

IIMPACT



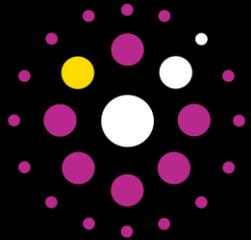
University of
South Australia

Innovation, Implementation & Clinical Translation in Health



Australian Government

National Health and
Medical Research Council



pain **revolution**

re-think pain | re-engage | recover

We all know
what pain is,
right?

Lorimer Moseley AO

DSc PhD BPhy(Hons) FACP FAAHMS HonFPMANZCA HonMAPA

Director, IIMPACT in Health | Challenge Leader, IIMPACT Persistent Pain
Professor of Clinical Neurosciences | Foundation Chair in Physiotherapy | NHMRC Leadership Investigator
CEO Pain Revolution

Full transparency

I get royalties from books on pain

The following companies have paid me money, supported my travel, or given me something for free:

Pfizer, Seqiris, Kaiser USA, ConnectHealth UK, International Olympic Committee, Port Adelaide Football Club, Arsenal Football Club, NOIGroup, AIA Insurance.

Full transparency

My research is 85% supported by:
**Governments in Australia, UK, Canada,
Europe & USA**

And 15% by:
**Insurance companies in Australia, UK &
Canada**

My talk in a nutshell:

1. Pain prevents injury & promotes recovery.

My talk in a nutshell:

1. Pain prevents injury & promotes recovery.

~~2. Persisting pain becomes over-protective, preventing recovery and decreasing your health.~~

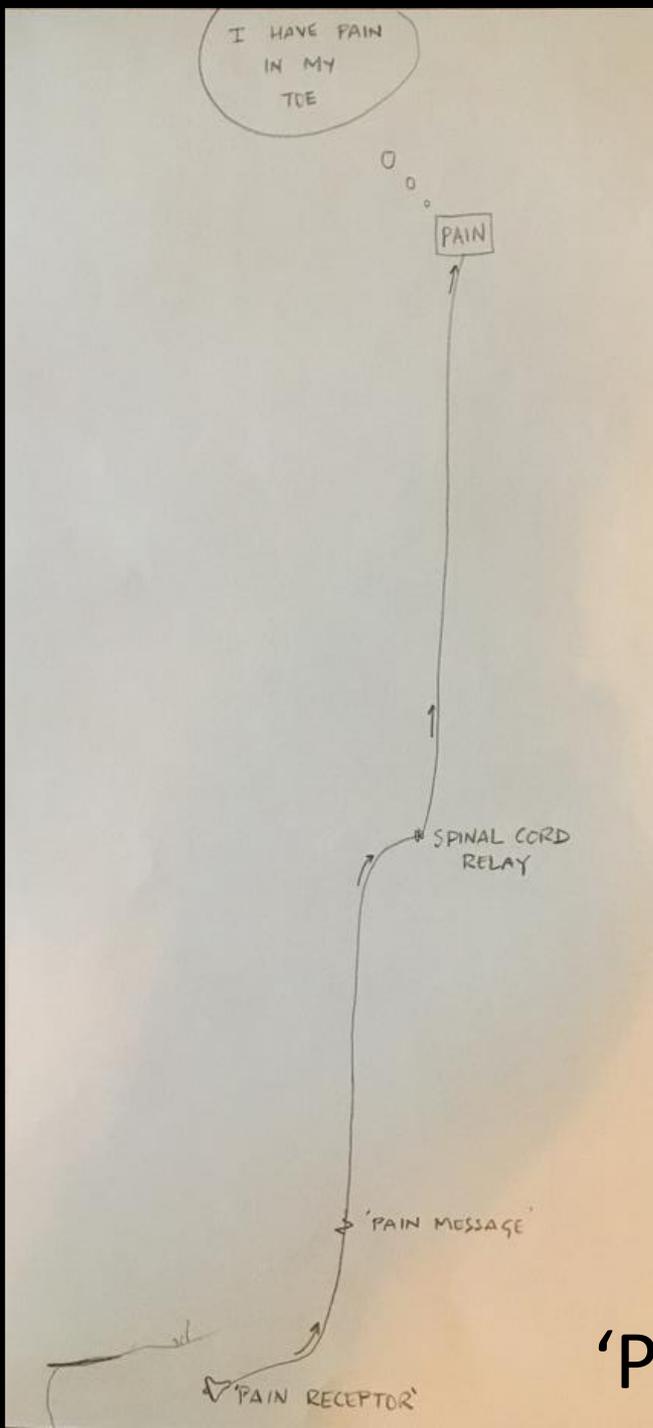
My talk in a nutshell:

1. Pain prevents injury & promotes recovery.
2. Persisting pain becomes over-protective, preventing recovery and decreasing your health.
3. There are always many factors that change pain.

My talk in a nutshell:

1. Pain prevents injury & promotes recovery.
2. Persisting pain becomes over-protective, preventing recovery and decreasing your health.
3. There are always many factors that change pain.
4. There are many things you can do to reduce pain, promote recovery and increase health.

But first, what do
you reckon?

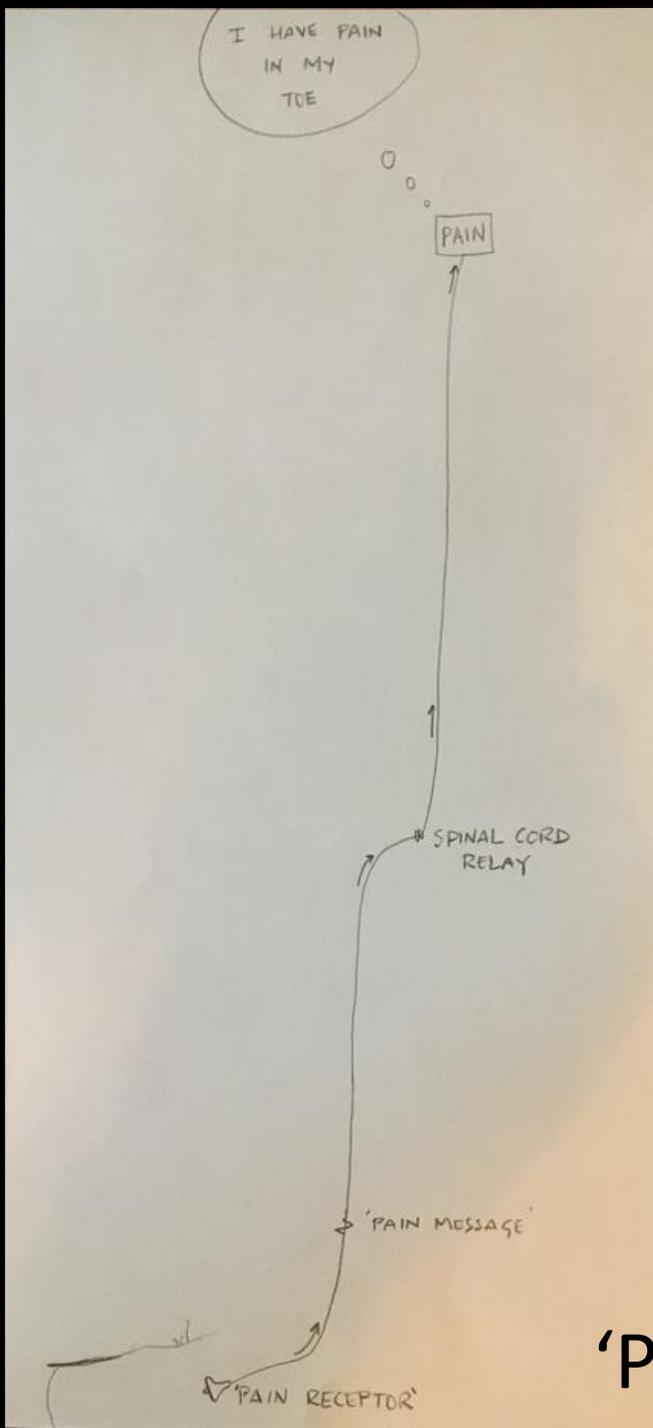


'Pain'

'Pain centre/detector'

'Pain message'

'Pain receptor/damage detector'



'Pain'

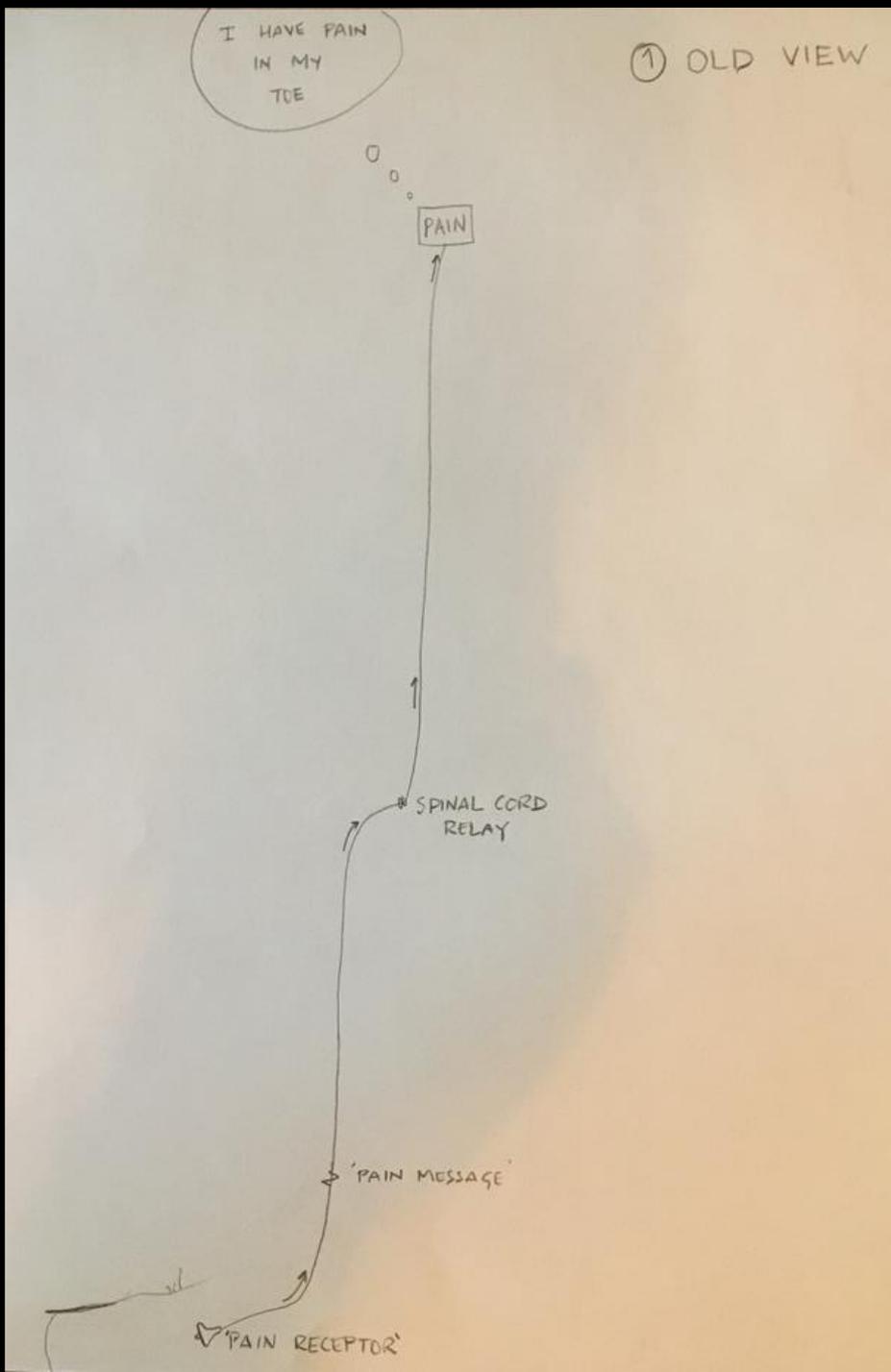
'Pain centre/detector'

'Pain relay station'

'Pain gate'

'Pain message'

'Pain receptor/damage detector'

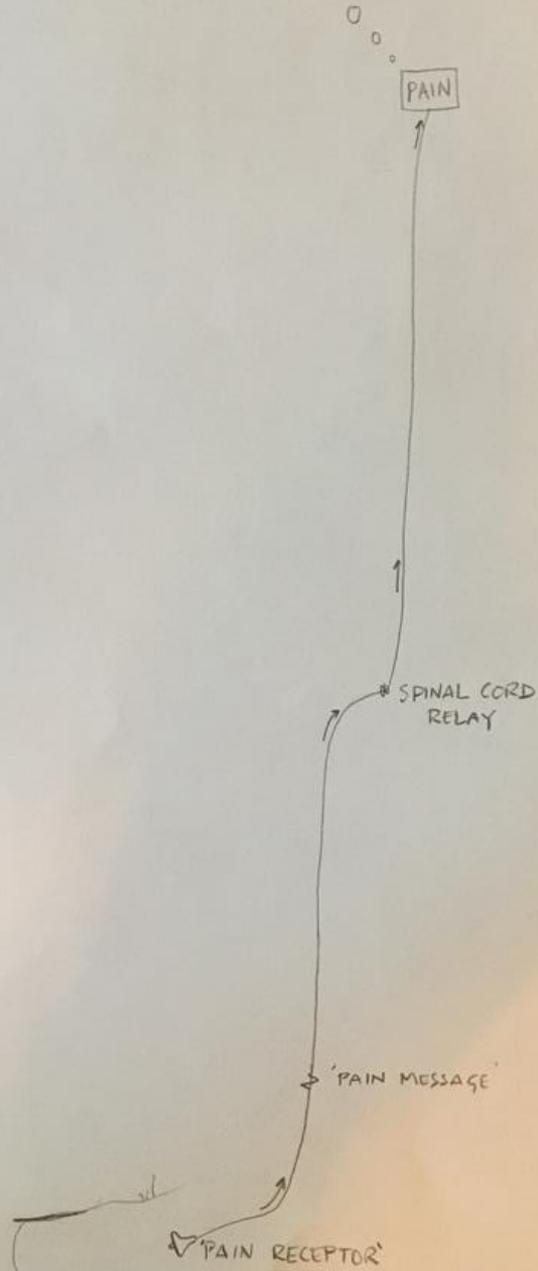


'Old view'

'Pain is produced in the body by damaged tissue, sending a pain message to the brain, which is detected by you, the person'

I HAVE PAIN
IN MY
TOE

① OLD VIEW

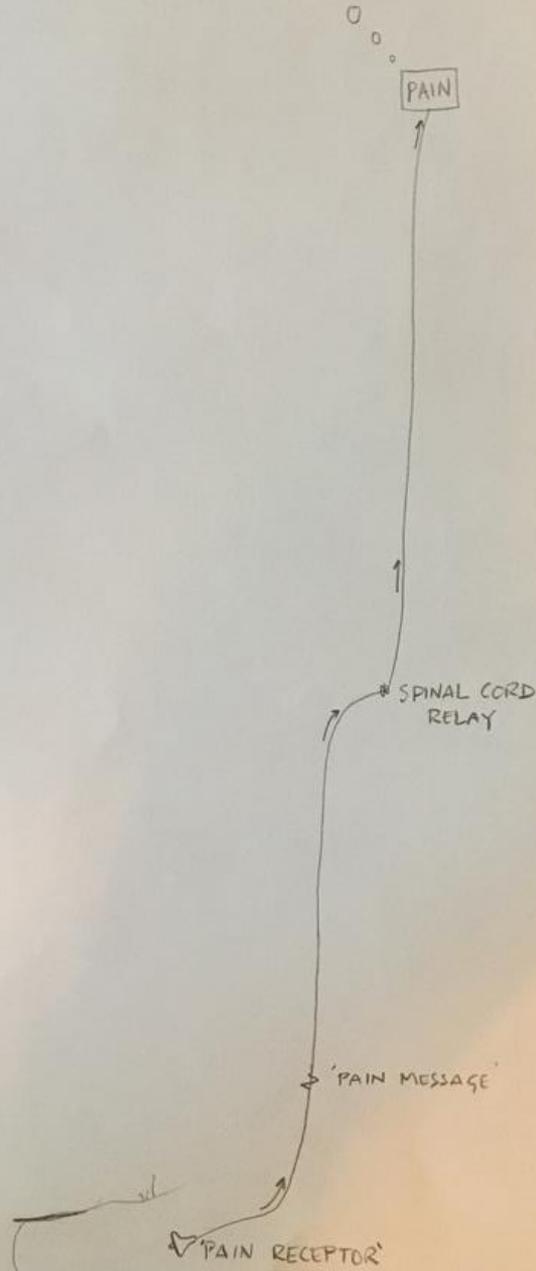


'Old view'

Simple

I HAVE PAIN
IN MY
TOE

① OLD VIEW



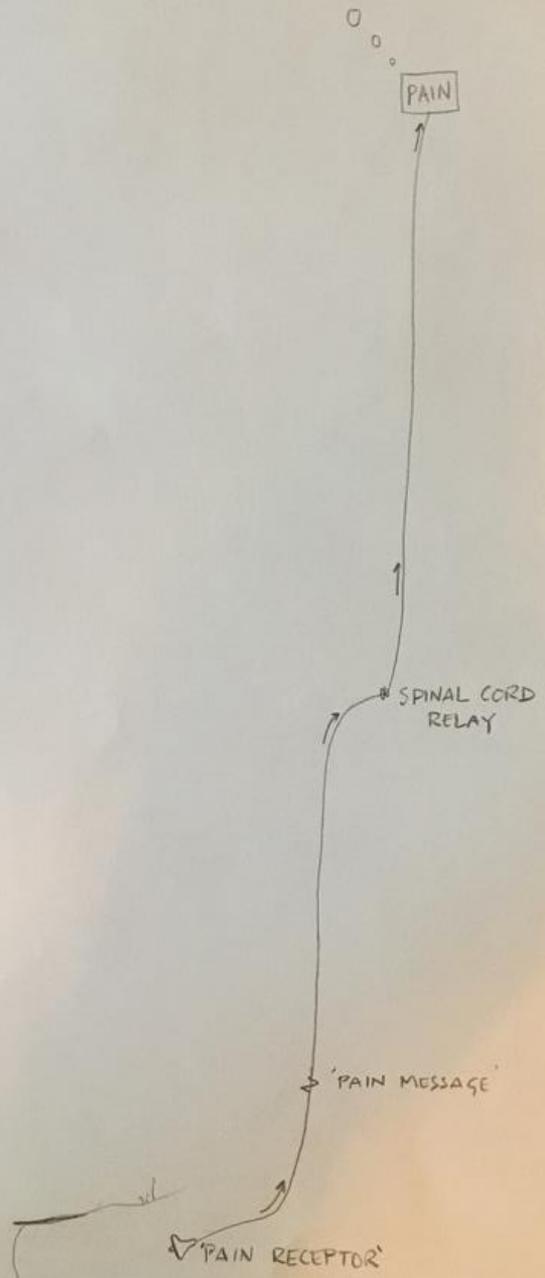
'Old view'

Simple

Presumes that pain
is the exception to
biological rules

I HAVE PAIN
IN MY
TOE

① OLD VIEW

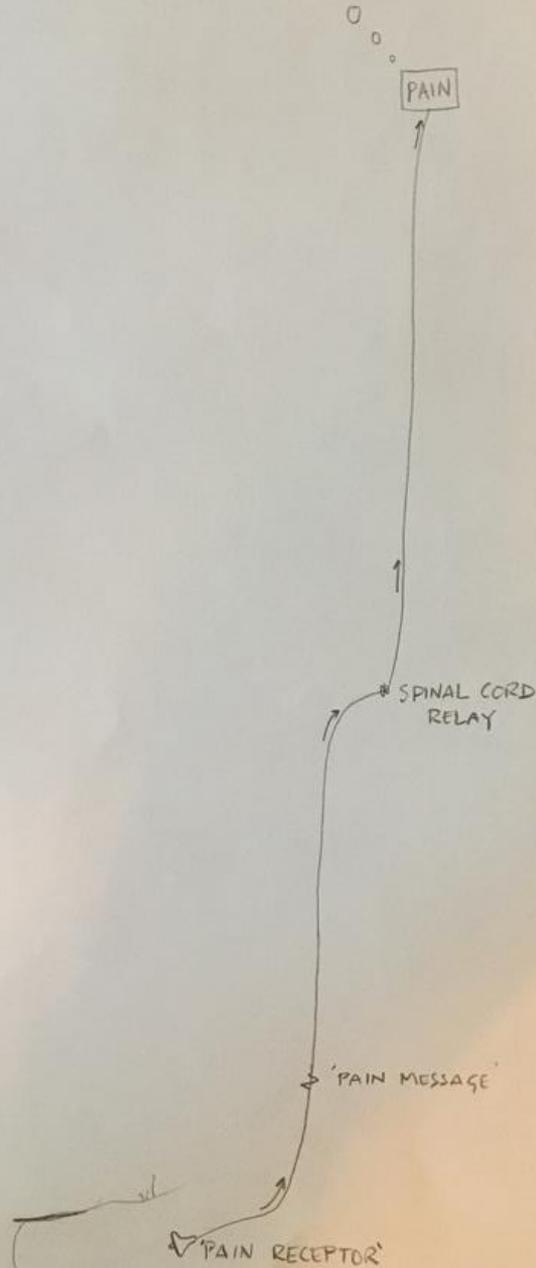


Such a system would actually be disastrous & daft



I HAVE PAIN
IN MY
TOE

① OLD VIEW



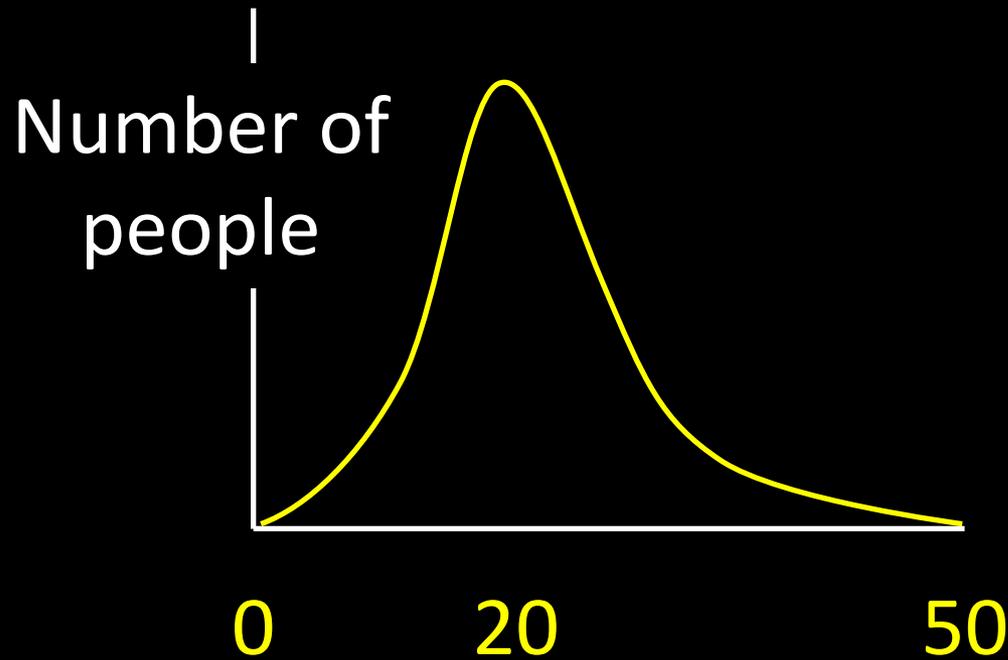
Our experiences actually do not match this idea.

How many injuries
have you had this
year?

0

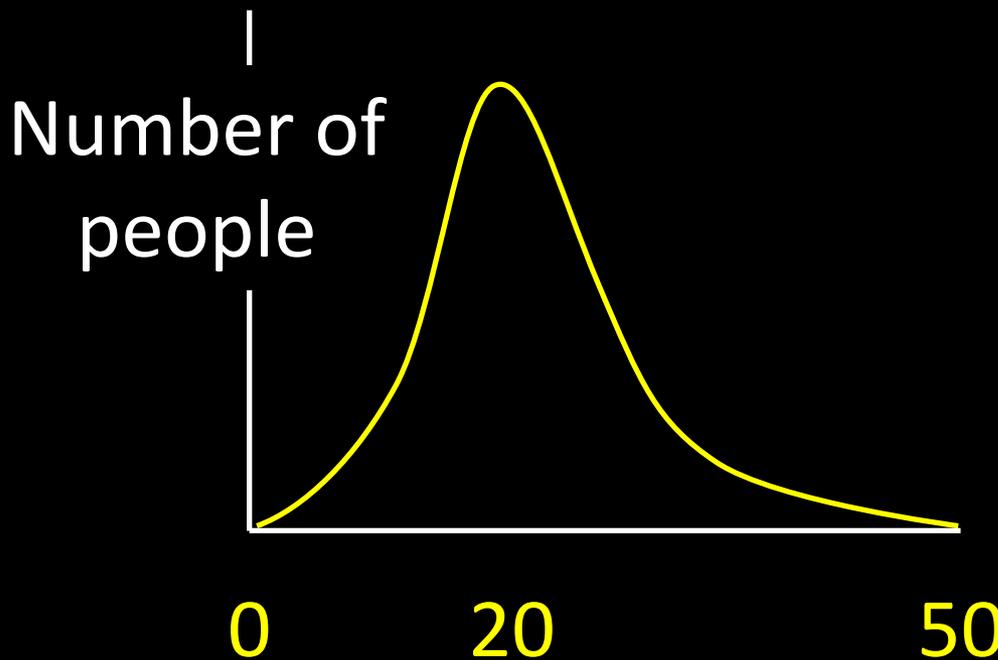
50

How many injuries
have you had this
year?



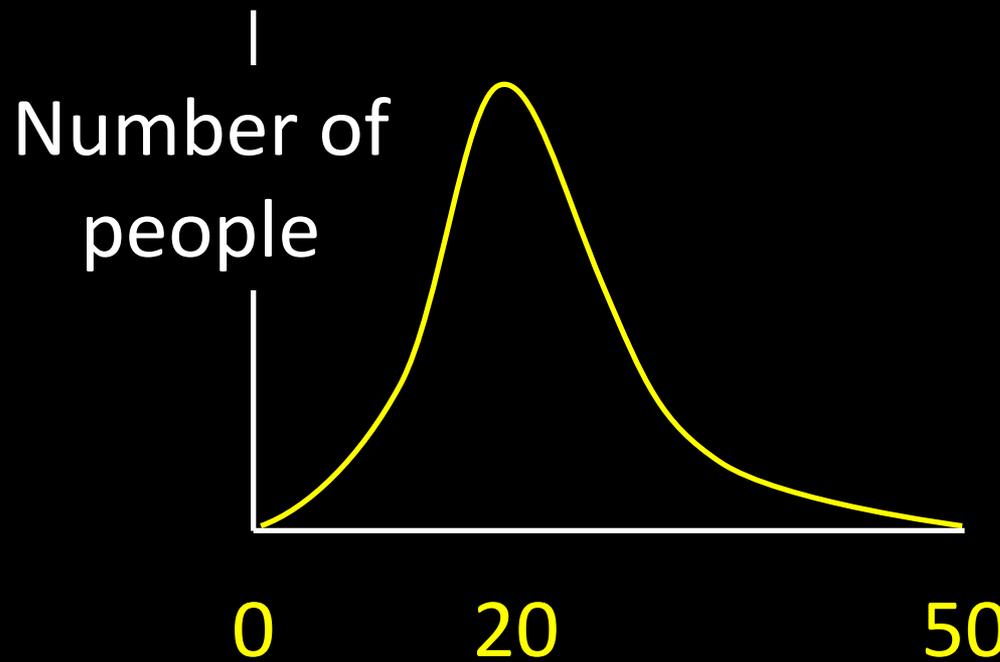
How many injuries
have you had this
year?

How many times
have you had pain
this year?

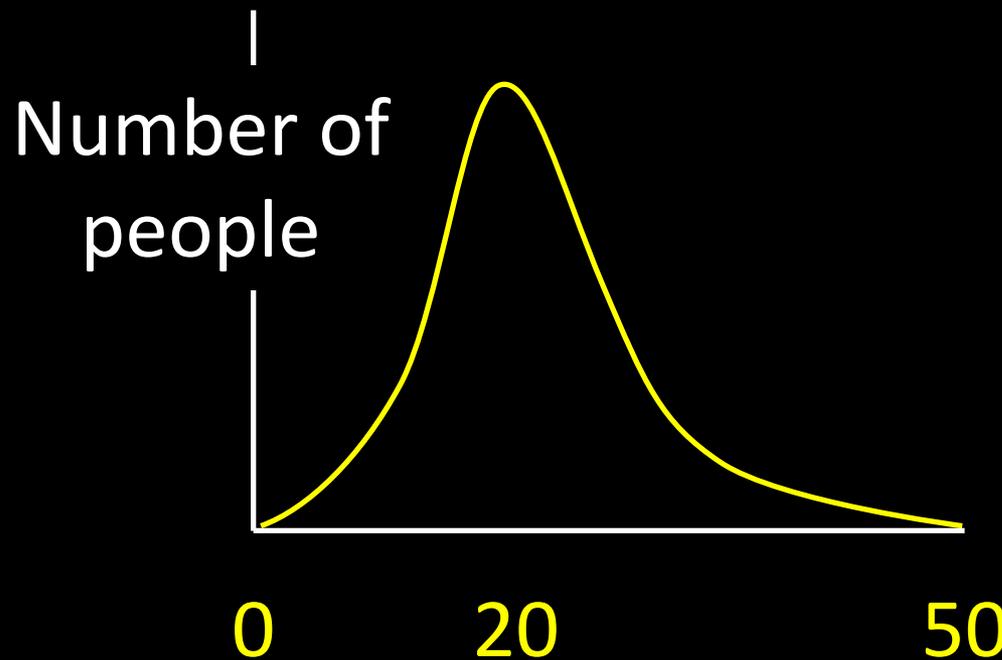


How many injuries
have you had this
year?

How many times
have you had pain
this year?



How many injuries
have you had this
year?



How many times
have you had pain
this year?



Our experiences actually tell us:

Pain protects tissue and
promotes recovery

Our experiences actually tell us:

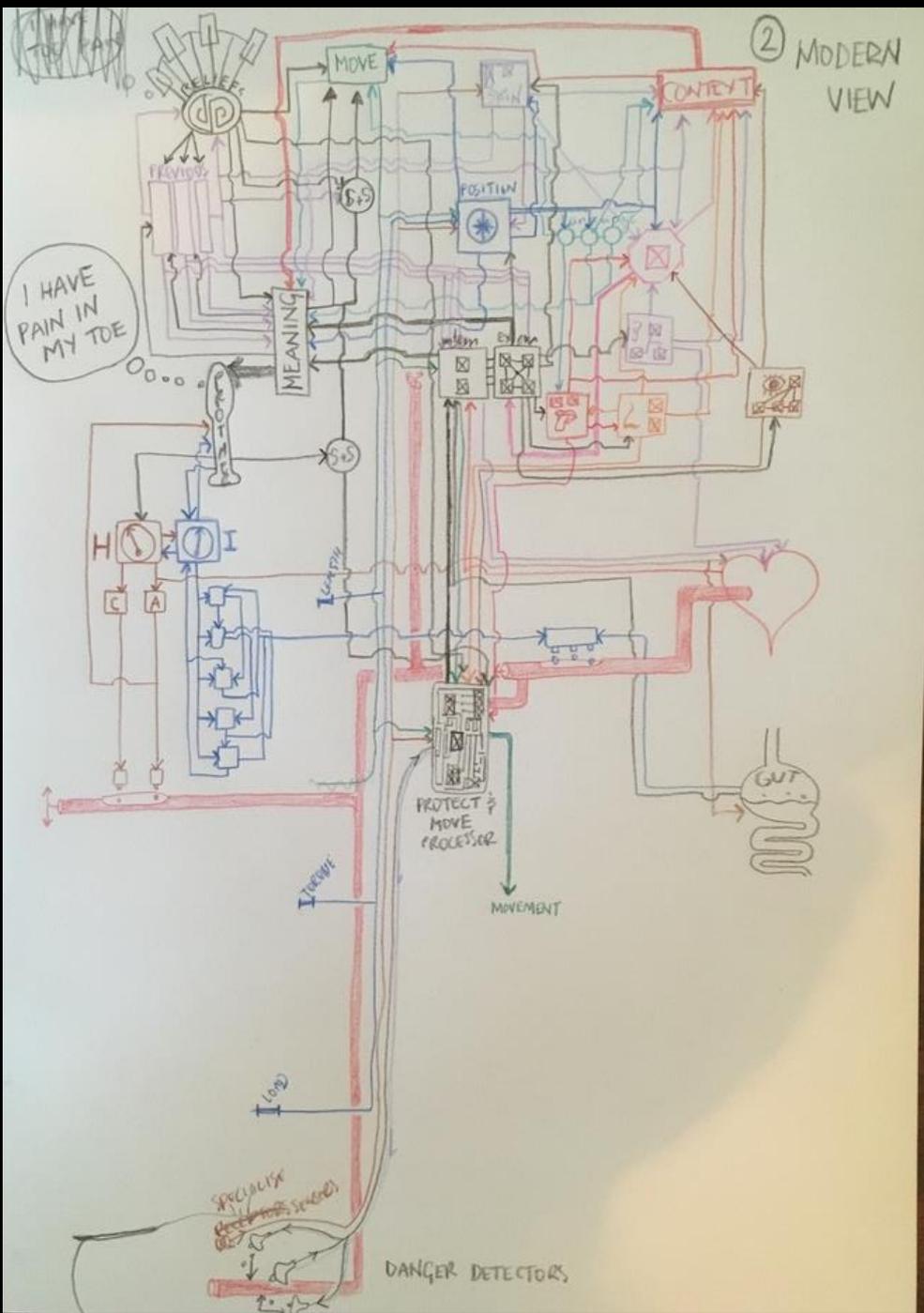
Pain protects tissue and
promotes recovery

How?



'Modern view'

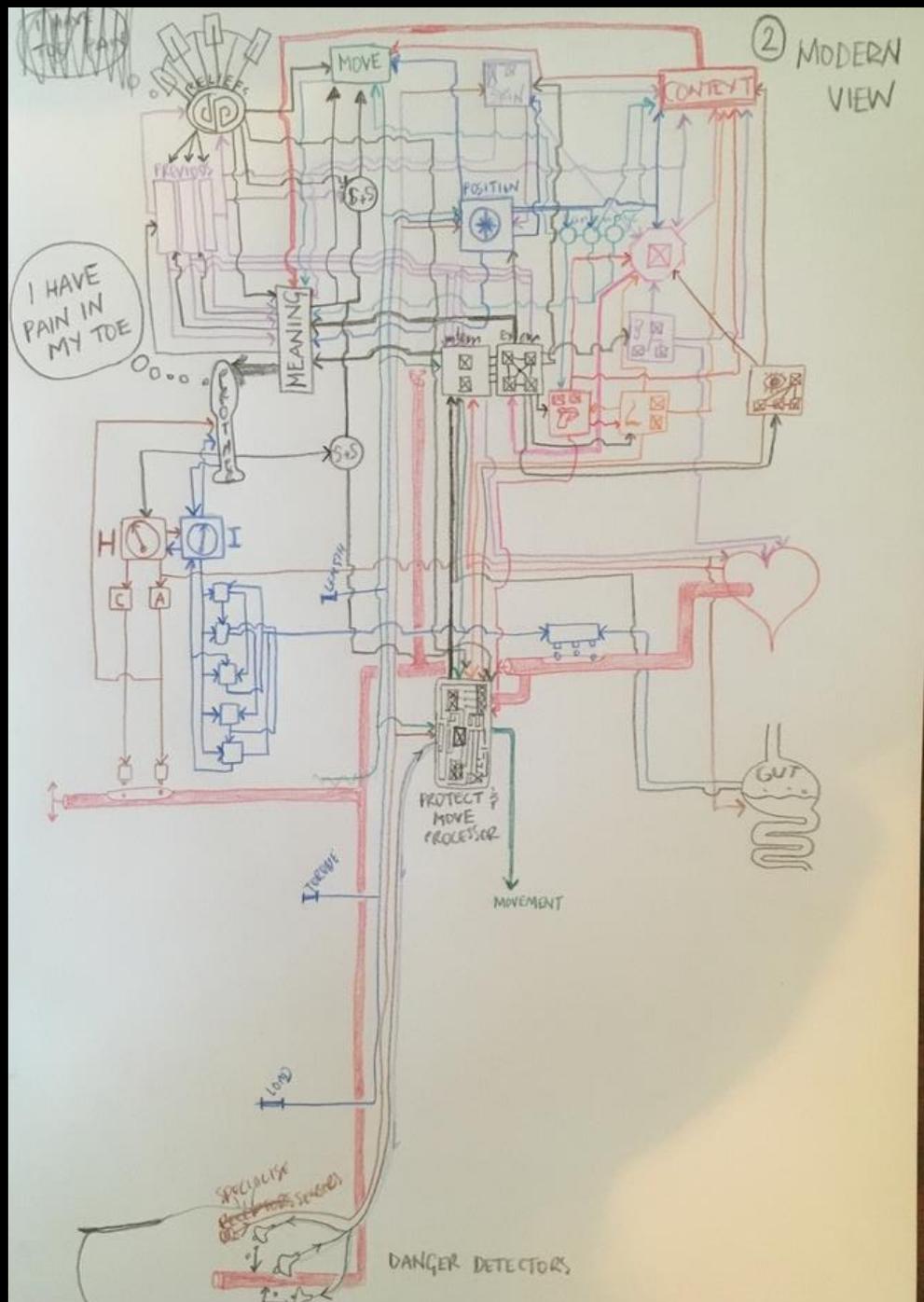
Very very complex

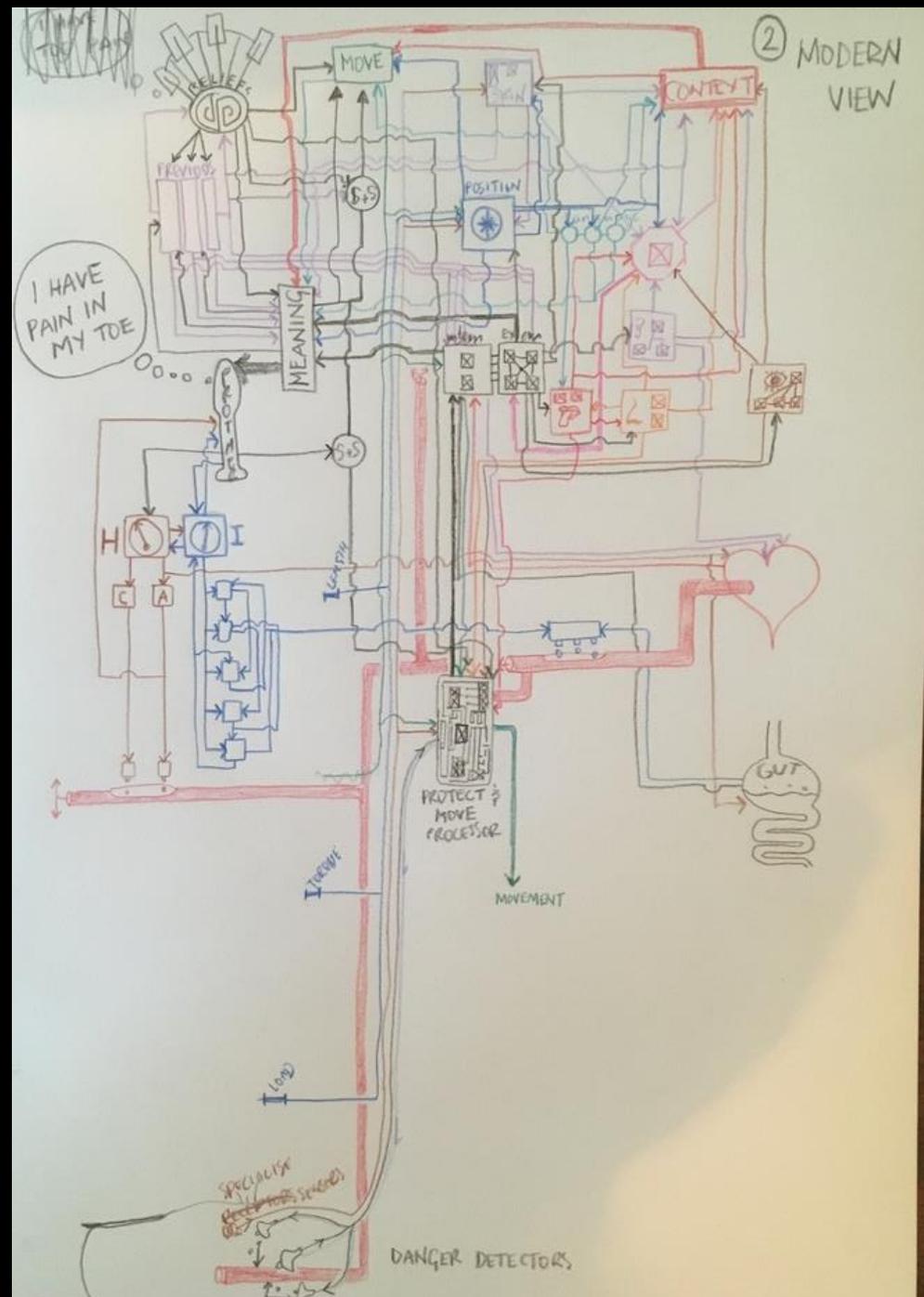


'Modern view'

Very very complex

AMAZING
protection system





'Modern view'

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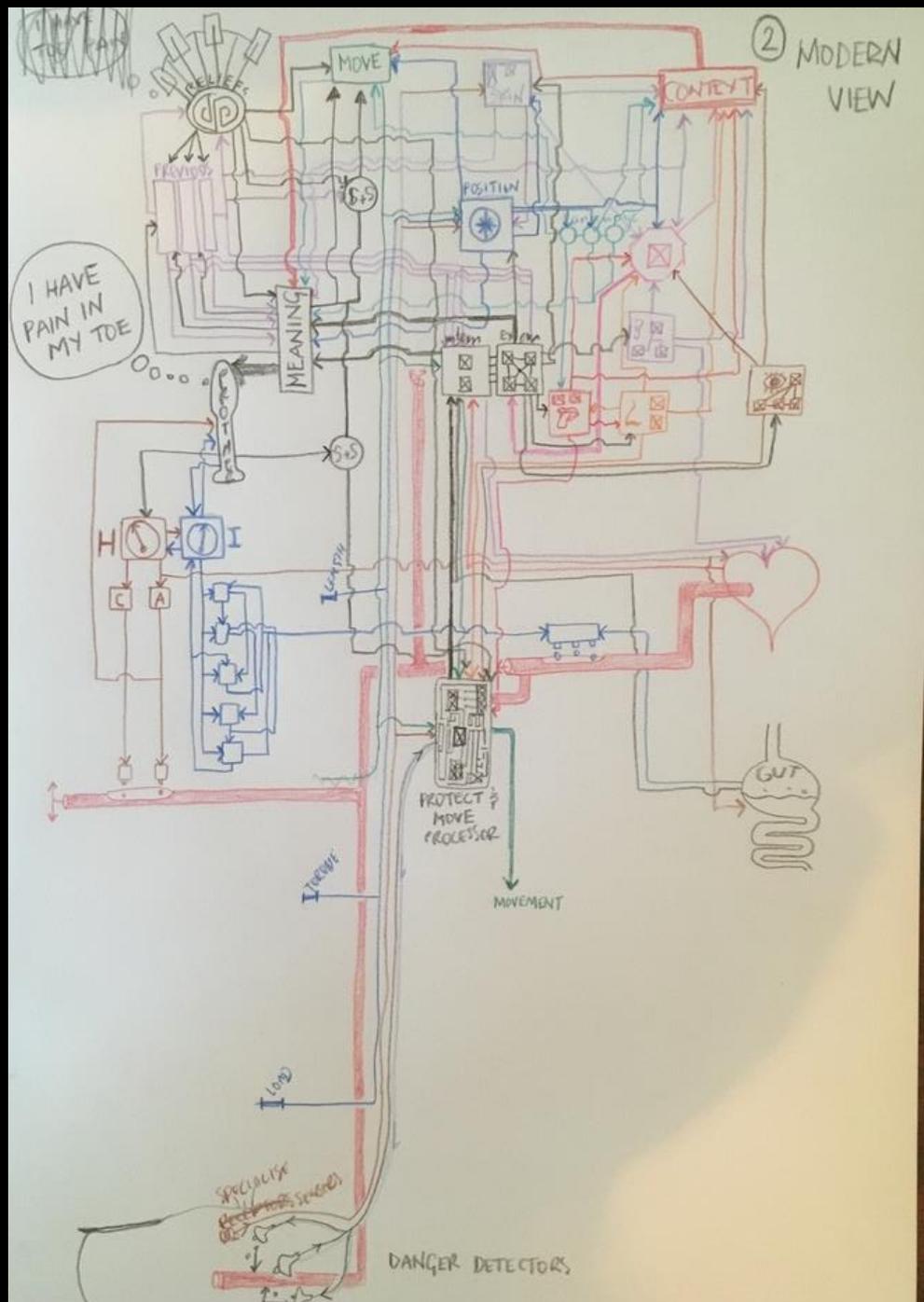
Supported by a
massive amount of
scientific research

'Modern view'

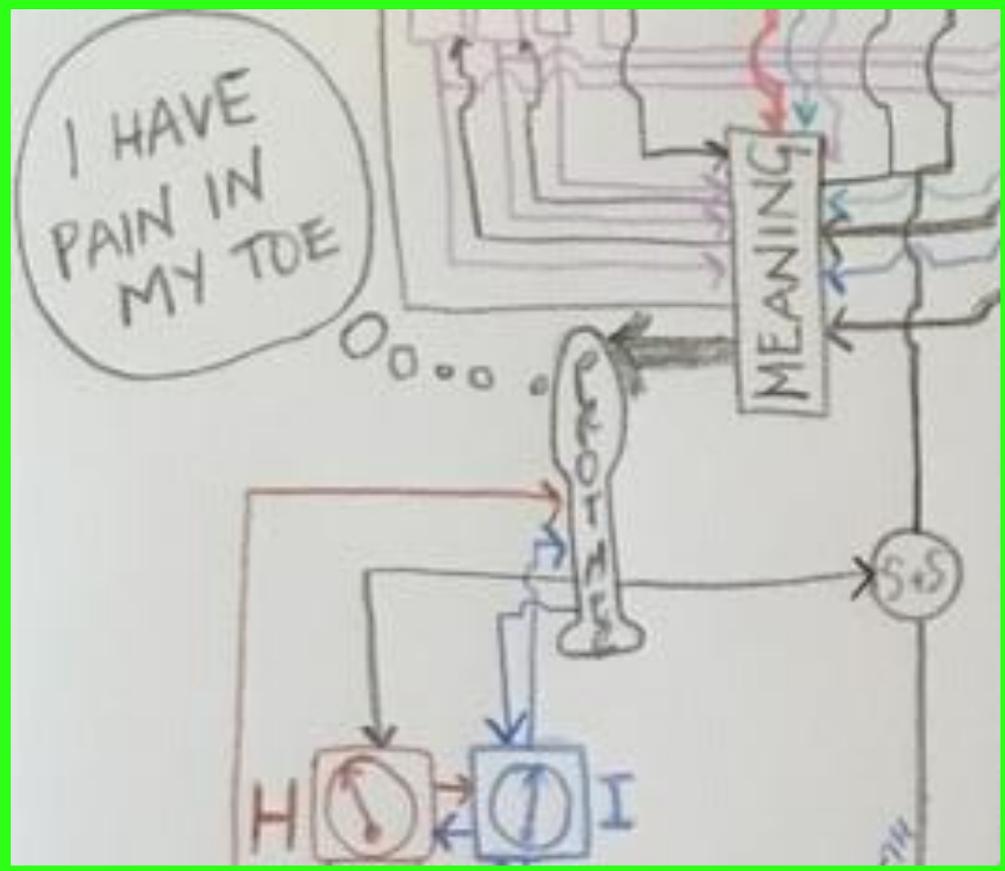
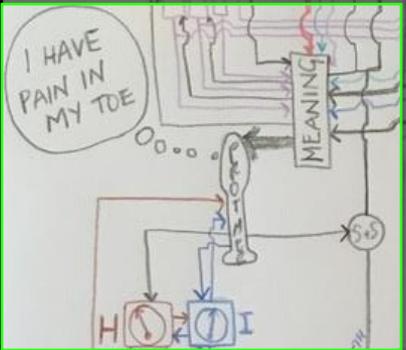
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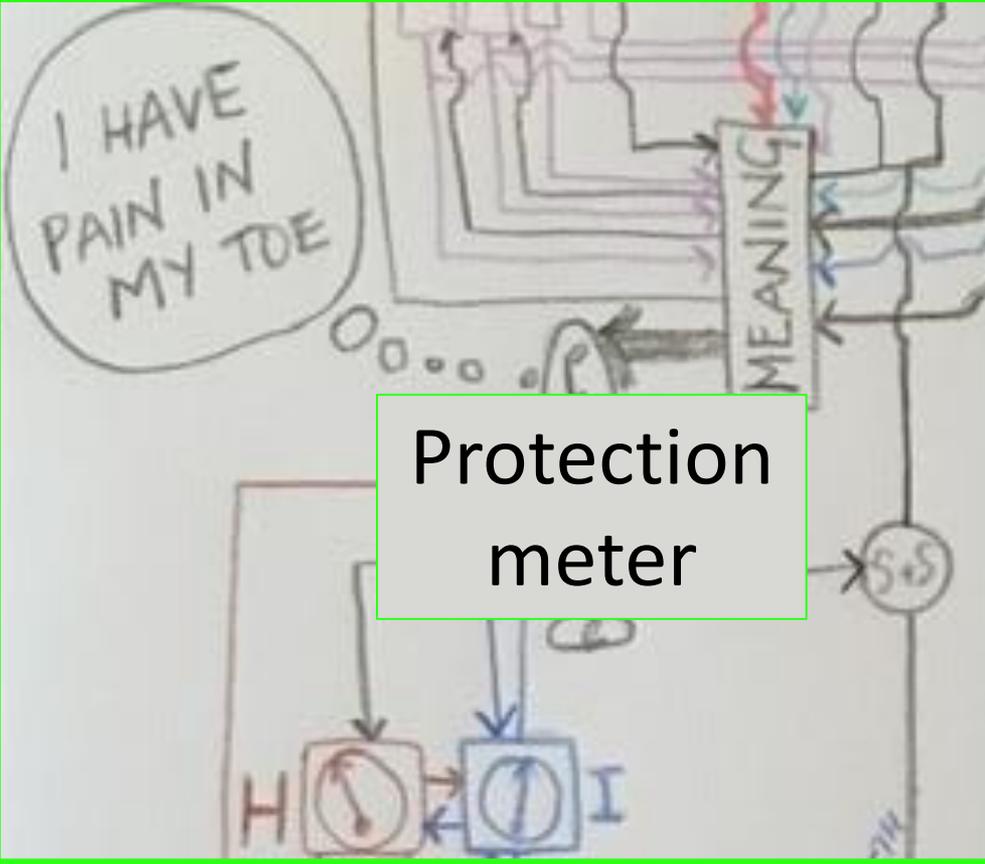
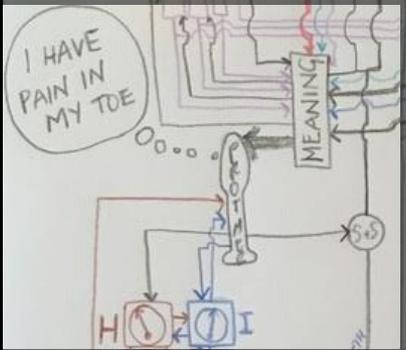
② MODERN



MOVEMENT

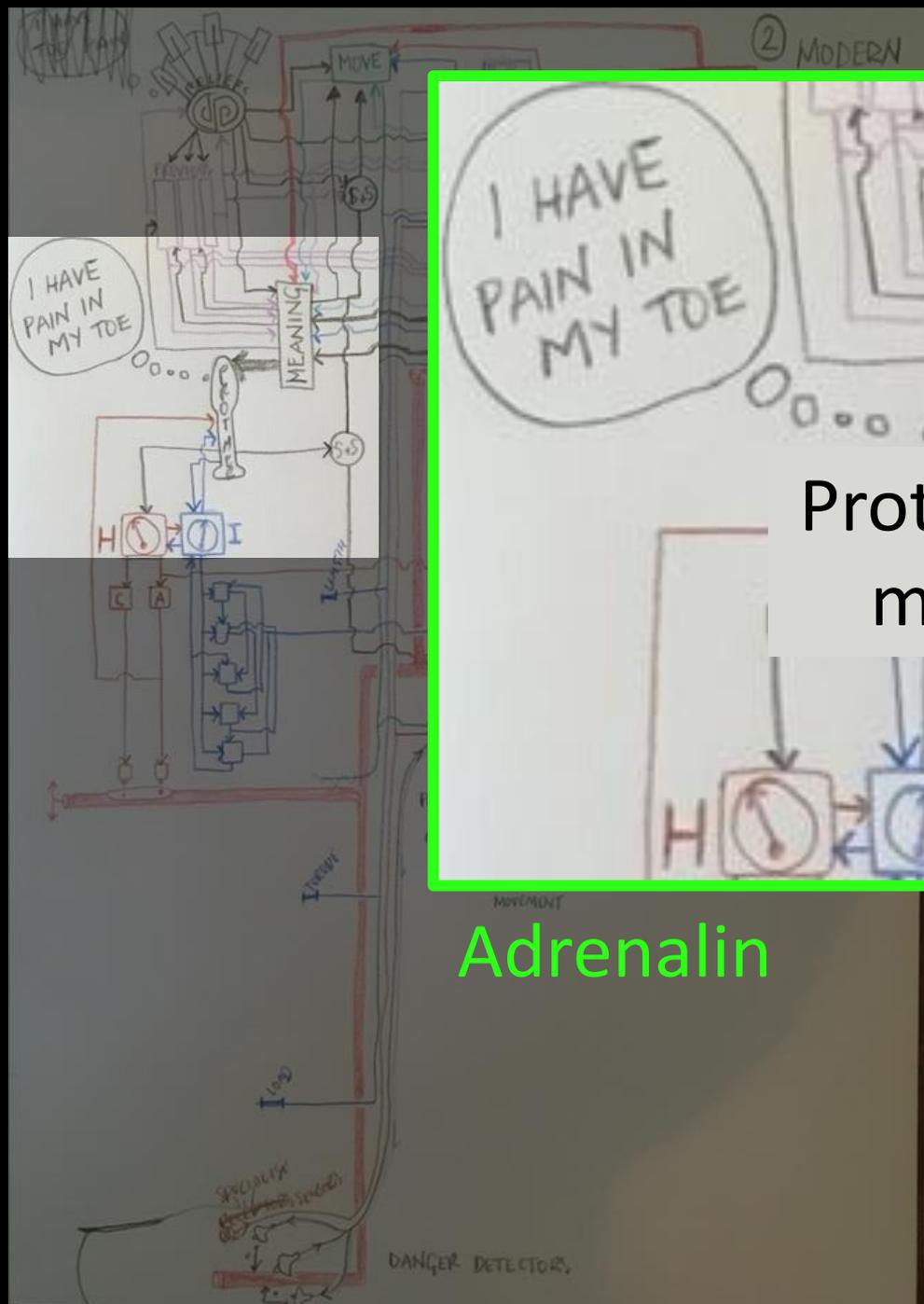
DANGER DETECTOR

② MODERN

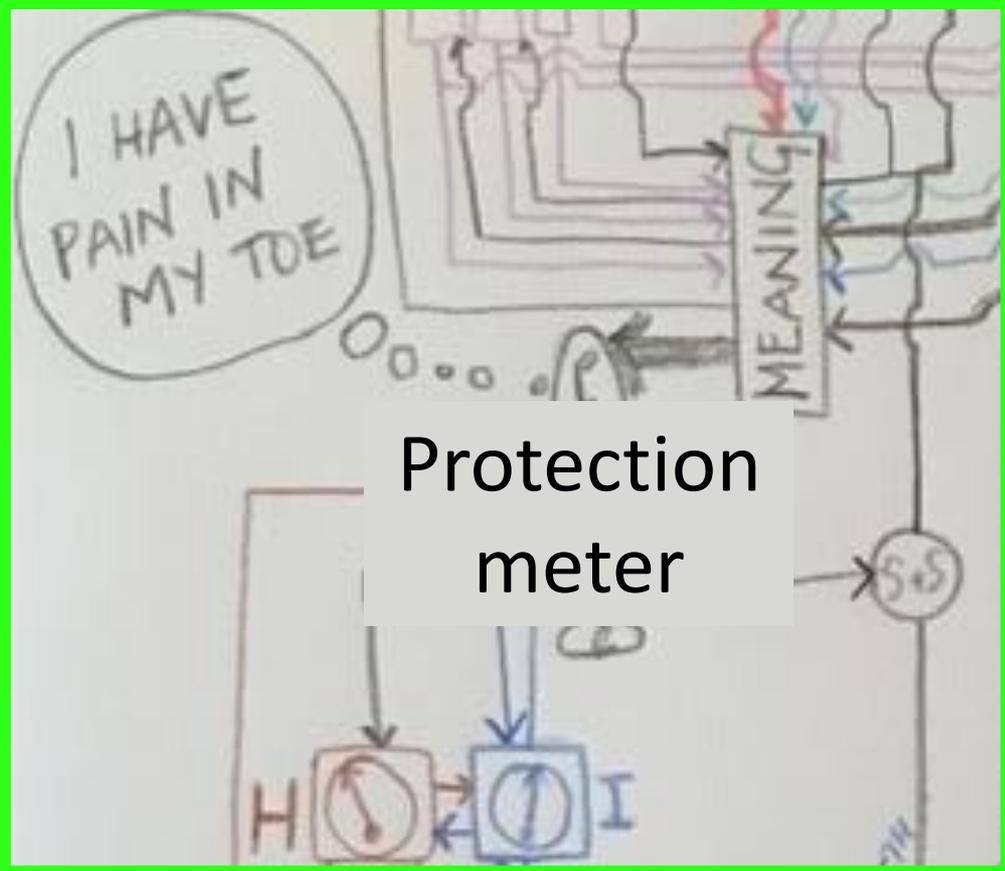
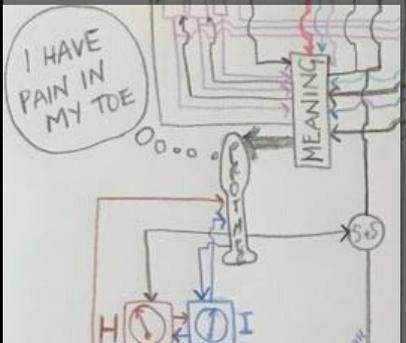


Protection meter

DANGER DETECTOR



② MODERN

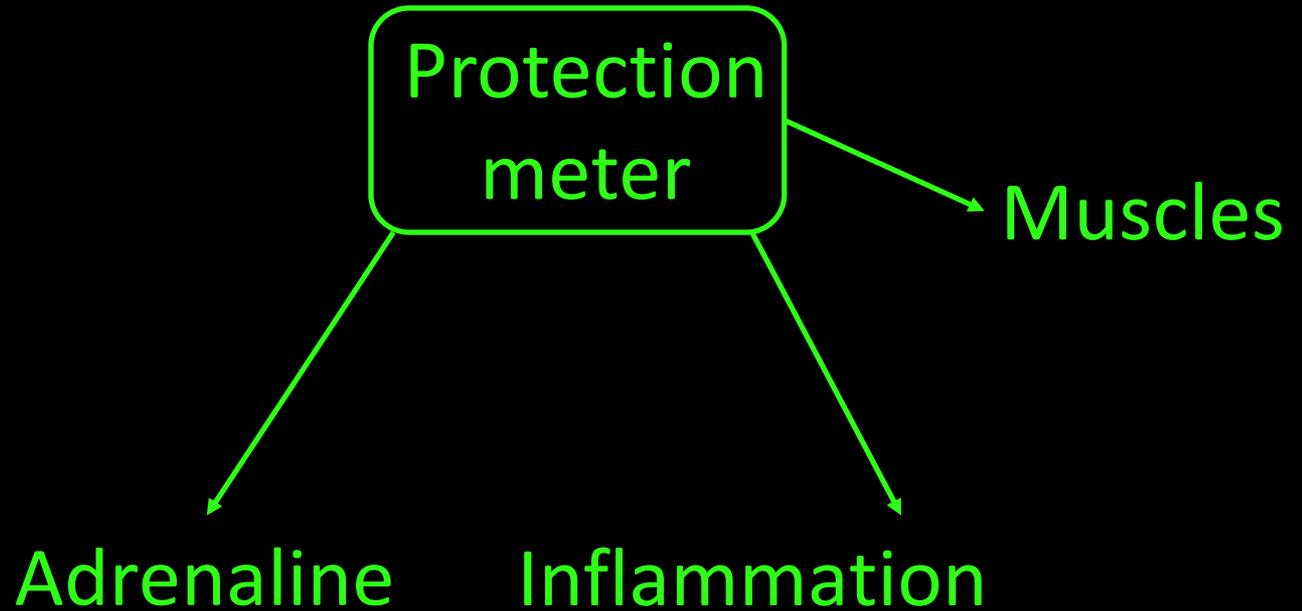
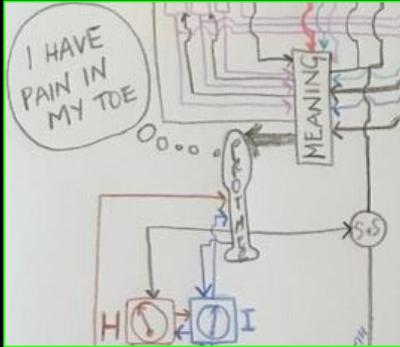


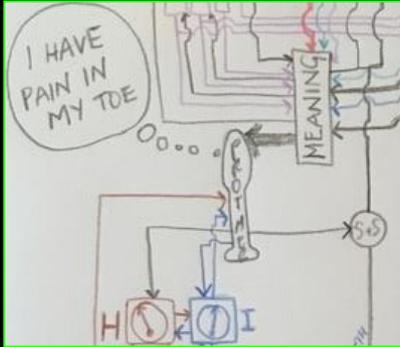
Protection
meter

Muscles

Adrenalin

Inflammation





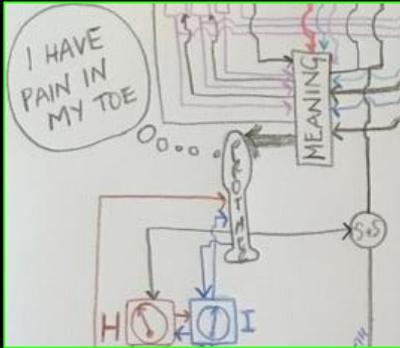
Feelings

Protection
meter

Muscles

Adrenaline

Inflammation



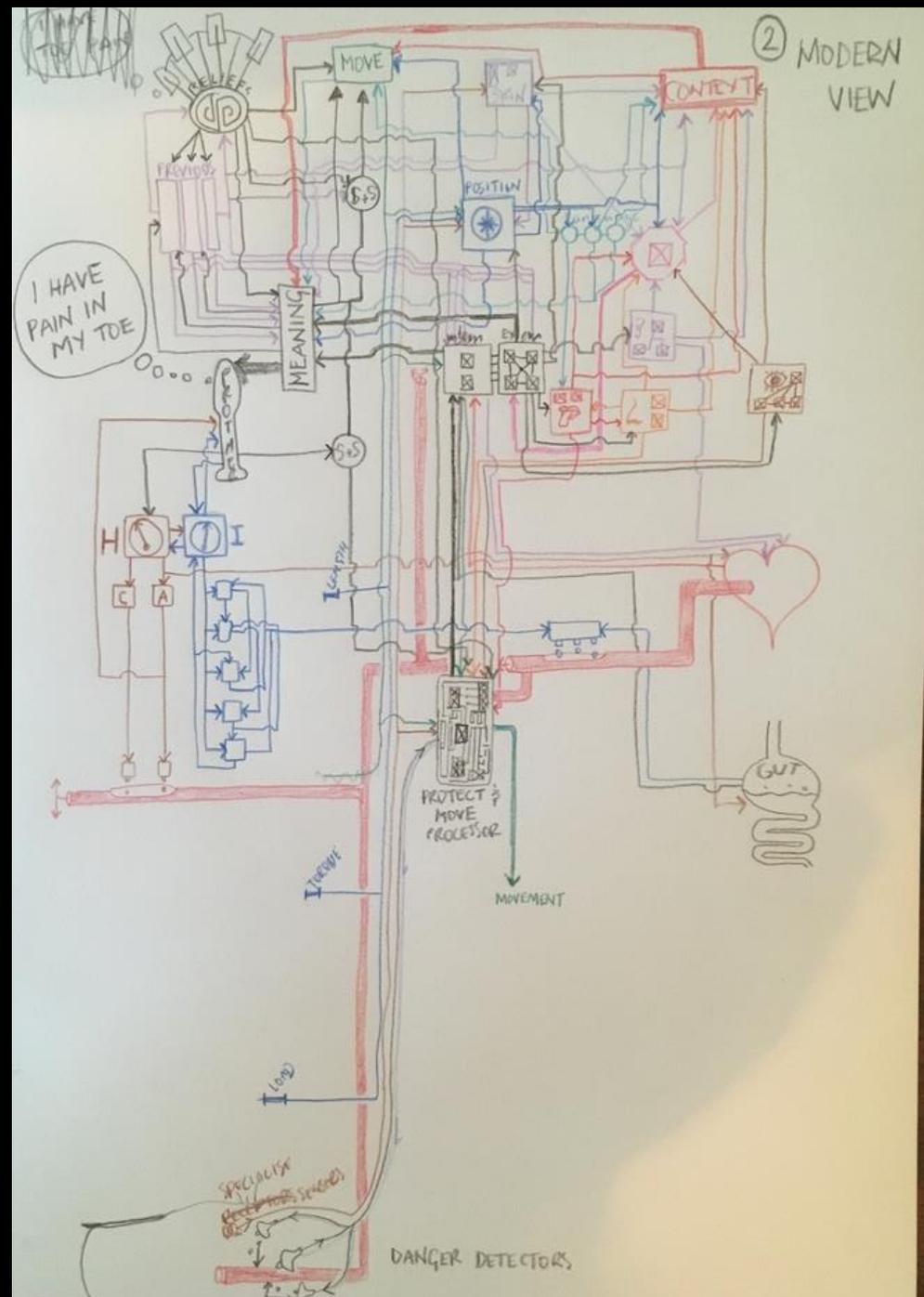
Feelings: pain, hunger, fear, anxiety

Protection
meter

Muscles

Adrenaline

Inflammation



'Modern view'

Very very complex

AMAZING
protection system

All incoming
information &
stored data

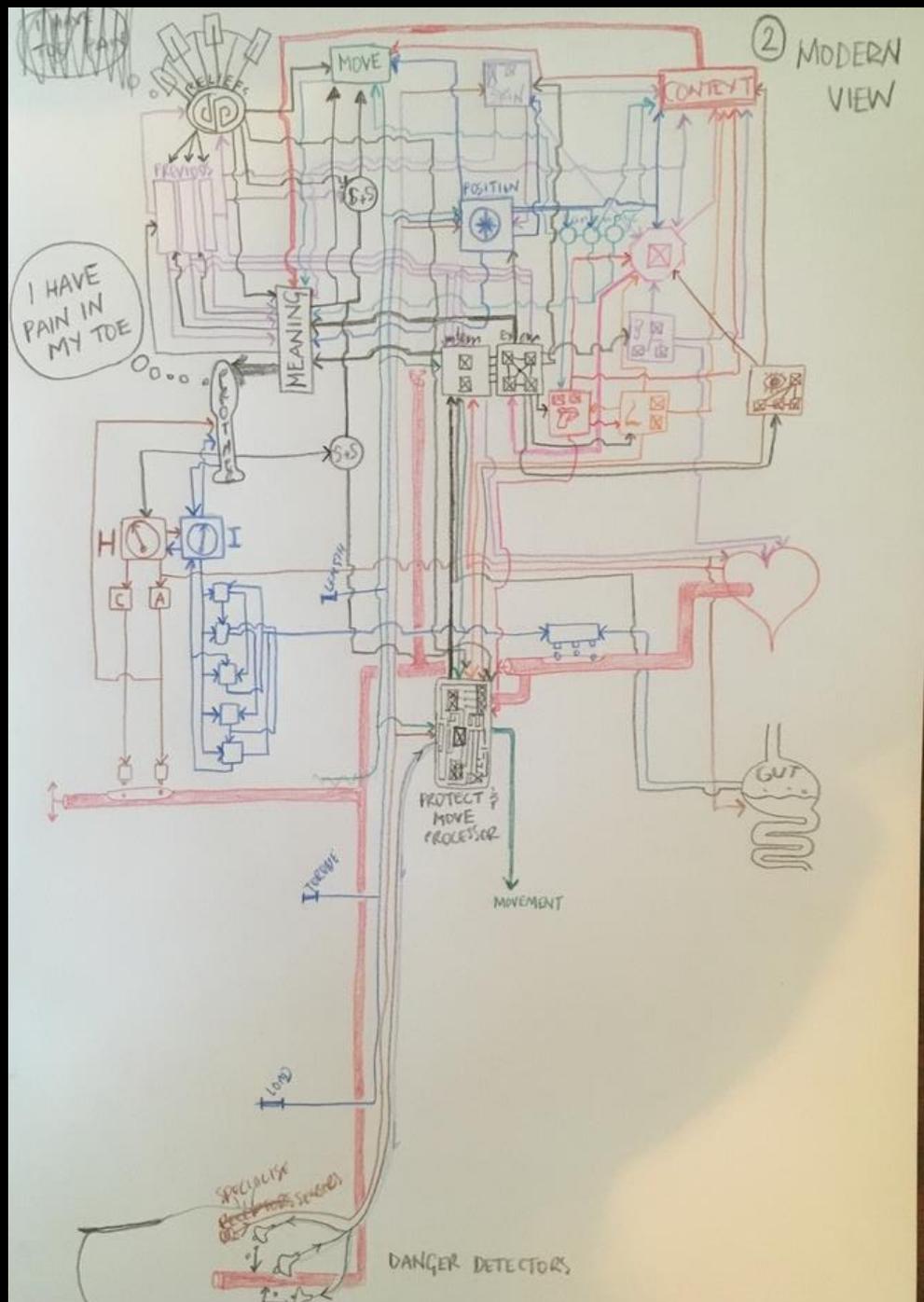
'Modern view'

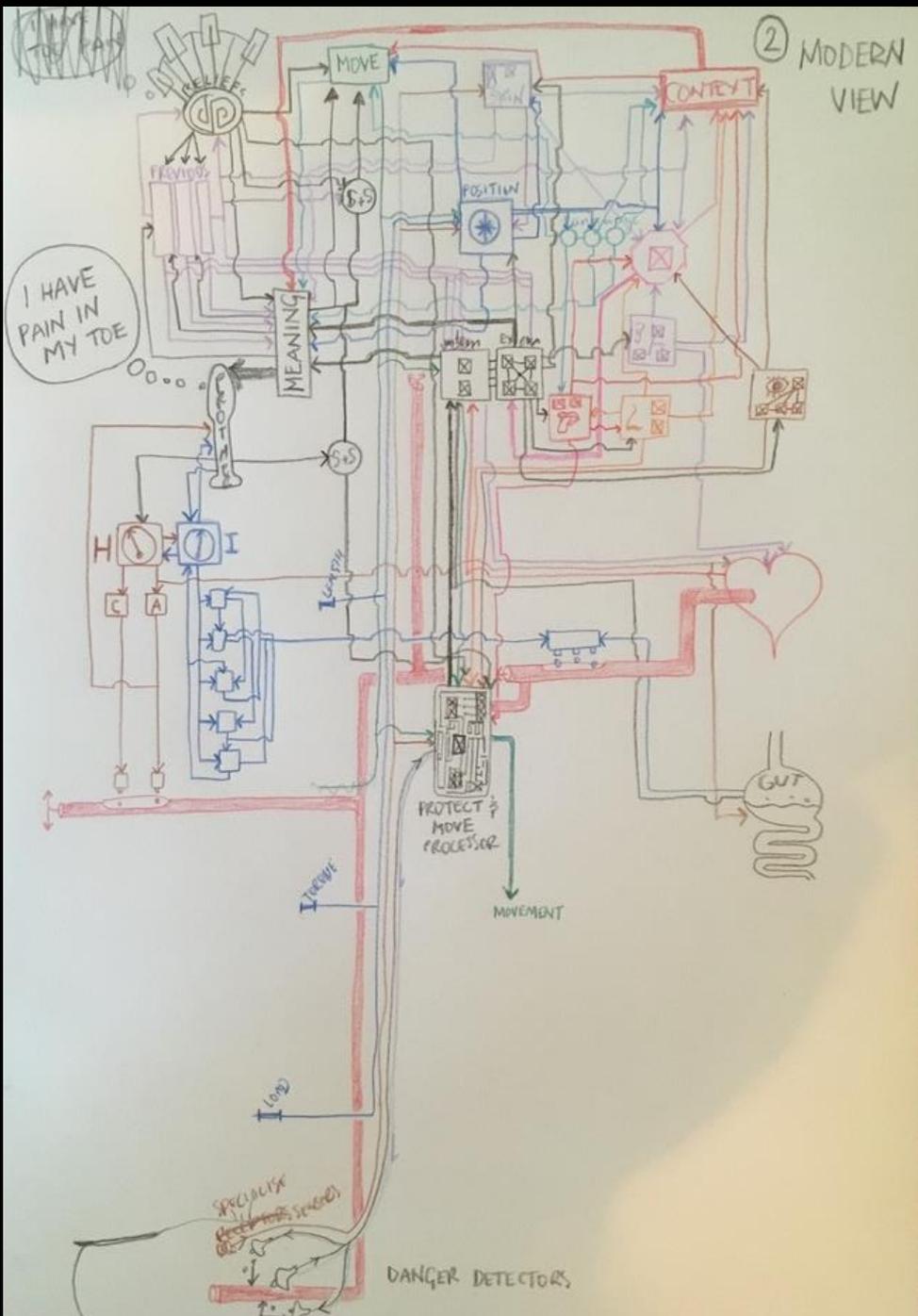
Very very complex

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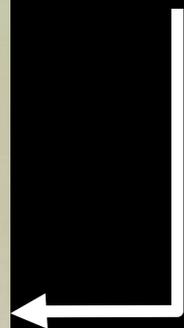
All incoming
information &
stored data

Many factors
change pain





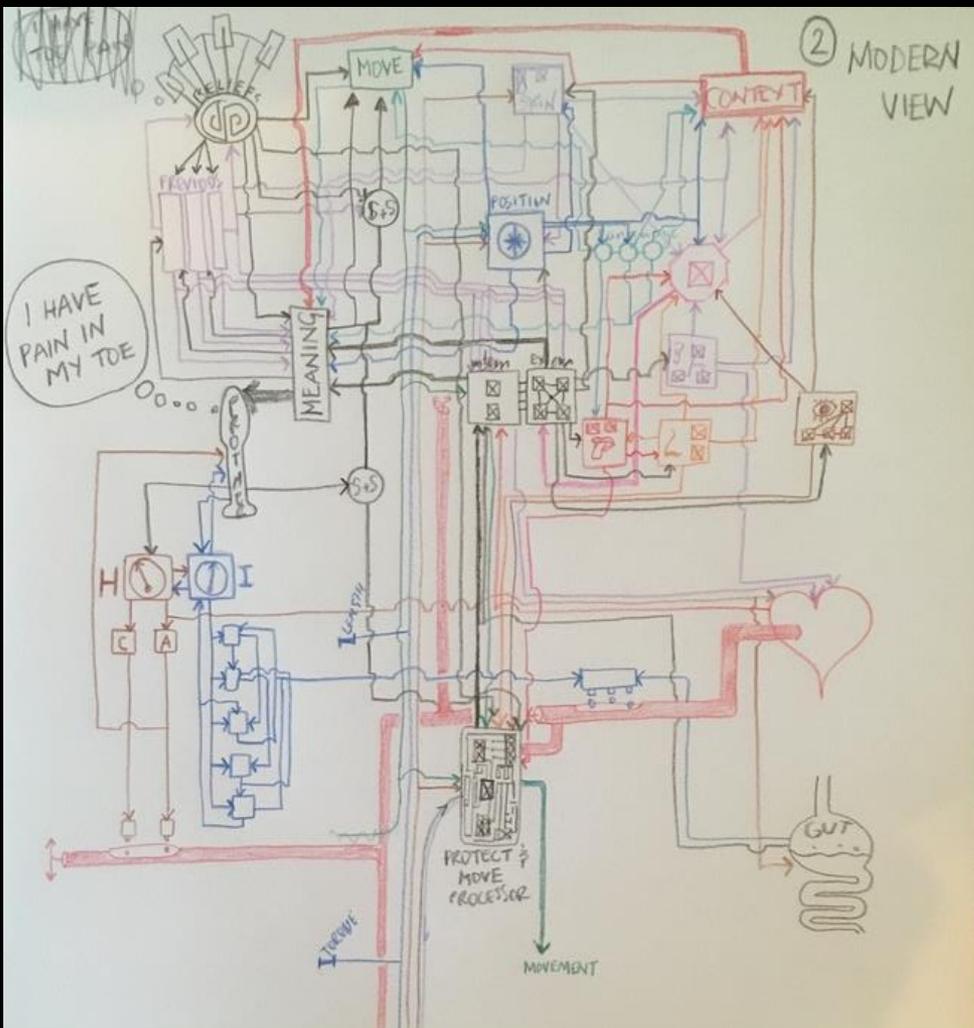
All this



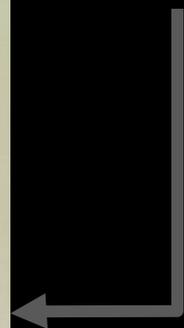
Can be summarized into an in-built real time body protection buffer.







All this



Can be summarized into a body protection buffer.

How big is your bubble suit?



DANGER DETECTORS



How big is your
bubble suit?

This is how....

1. Pain prevents injury & promotes recovery.

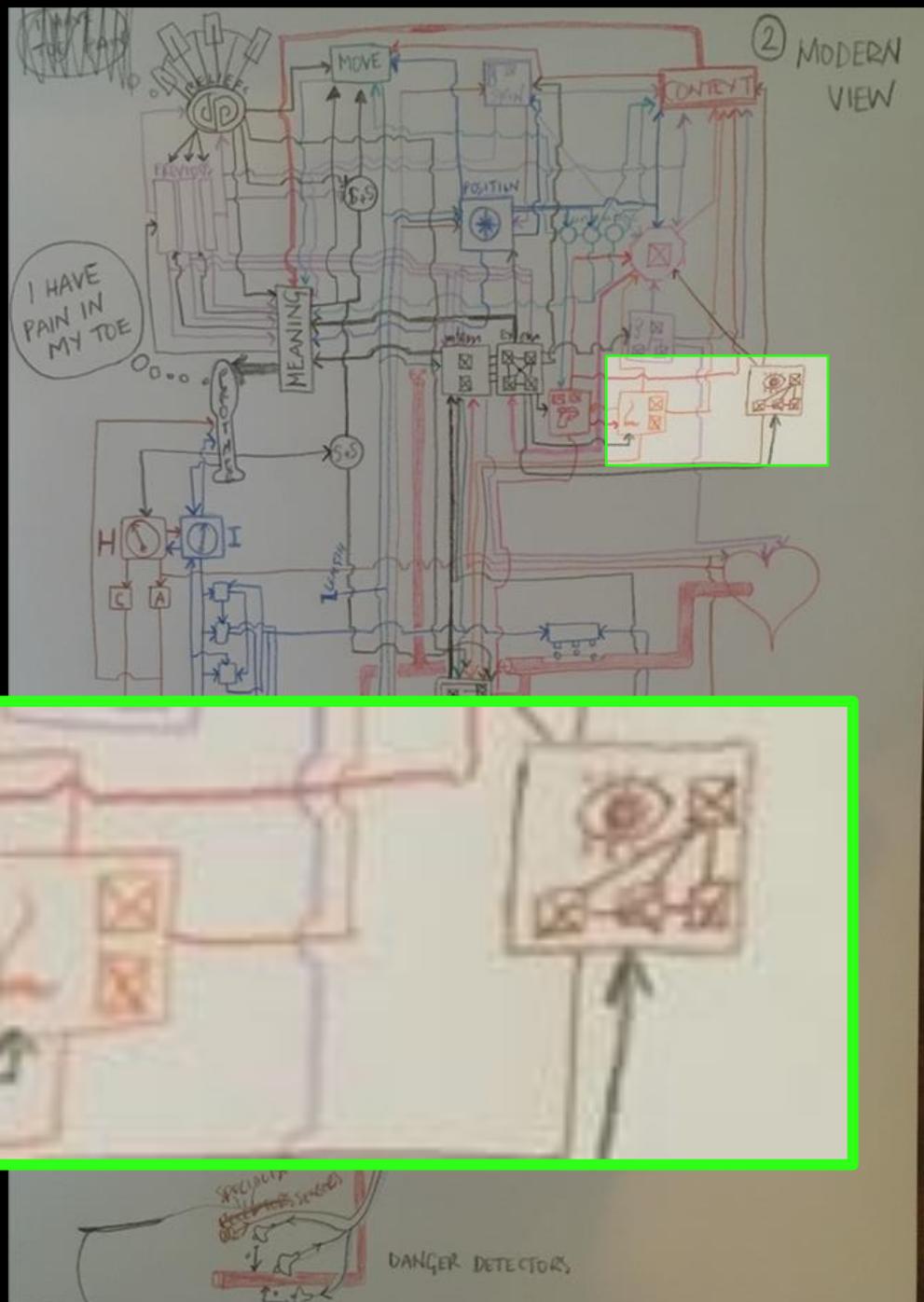
'Modern view'

Very very complex

AMAZING
protection system

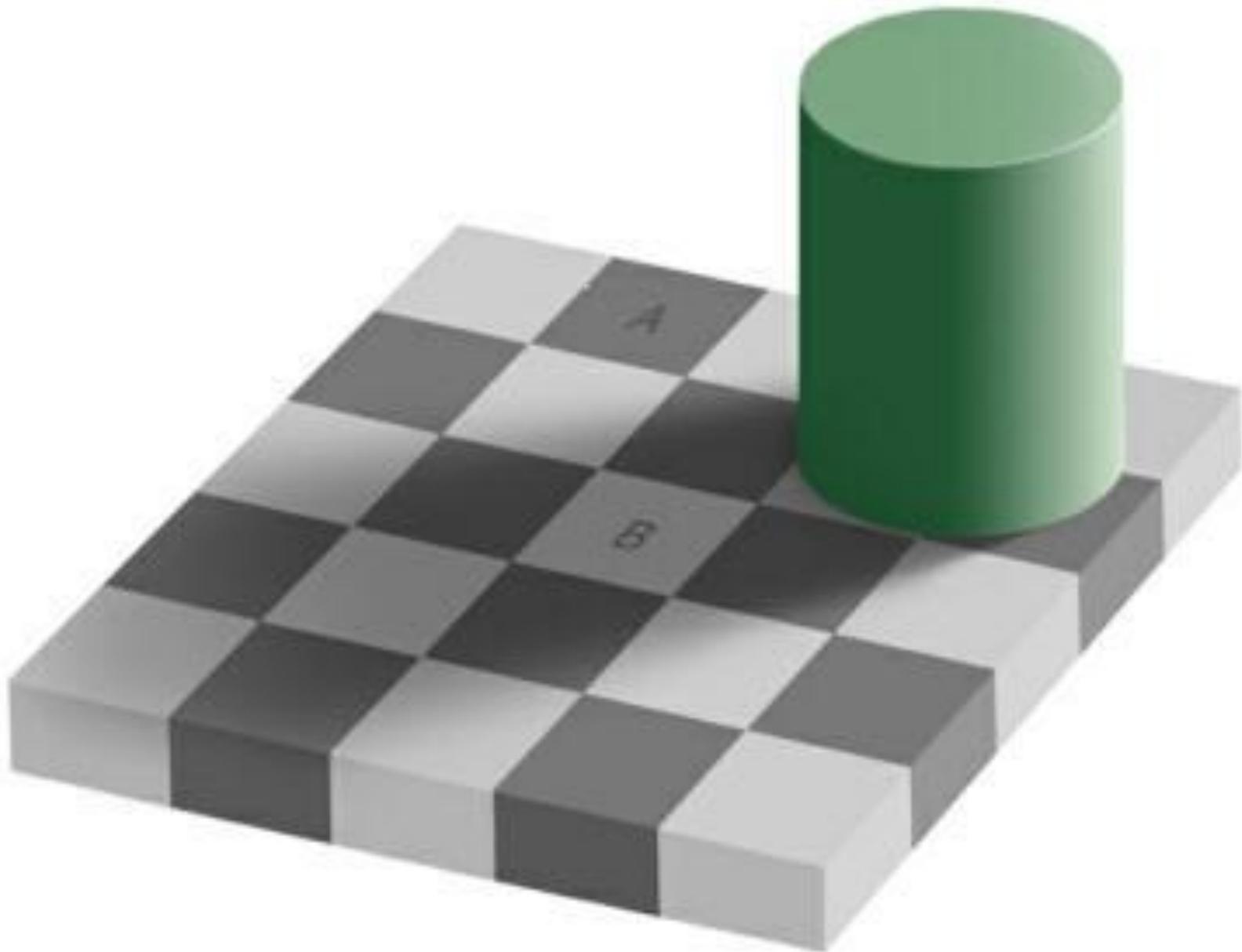
All incoming
information &
stored data

Many factors
change pain



Just like....

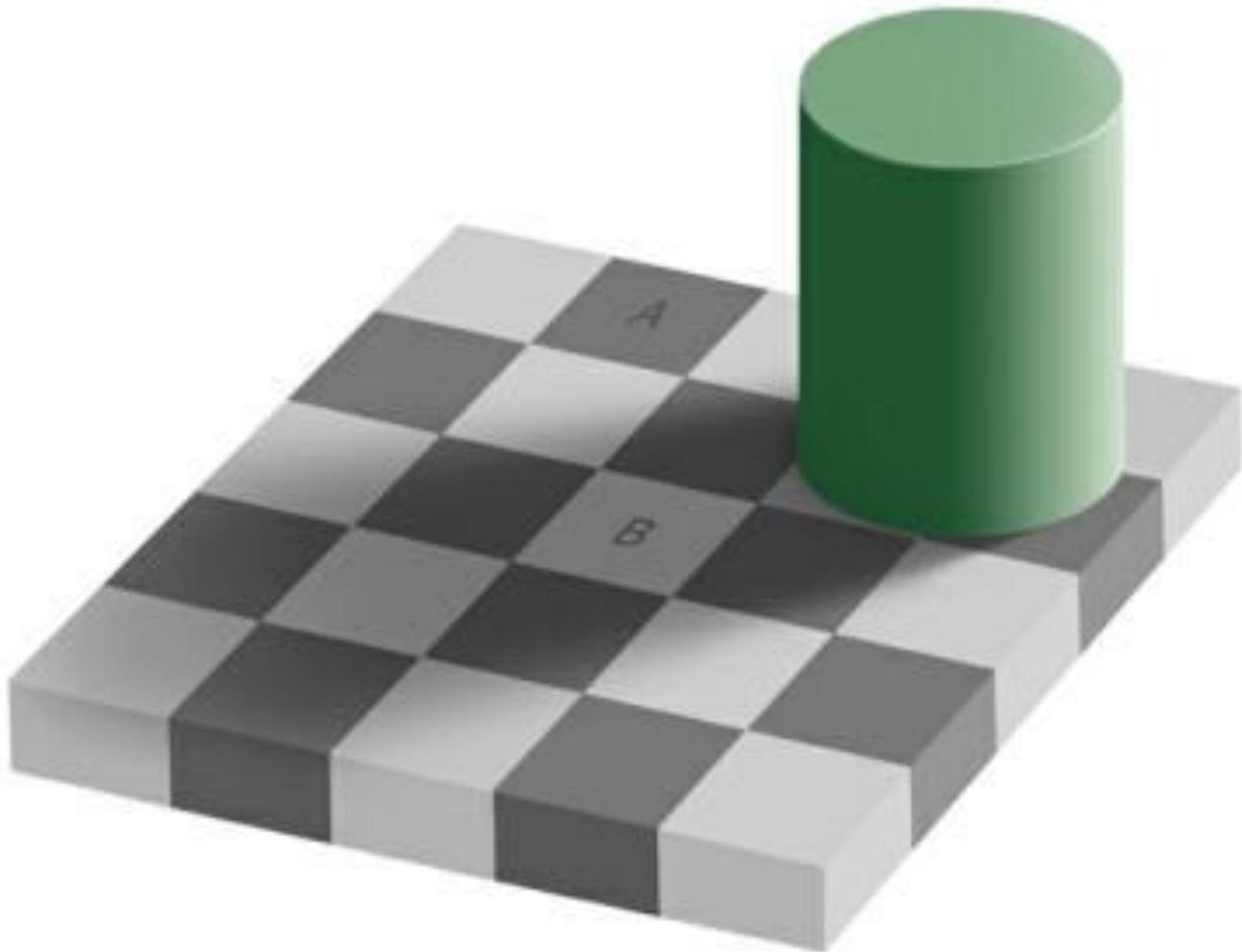
Many factors
change vision





A

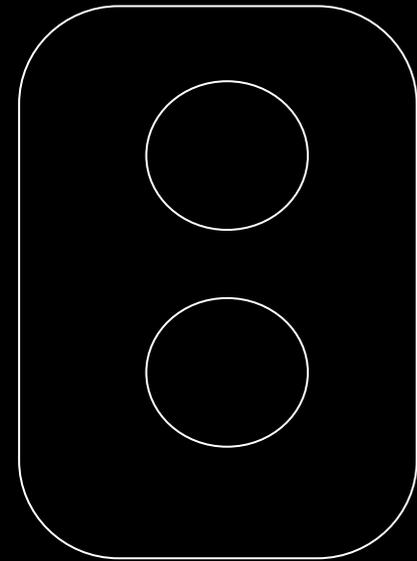
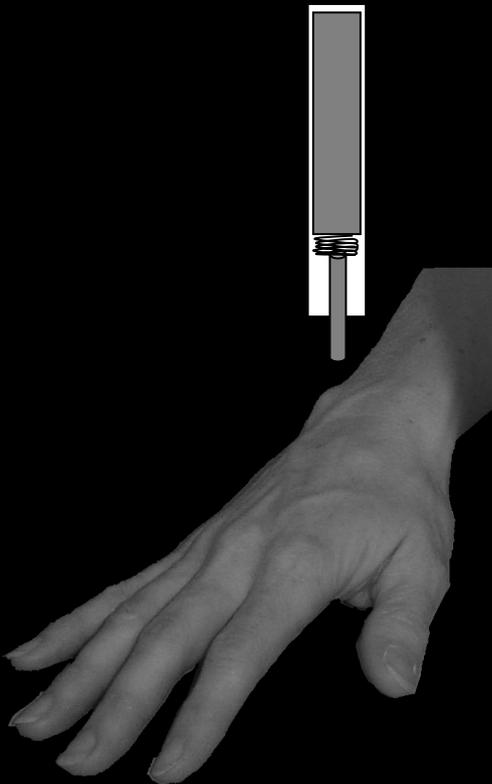
B



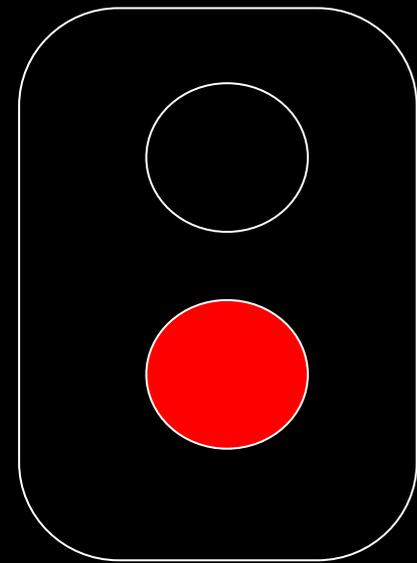
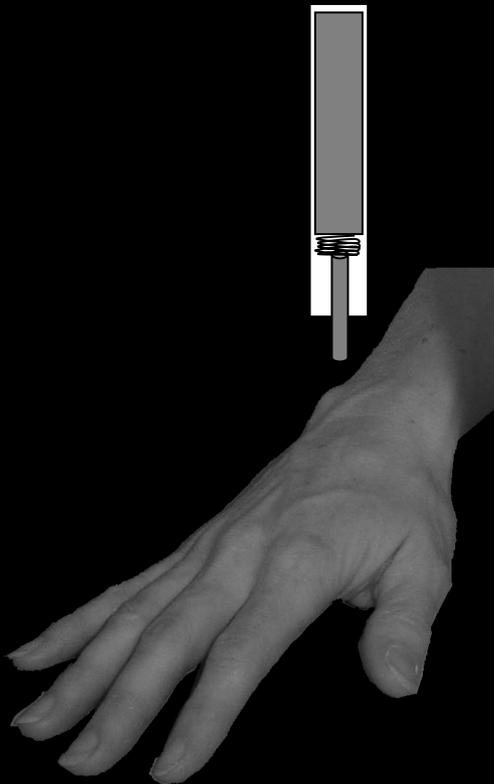
Visual input changes pain.

Many factors
change pain

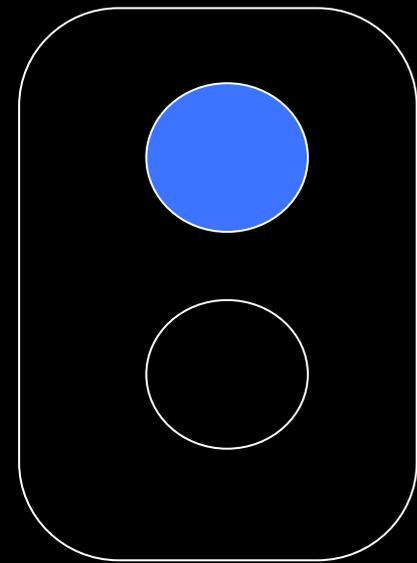
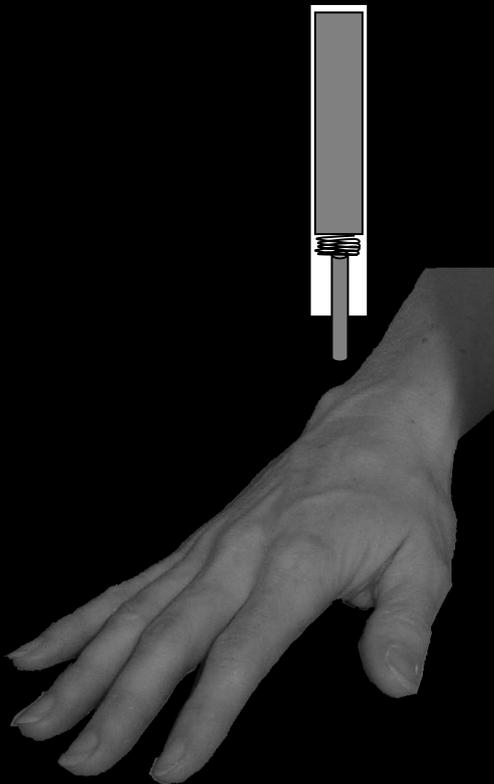
Very cold (-
20°C) stimulus
associated
with a red or a
blue light



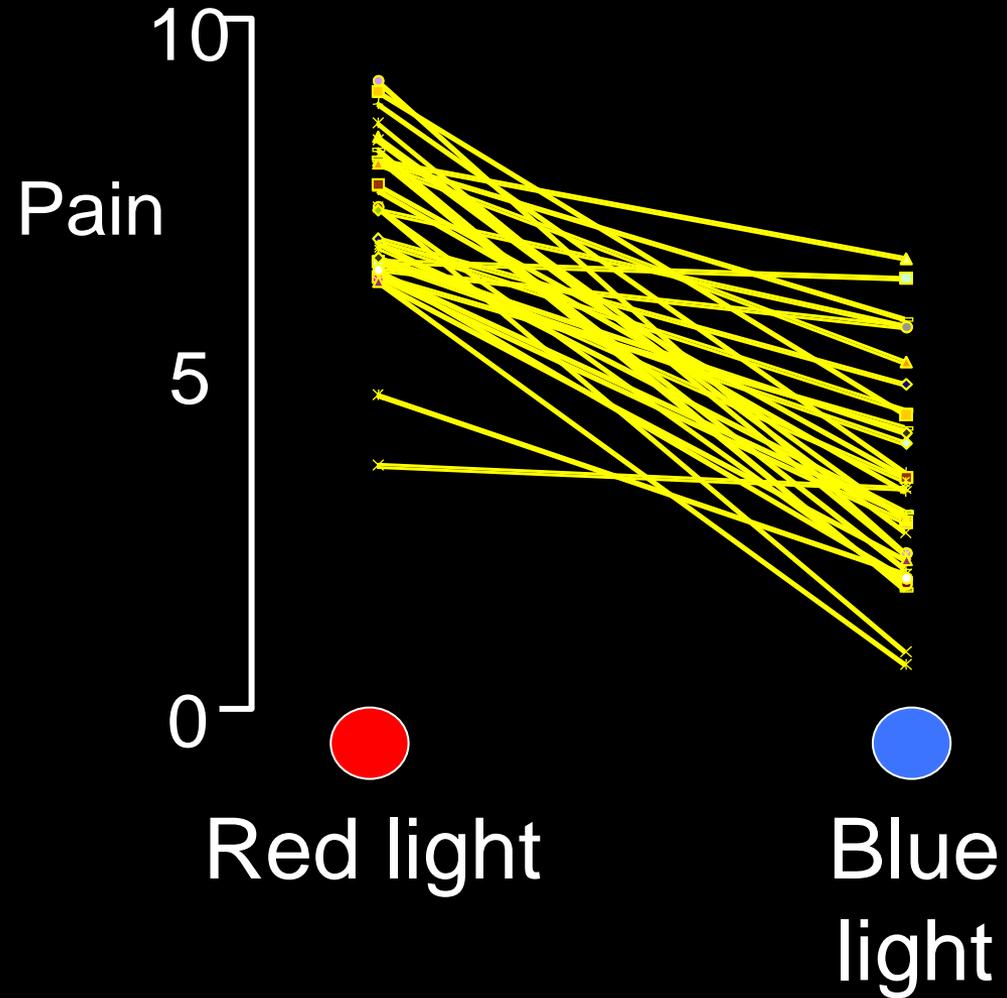
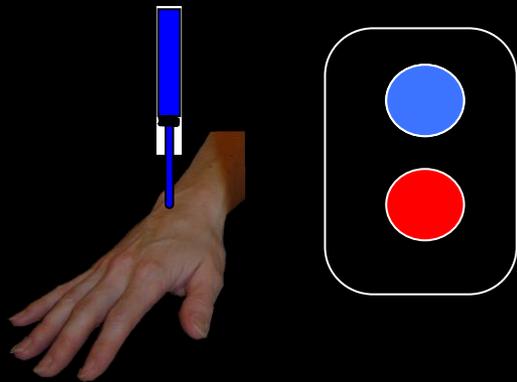
Show a red light, which means HOT



Show a blue light, which means COLD



**Always the same stimulus

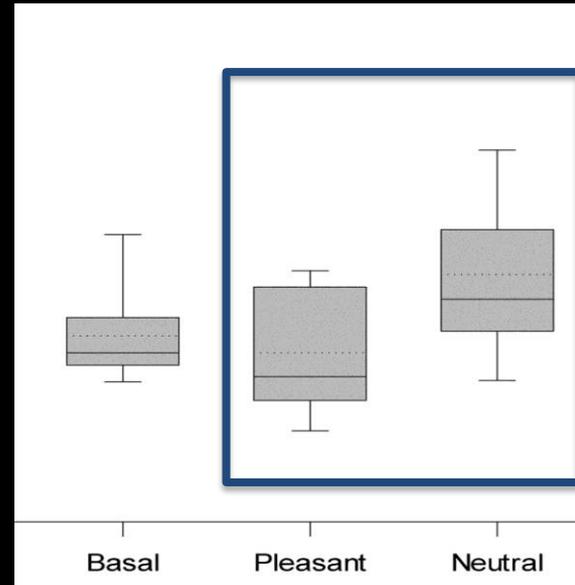


All sensory inputs can
change pain.



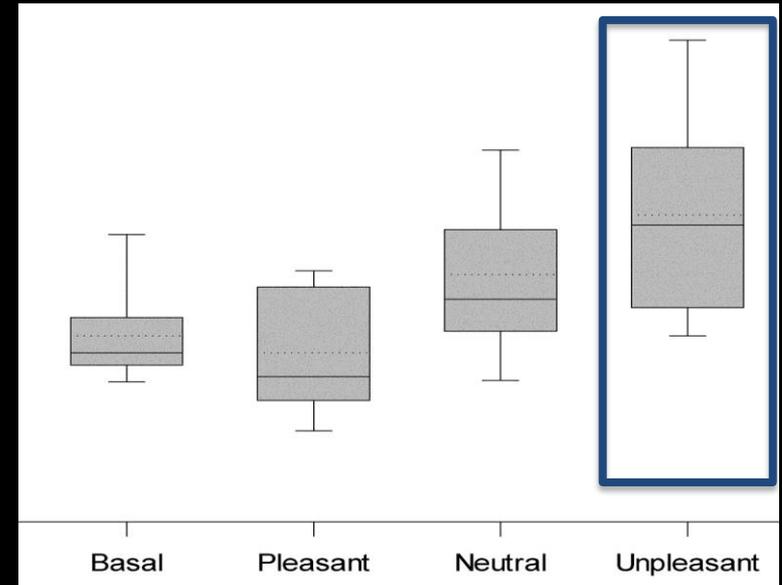


Size of
withdrawal
reflex





Size of
withdrawal
reflex



'Fart spray'

Bartolo et al., 2013 PAIN

Any input at all can
change pain.

Anything that suggests you
need protecting
increases protection.

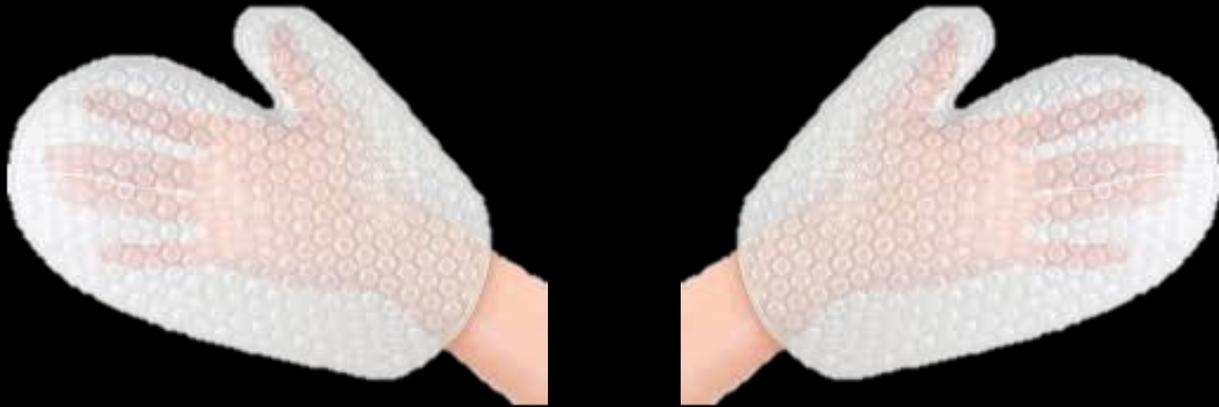
Anything that suggests you don't
decreases protection.

Anything that suggests you
need protecting
increases pain.

Anything that suggests you don't
decreases pain.

In **violinists**, which hand would be more protected by our inbuilt amazing pain system?

Why?





Butler & Moseley 2013 Explain Pain

In violinists,
fingers on their
left hand are **more**
sensitive than
fingers on their
right hand.

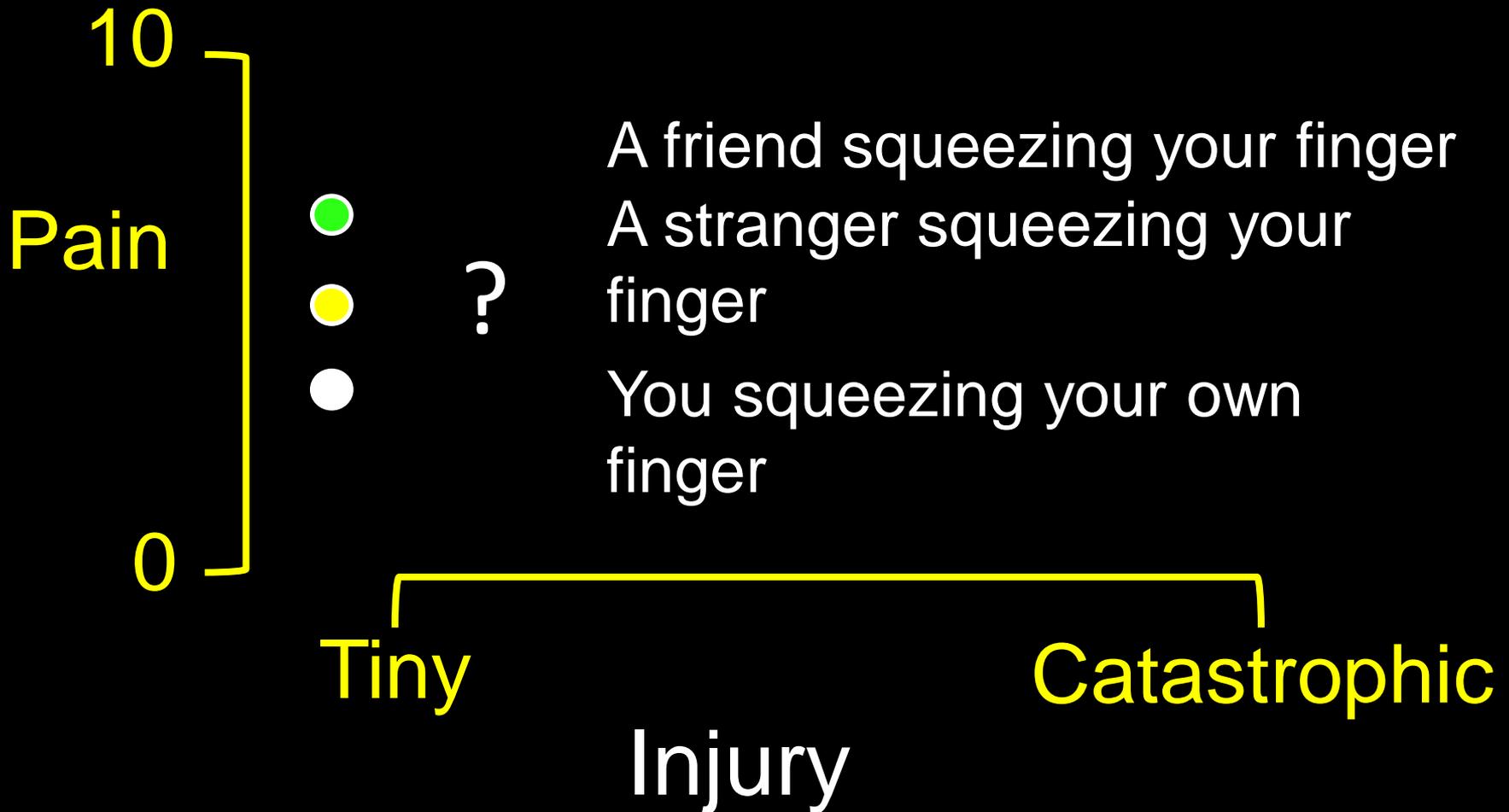


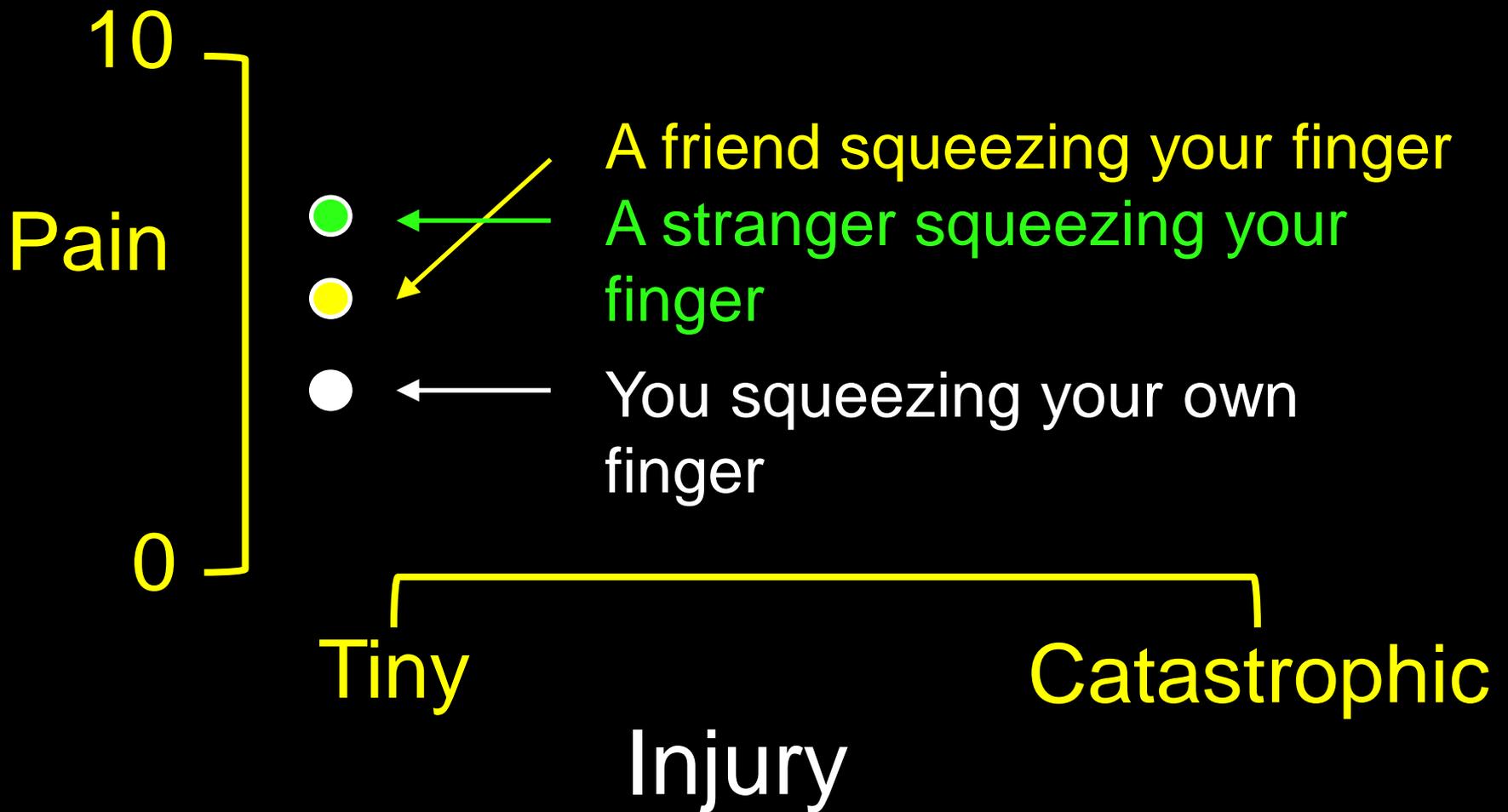
In violinists,
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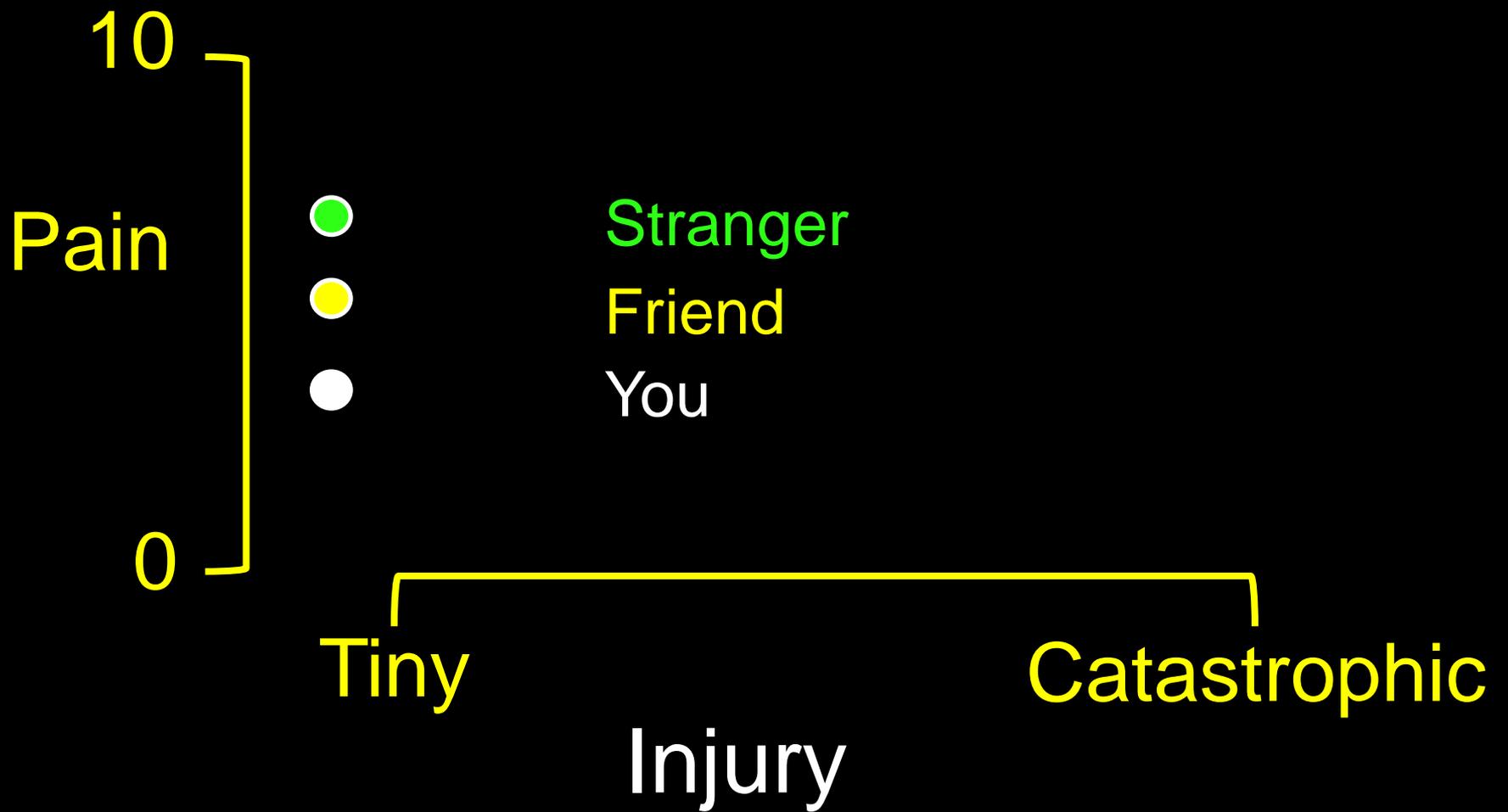
The event is the same, but the
risk is different

Butler & Moseley 2013 Explain Pain

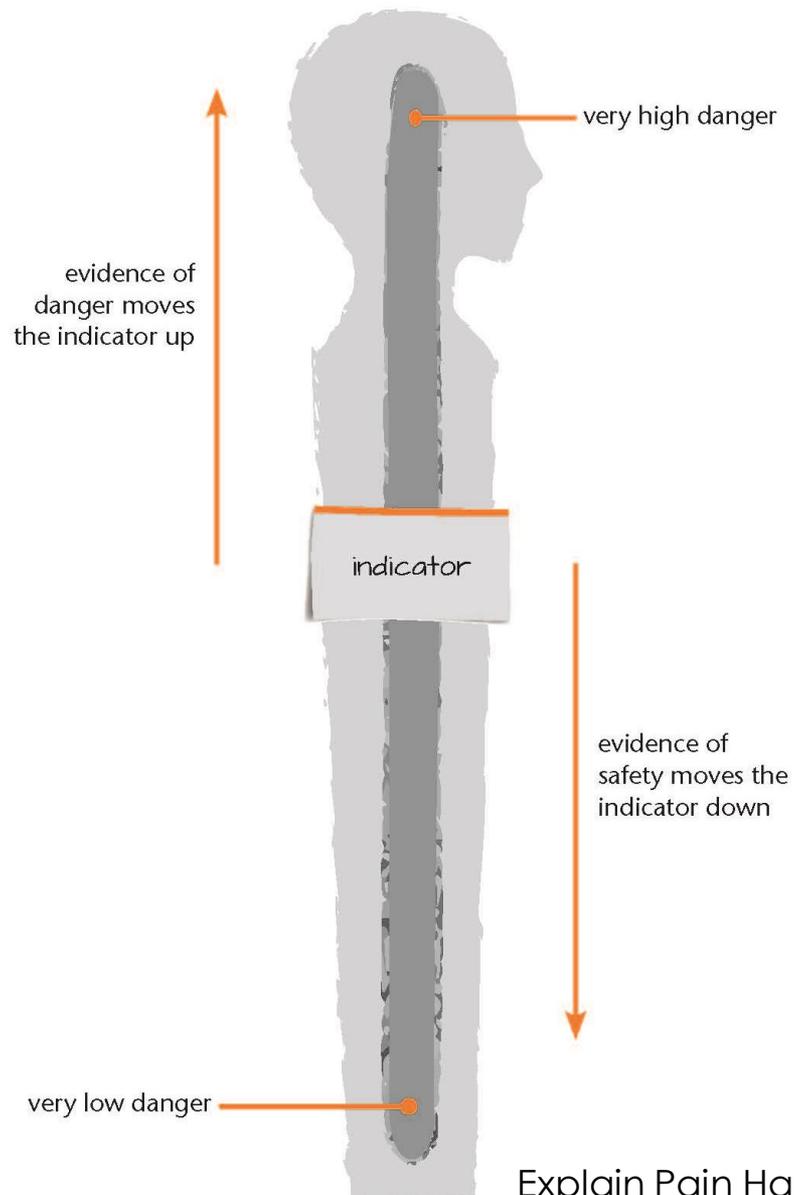
Imagine these three scenarios - the event is the same



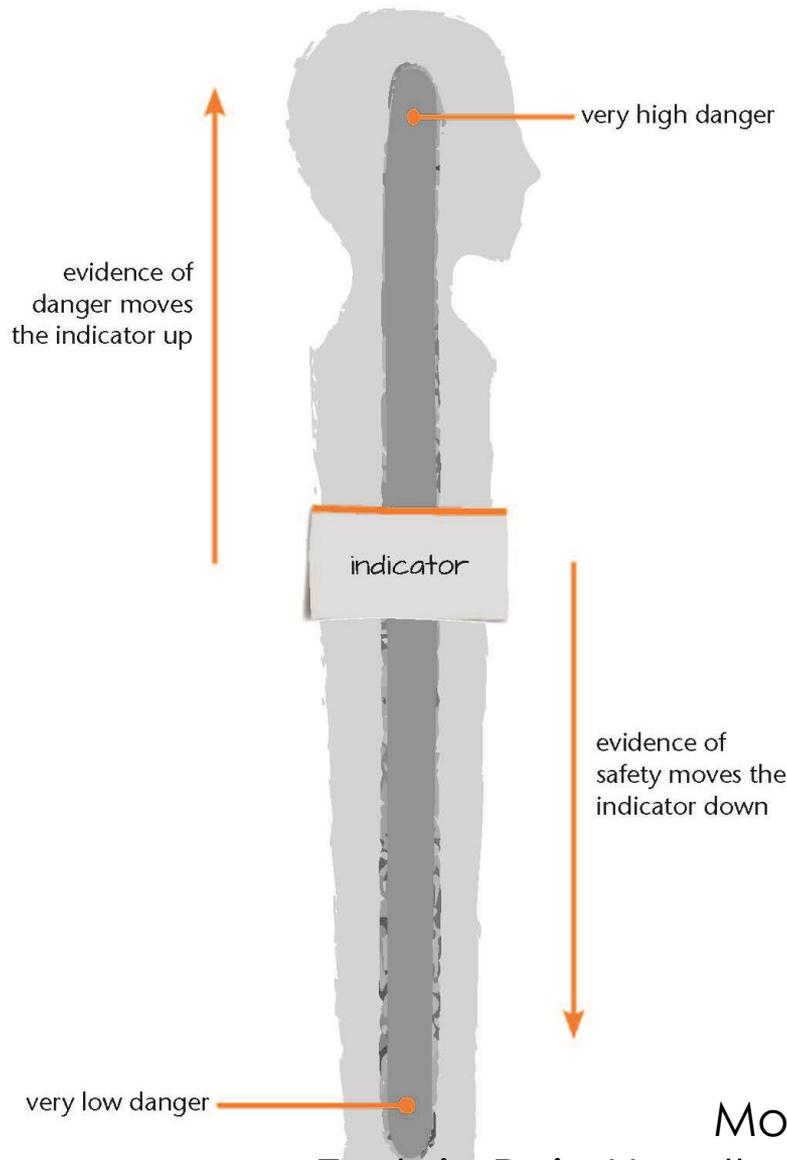




Your Protectometer



Your Protectometer



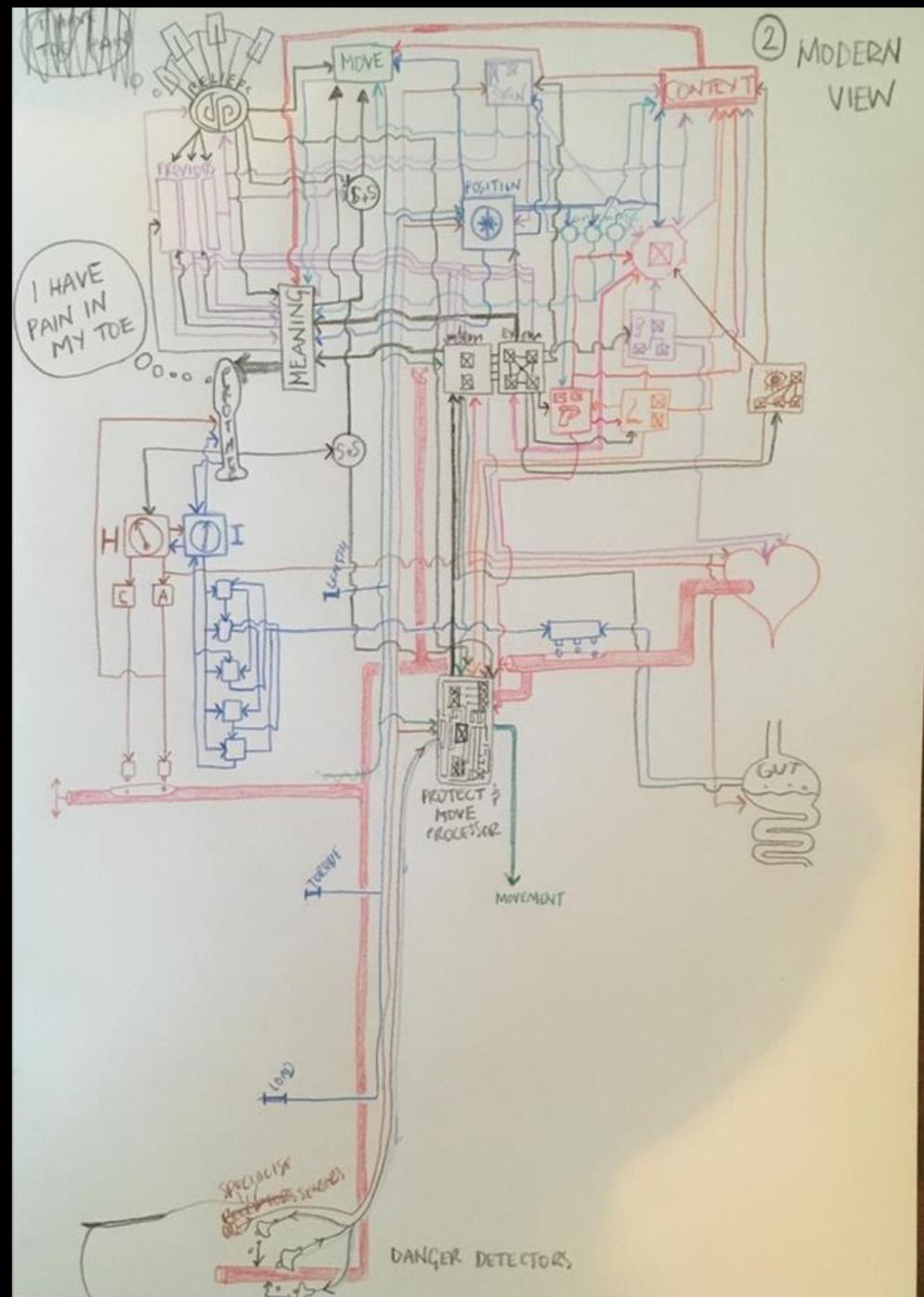
genetics
thoughts
activities
beliefs
people
tissue health
places
stressors
exercise
food
drink
air
sleep

Moseley & Butler 2015

Explain Pain Handbook: Protectometer

My talk in a nutshell:

1. Pain prevents injury & promotes recovery.
2. Persisting pain becomes over-protective, preventing recovery and decreasing your health.
3. There are always many factors that change pain.



‘Modern view’

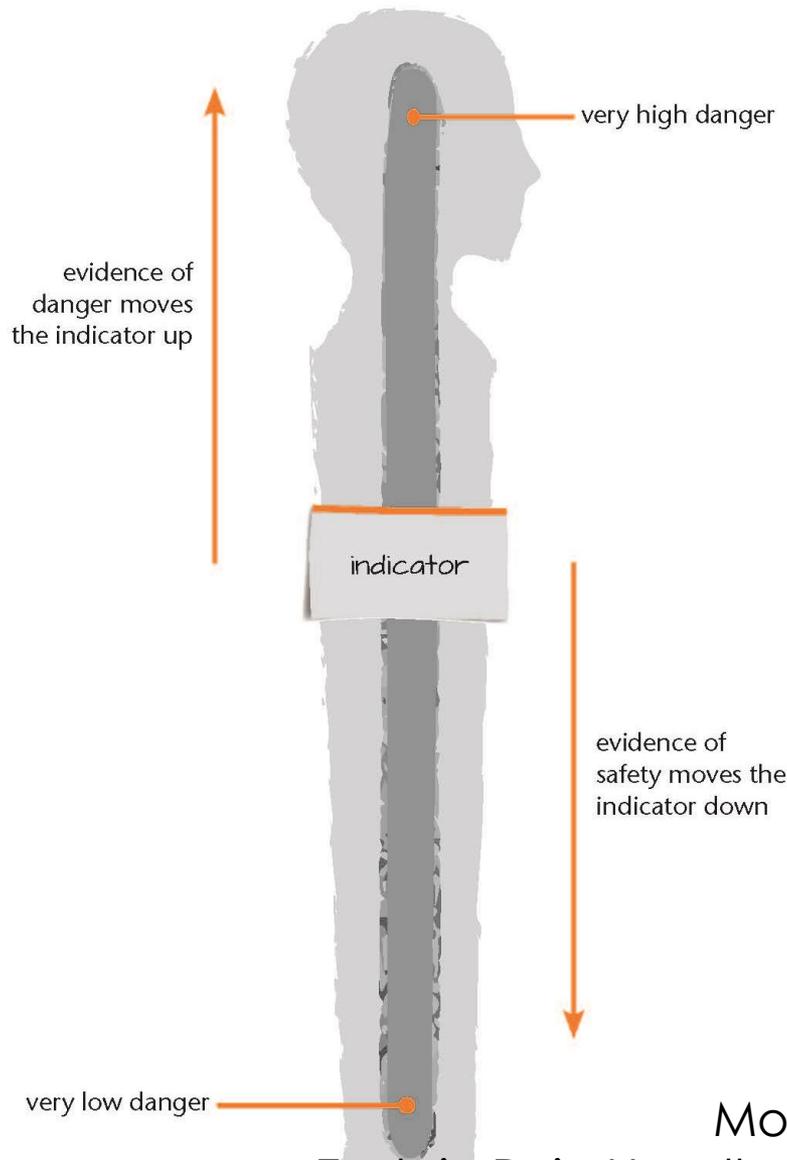
Very very complex

AMAZING
protection system

Many factors
change pain

Therefore, many
strategies can
change it back.

Your Protectometer



genetics
thoughts
activities
beliefs
people
tissue health
places
stressors
exercise
food
drink
air
sleep

Moseley & Butler 2015

Explain Pain Handbook: Protectometer



pain **revolution**

www.painrevolution.org

It's time to rethink persistent pain

Watch the video below to learn how.



www.tamethebeast.org