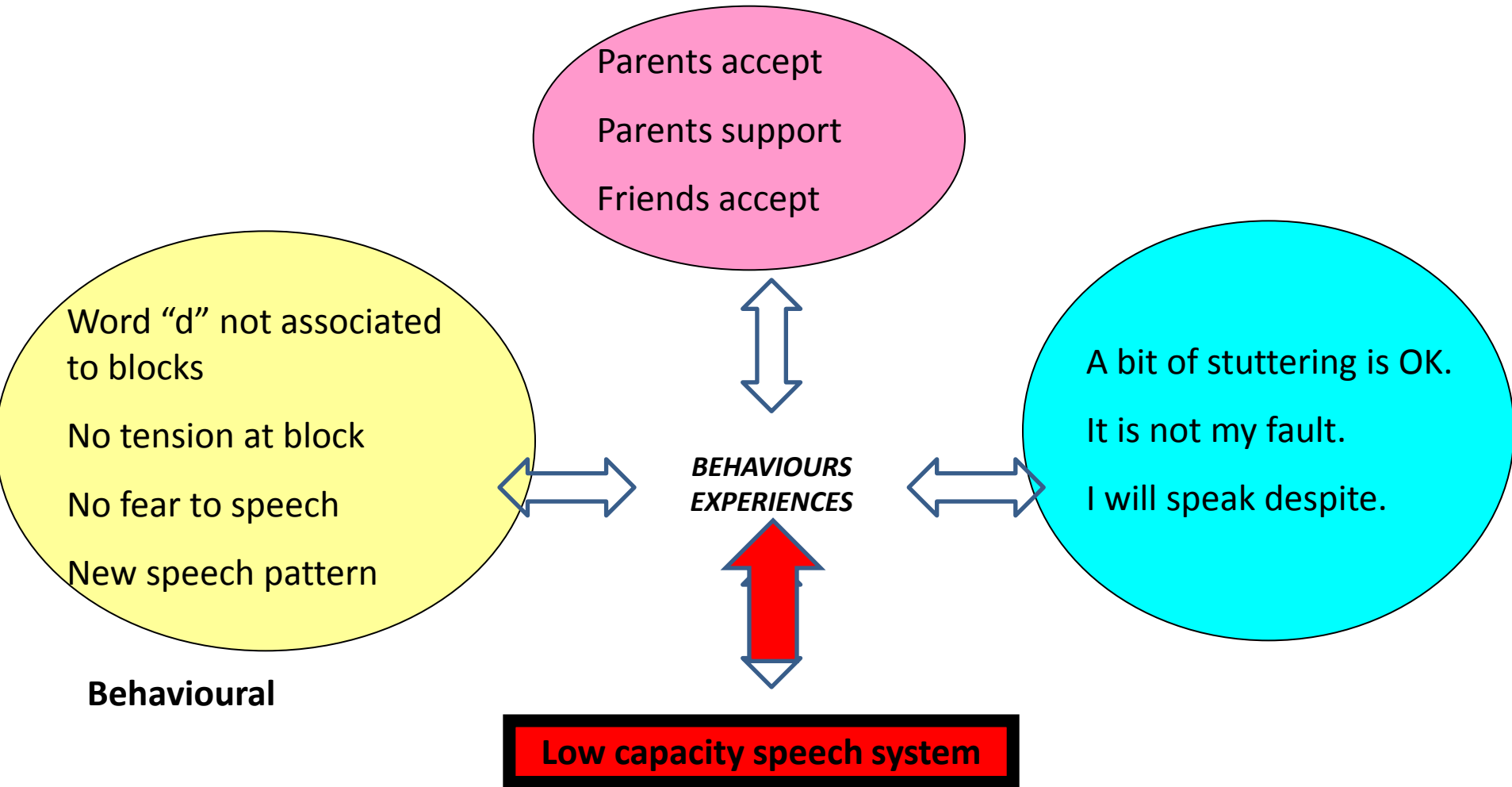


**The kid/teenager/adult processes the stuttering behaviours and experiences cognitively and holds certain false beliefs that makes the handicap greater and fuels stuttering behaviours further.**

# Different treatments are possible



# If you can't fix biology, optimise others





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