

Engineering the concept of pain for clinical practice

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Philosophy of Mind,
Psychology and
Cognitive Science:

Perception,
esp. its subjective aspects;
color and pain

Philosophy of
Medicine:

Conceptions of pain in
clinical practice; pain
reports and credibility



Roadmap

- I. The international association for the study of (IASP) and its original definition of pain (1979)
- II. Conceptual engineering
- III. The desiderata for a definition of pain suitable for clinical practice
- IV. The revised IASP definition (2020)
- V. The engineered alternative
- VI. Objections and worries

I. The international association for the study of (IASP) and its original definition of pain (1979)

The International Association for the Study of Pain

- The International Association for the Study of Pain (IASP):
 - “the leading global organization supporting the study and practice of pain and pain relief”
 - “brings together scientists, clinicians, health care providers, and policymakers from around the world in pursuit of their mission to bring relief to those who are in pain.”



IASP

INTERNATIONAL ASSOCIATION
FOR THE STUDY OF PAIN

CELEBRATING | 1974-2024



The IASP definition of pain (1979)

- Designed to provide a functional understanding of pain that can be applied across contexts (prescriptive, not just descriptive)

<p>The original IASP definition of Pain</p> <p>(Merskey et al. 1979)</p>	<p>PAIN</p> <p>An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage.</p>
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- Accompanied by a note which clarified intended interpretation and usage and provided normative guidance for engaging with patients in pain and interpreting their pain reports
- The “official” definition of pain but also attracted a lot of criticism

II. Conceptual engineering

Conceptual engineering

The philosophical method aimed at assessing and improving our concepts or, more generally, our ways of thinking and talking about some subject matter

Identify the purposes for which we want to use the concept.

Evaluate the existing concept against those purposes.

(If necessary) engineer the concept to better fulfill its intended purposes.

Conceptual engineering

My engineering efforts target the IASP definition of pain:

Identify the purposes for which we want to use the definition.

Evaluate the existing definition against those purposes.

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Assumptions

- Concepts exist and guide our interactions with our world
- Concepts can be deliberately modified
- Words, definitions, concepts, and patterns of thought are related in a way that modifying the IASP definition of pain can, under certain conditions, drive or enhance conceptual change

III. The desiderata for a definition of pain suitable for clinical practice

Identify the purposes for which we want to use the definition.

Evaluate the existing concept against those purposes.

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Purpose: The IASP definition should facilitate effective clinical practice (diagnosis and treatment)

Specific desiderata for the definition:

Accuracy

The definition should accurately and unambiguously reflect the current state of the art in pain research

Tractability

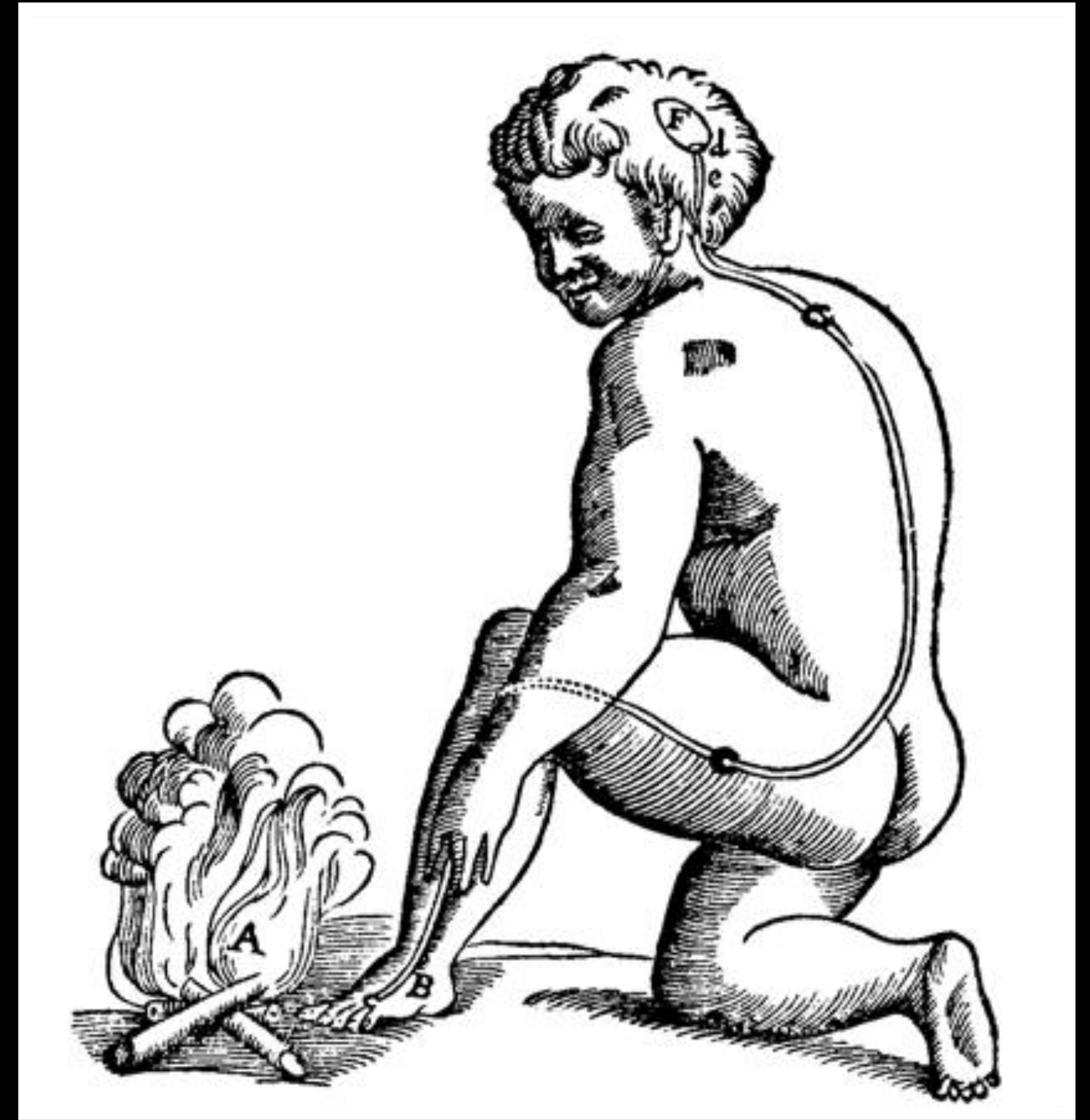
The definition should be cognitively tractable: simple, concise, easy to grasp, easy to remember, etc.

Justice

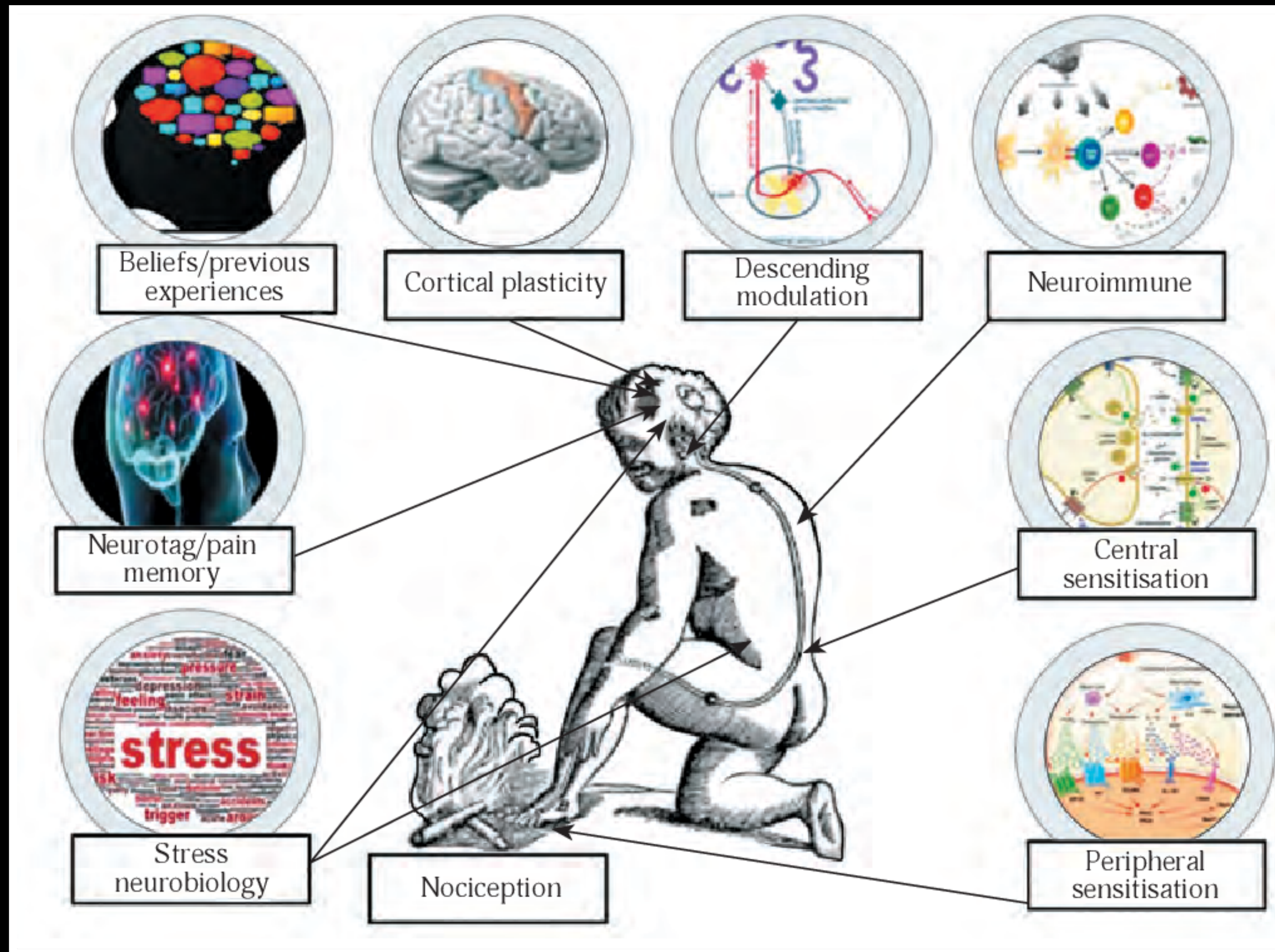
The definition should contribute to (distributive and epistemic) justice in patient-provider interactions

Accuracy and Scientific Conceptions of Pain

- Accurate understanding of pain needed for effective diagnosis and treatment
- Example of an inaccurate conception: *pain-as-nociception*
 - Assumes that the pain system is simple and linear and that “normal” pain correlates straightforwardly with nociceptive activity
 - *Bifurcated* view of pain: organic vs. psychogenic



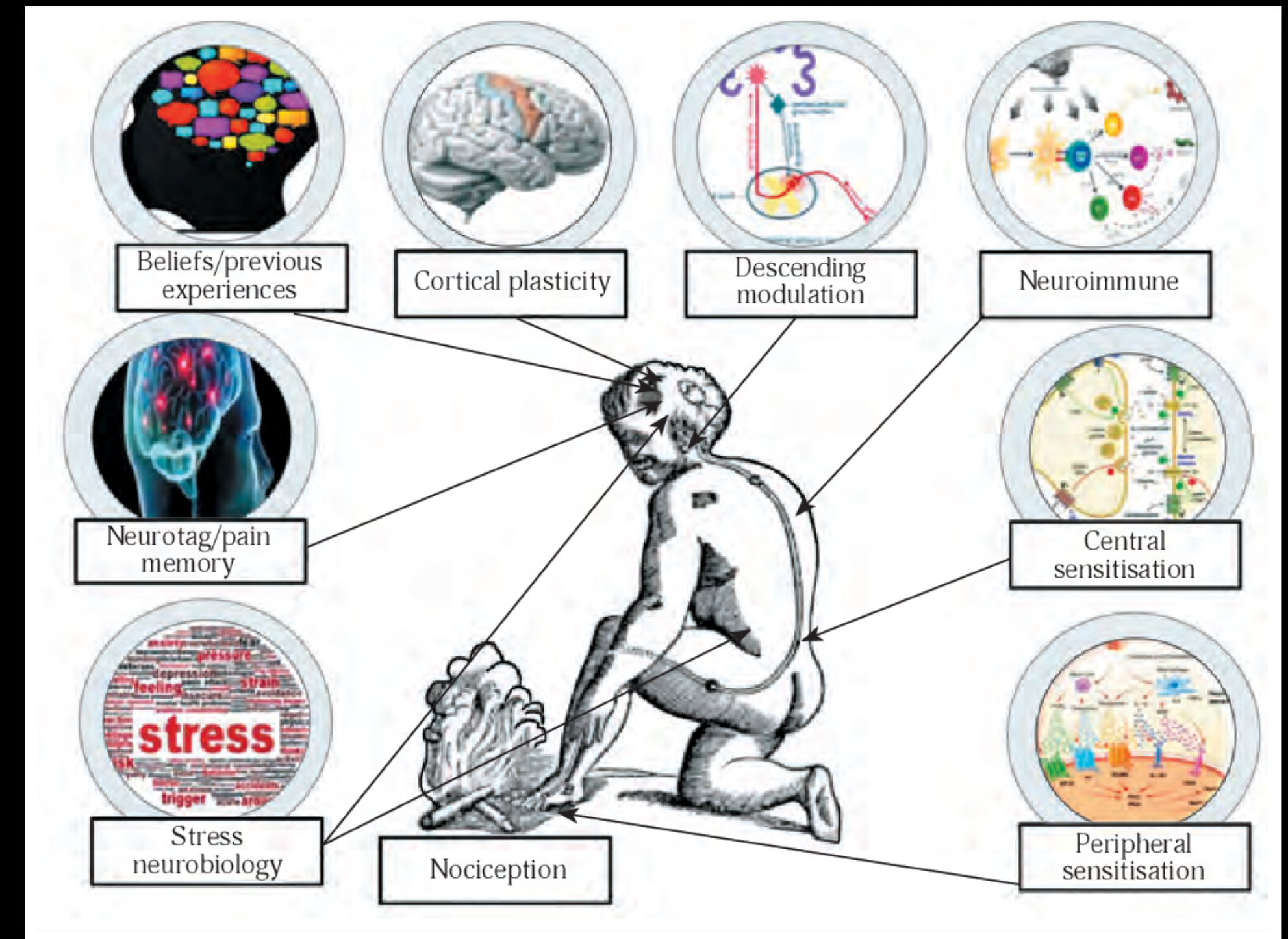
From Descartes' *Traite de l'homme* (Treatise of Man), 1664



From Burmistr (2018), "Theories of pain up to Descartes and after Neuromatrix"

Accuracy and Scientific Conceptions of Pain

- The IASP definition is vague and permits interpretations that align with the oversimplified, bifurcated view of pain
 - It fails to emphasize the complexity of pain (Morris 2003) and lacks “precision” (Cohen et al. 2018; Wright 2011)
- The IASP definition should clearly and unambiguously communicate the idea that *all* pain is multifactorial and *all* pain results from the interplay of many factors



Accuracy, Tractability, and Folk Theories

- If the IASP definition needs to balance accuracy with cognitive tractability
- A potential barrier for cognitive tractability: the intuitive and deeply entrenched folk conception of pain as a damage detector (“more pain means more damage.” etc.)
 - Might encourage clinicians to think of pain primarily as a symptom of underlying damage, which can obstruct effective reasoning about pain that is unexplained or “disproportionate” ➤ The IASP definition should seek to dislodge the folk theory

Accuracy, Tractability, and Folk Theories

- The IASP definition should seek to dislodge the folk theory
- New metaphor: the pain system as a dynamic **protector** (Moseley & Butler 2015) or **security system** (Rosenqvist 2024); a sophisticated threat-monitoring network that aims at preserving bodily or existential integrity
 - Brings context-sensitivity and adaptability of the system into focus
 - Portrays some types of chronic pain as a disease of the pain system that likely require individualized, multimodal treatment

Accuracy and Justice

- Pain, especially chronic pain, is frequently undertreated, especially in women and other clinically vulnerable populations (Tait & Chibnall 2014; Hoffmann & Tarzian 2001) ➤ constitutes a form of *distributive* injustice
- Patients with (chronic) pain frequently report that their testimony is met with dismissal and skepticism ➤ can constitute *epistemic* injustice, if the patients' credibility is systematically deflated based on prejudiced views of who the patients are (Fricker 2007; Dotson 2014)
- Theoretical entities can contribute to injustice in medicine (Kidd & Carel 2019) ➤ a flawed understanding of pain can lead clinicians to overemphasize objective measures and activate stereotypes
- The IASP definition might indirectly enable and legitimize practices that harm some patients and a revised definition should actively challenge these dynamics (*accuracy is tied to justice*)

IV. The revised IASP definition (2020)

Identify the purposes for which we want to use the concept.

Evaluate the existing definition against those purposes.

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The revised IASP definition of pain (Raja et al. 2020)

Definition of Pain

What does the word “pain” really mean? Read the latest definition used by pain professionals.

PAIN

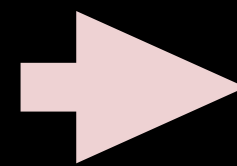
An unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage.

- The outcome of a two-year process
- IASP Task Force: the goal was to “better convey the nuances and the complexity of pain” in the hope that “it would lead to improved assessment and management of those with pain”(Raja et al. 2020, 1978)

Evaluation

PAIN

An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or **described in terms of** such damage.



PAIN

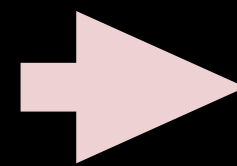
An unpleasant sensory and emotional experience associated with, or **resembling that associated with,** actual or potential tissue damage.

- Minimal changes to the definition itself
- More significant revisions to the note: removal of a problematic passage from the 1979 note which encouraged the bifurcated view of pain

Evaluation

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PAIN

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- Problem: the revised definition still compatible with outdated notions of pain as a signal for tissue damage ➤ can reinforce the harmful distinction between normal pain (associated with tissue damage) and psychogenic pain, which merely resembles normal pain
- Ambiguity risks perpetuating misconceptions ➤ many still default to the detector view of pain and the new definition risks reinforcing rather than disrupting this view

V. The engineered alternative

Identify the purposes for which we want to use the concept.

Evaluate the existing concept against those purposes.

(If necessary) engineer the definition to better fulfill its intended purposes.

The engineered alternative

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 - (i) communicates that pain is complex and multifactorial; combats the oversimplified dichotomy between organic vs. psychogenic pain and helps validate pain reports that do not straightforwardly correspond to observable tissue damage
 - (ii) introduces a functional framing that deliberately aligns with the protector metaphor; destabilizes the folk theory and highlights pain's function as a powerful motivator (which ideally fosters more empathetic and patient-centered approaches to care)
 - (iii) invokes the common association between pain and tissue damage (serves to distinguish pain from other unpleasant sensations), but also makes it clear that the association is not simple or straightforward

The engineered alternative

- Pain is a paradigmatically unpleasant bodily experience that (i) arises from the dynamic interaction of biological, psychological, and contextual factors, (ii) typically functions as a protective signal, and (iii) often accompanies actual or potential tissue damage.
 - As a whole intended to encourage clinicians to focus on the pain system itself, especially when no tissue injury is identified, to highlight the potential for recalibrating the system when its functioning becomes maladaptive, and to elevate the importance of patient testimony.

VI. Objections and worries

Eliminating pain vs. Engineering Pain

- Eliminativists about pain advocate abandoning the concept of pain (or at least “pain-talk”)
 - why is engineering pain preferable to eliminating pain?
- Eliminativists about pain find insufficient continuity between the traditional, folk concept of pain and the revised, scientific concept to justify the continued use of the same term (see, e.g., Hardcastle 1999, 157)
- The conceptual engineer has a different perspective: since pain-talk appears to be **useful** and perhaps even **essential** in certain contexts (such as the clinical one), we should fix the concept as well as possible and work to disseminate the updated understanding broadly

Is this really necessary?

- The IASP definition (in both forms) has its **defenders**:
 - Aydede (2017, 440): criticisms of the original definition “don’t cut much ice” and the definition is “basically correct”
 - Treede (2018): the definition does not need revising because it “does not require the presence of a noxious stimulus for pain to exist.”
- Aydede and Treede employ a lower threshold for an adequate definition of pain: a successful definition only needs to encompass all instances of pain and exclude non-pain cases (conceptual analysis)
- But the IASP definition is supposed to do more than that; it’s also supposed to facilitate effective and just clinical practice (conceptual engineering)

Is this really helpful?

- Can engineering the IASP definition really bring about significant conceptual change?
- Empirical question but there's reason for optimism: (i) the status and wide reach of the definition plausibly make it an effective vehicle for disseminating new ways of thinking and talking about pain, and (ii) the effectiveness is likely increased when pursued in conjunction with other engineering efforts, e.g., the recent revisions to the International Classification of Diseases (ICD)



ICD-11 Pain Classification

Learn more about this new classification that gives chronic pain greater attention as global health priority.

Definition of Pain

What does the word "pain" really mean? Read the latest definition used by pain professionals.

What about other contexts and purposes?

- This is a paper in **local** conceptual engineering: my goal is to come up with a clinically useful definition of pain
- But the IASP definition is supposed to be applicable across a wide range of contexts and there might be tensions or trade-offs
- My proposal is an example of how the concerns from **clinical practice** could be better met and it's meant to generate debate and discussion that will eventually lead to improved definition

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Thanks!

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