



ALMA MATER STUDIORUM | DEPARTMENT  
UNIVERSITÀ DI BOLOGNA | FOR LIFE QUALITY STUDIES

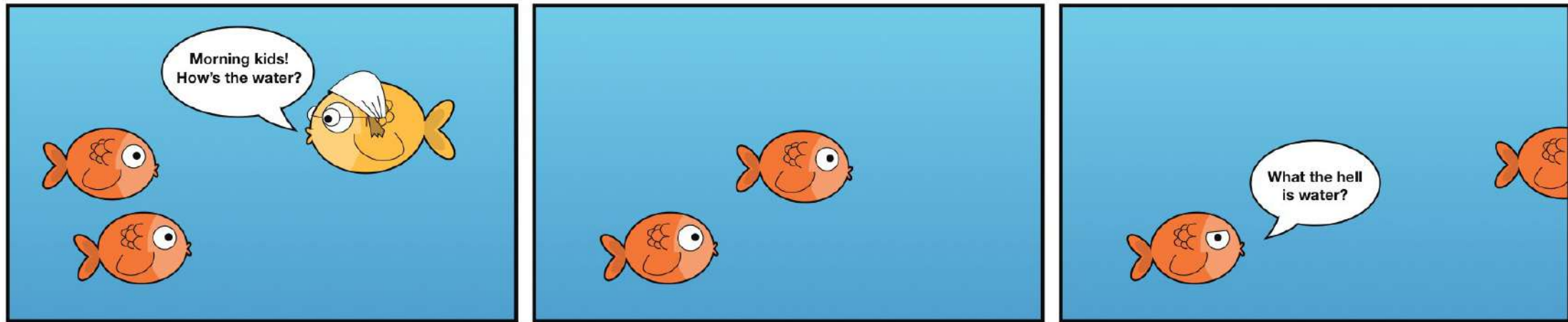
# CLASS 1: INTRODUCTION CONCEPTS OF DISEASE

Philosophy of Medicine  
PHILOSOPHY OF MEDICINE, BIOETHICS  
AND COMMUNICATION ETHICS,  
Medicine and Surgery, 24-25

ELISABETTA LALUMERA UNIVERSITÀ DI BOLOGNA

**Periodo di svolgimento delle lezioni: 17/03/2025 - 25/03/2025**

lunedì, 17 marzo 2025	18:00 - 20:00	AULA MASSIMO D'ADDATO Piano Terra 955 - Sant'Orsola - Pad. 5 Via Giuseppe Massarenti, 9 - Bologna
martedì, 18 marzo 2025	18:00 - 20:00	AULA MASSIMO D'ADDATO Piano Terra 955 - Sant'Orsola - Pad. 5 Via Giuseppe Massarenti, 9 - Bologna
venerdì, 21 marzo 2025	18:00 - 20:00	AUL Piar 955 Via Giuseppe Massarenti, 9 - Bologna <b>Online</b>
martedì, 25 marzo 2025	18:00 - 20:00	<b>In presence</b>



# PHILOSOPHICAL PROBLEM

David Foster Wallace (writer, his most famous novel is *Infinite Jest*)  
What is water? 2005

# COURSE CALENDAR

martedì, 24 marzo 2026	18:00 - 20:00	AULA MAGNA OSTETRICIA E GINECOLOGIA Piano Terra 965 - Sant'Orsola - Pad. 4 Via Giuseppe Massarenti, 13 - Bologna
mercoledì, 25 marzo 2026	18:00 - 20:00	AULA MAGNA OSTETRICIA E GINECOLOGIA Piano Terra 965 - Sant'Orsola - Pad. 4 Via Giuseppe Massarenti, 13 - Bologna
giovedì, 26 marzo 2026	18:00 - 20:30	AULA MAGNA OSTETRICIA E GINECOLOGIA Piano Terra 965 - Sant'Orsola - Pad. 4 Via Giuseppe Massarenti, 13 - Bologna
lunedì, 30 marzo 2026	18:00 - 20:00	AULA MAGNA OSTETRICIA E GINECOLOGIA Piano Terra 965 - Sant'Orsola - Pad. 4 Via Giuseppe Massarenti, 13 - Bologna

Class 1: Introduction; concepts of disease

Class 2: Health

Class 3: Evidence

Class 4: Medicine, values, and society

# COURSE CONTENTS CLASS 1 AND 2

## 1. Disease

What is for a condition to be a disease, or pathology? Normativist and naturalist definitions. The threshold problem between disease and risk factor. Controversial diseases, such as old age and obesity. Examples from psychiatric nosology. The concept of disease adopted influences public health policies, medical research and care.

## 2. Health

Medicine aims to preserve and restore people's health But what is health? Different concepts of health, from the absence of disease to complete well-being. Well-being, quality of life and other constructs are based both on evidence and on the values of society and people. Again, different concepts of health and well-being determine different policies and models of care.

# COURSE CONTENT CLASS 3 AND 4

## 3. Evidence

What is Evidence-based Medicine? What do we mean by evidence or proof in medicine? Why is the evidence ordered in a hierarchy, i.e. are some studies “better” than others for confirming a hypothesis or answering a clinical question? The concept of cause in medicine. Guidelines and the role of individual physician judgment. Most recent critiques and changes to the classic EBM paradigm.

## 4. Medicine, values, and society

Objectivity in science and in medicine. The role of values. Conflict of interest, publication biases and other problems.

# THE EXAM



This is an elective course composed of 2 modules, Philosophy of medicine and Bioethics, you will not be graded but you will either pass or fail



A written test with  $x$  multiple choice questions will be given, 10 for each module, with only one answer correct. Pass:  $x/2 + 1$  correct answers for each module



What to study: class notes (slides).



If you want to understand better: Stegenga, J. (2018). Care and cure: An introduction to philosophy of medicine. University of Chicago Press. These slides are partially based on this book.

# WHAT IS PHILOSOPHY OF MEDICINE?

A specialization of philosophy of science

Philosophy of science investigates concepts and methodologies of science and of specific sciences, from a normative point of view (how should they ideally be).

Born in the 1940s (The Vienna circle, Logical Positivism)

Problems for philosophers of science are, for example: What is a scientific theory? Are scientific theories representations of the world, or rather tools for modifying it? Can science be value-free? What is to explain in science and what are the models of explanation? What is causality? What is a law?

# PHILOSOPHY OF MEDICINE AND BIOETHICS

Bioethics: what is the right thing to do? What we/I should do? In the field of research, clinical contexts, etc.

Phil of medicine: what are the fundamental concepts in medicine? What are the methods of knowledge? What norms regulate them? What makes medicine a science?

Philosophy of medicine and bioethics are connected: there are ethical consequences of every conceptual and methodological choice

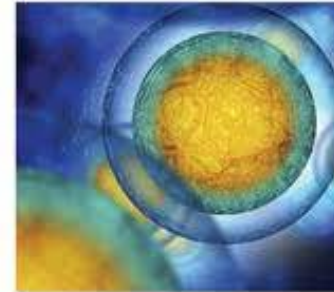
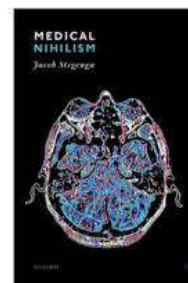
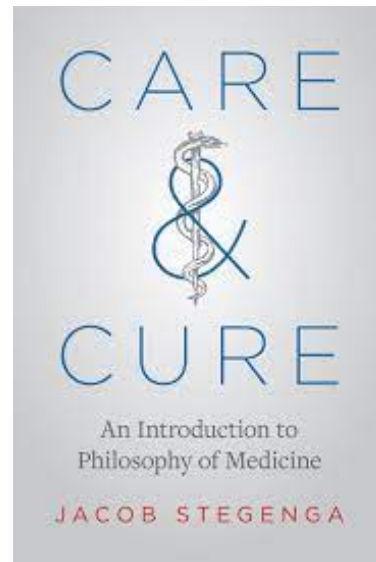
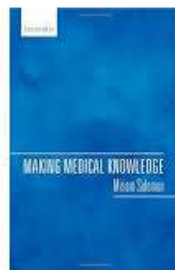
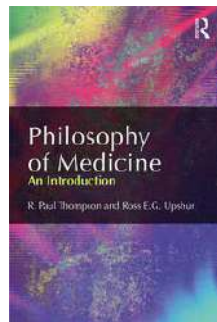
Phil of medicine is also distinct from the medical humanities traditionally understood (arts and medicine)

It is a relatively new field from an academic and professional point of view (specialised journals, courses and professorships).

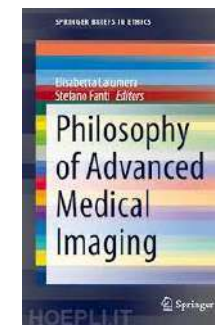
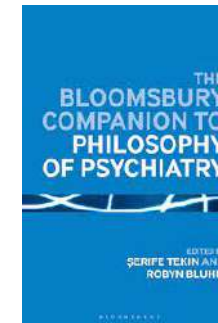
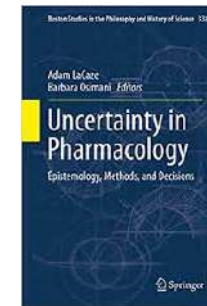
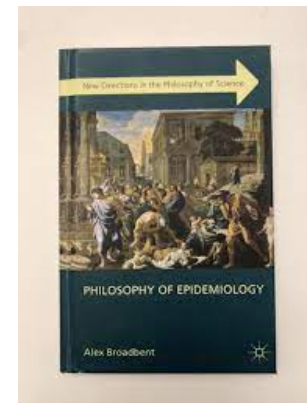
Born in the 1970s, increasingly important today

Human thinking about medicine, on the other hand, is very ancient

We will *\*not\** study the history of philosophy of medicine in this module



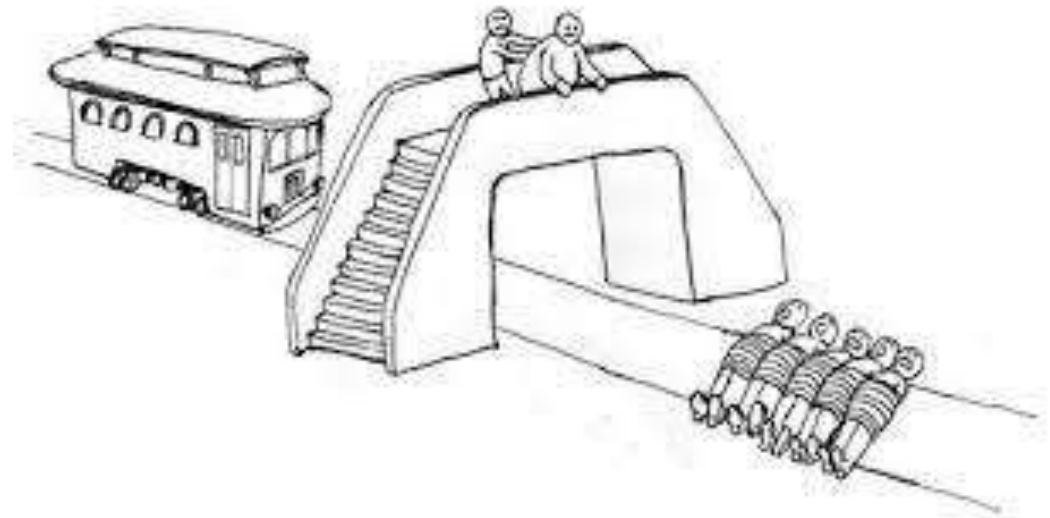
Edited by Miklós Solósz, Jeremy R. Sonick, and Harold Kincaid

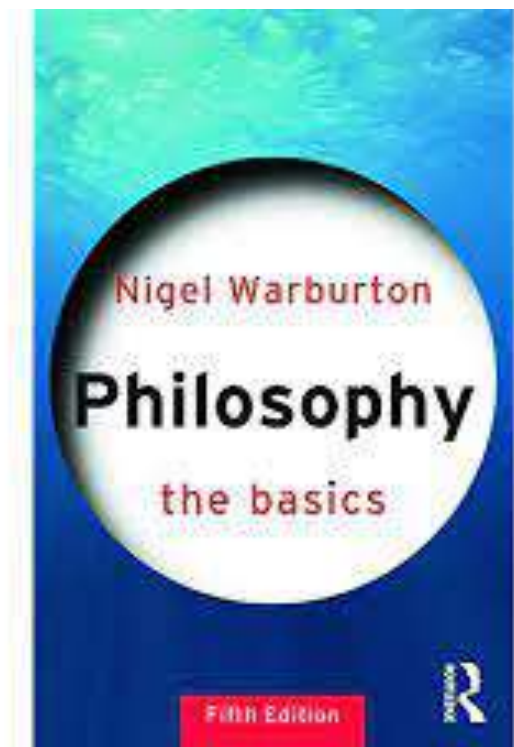


# PHILOSOPHICAL PROBLEMS

Philosophical problems are those for which there exist multiple compelling and competing views, and which cannot be answered straightforwardly by empirical means. There are many problems like this in various domains of life, such as ethics, religion, and politics.

Examples: ethical problems (see Trolley problem in the picture). But also: what is happiness? What is pain? What is to know something? What is truth? What are health and disease? Do abstract objects exist? If they don't how can we talk about them with true or false sentences (eg. In mathematics)? Etc.





Philosophy is an activity: a way of thinking about certain kinds of issues.

Its most outstanding feature is the use of logical arguments. Philosophers typically deal with arguments: they invent their own, criticize other people's, or do both.

They also analyze and clarify concepts.

# EXAMPLE (EXTREME!): IS ASSISTED SUICIDE FOR A PERSON WITH A MENTAL HEALTH CONDITION ETHICALLY PERMISSIBLE?

news > medscape medical news

## Brussels Terror Attack Victim Euthanized at Age 23

Frédéric Soumois  
October 25, 2022

[+ Add to Email Alerts](#)

295



359



Performing euthanasia for "mental suffering that cannot be alleviated" is still considered an extraordinary measure. Indeed, fewer than 2% of the requests for euthanasia fall within that category, and few such requests are made by young patients.

There is no doubt that people will talk about the case of Shanti De Corte not only because of the reason stated in her euthanasia request but also because someone so young was able to meet the strict conditions required for the law to be applicable. It's something that Belgian broadcaster RTBF brought up during a recent episode of *#Investigation*, which reported on the aftermath of the 2016 Brussels attacks.

On May 7, surrounded by her family, Shanti was euthanized. She was 23 years old. Six years earlier, on March 22, 2016, Shanti had been at Brussels Airport when terrorists set off bombs. She was in the departures area with 90 other students from Sint-Rita Campus College, located in the northern town of Kontich. Shanti was only a few meters away from the blast. Although she was

# Outside bioethics: what is pain?

Published in final edited form as:  
*Pain*. 2020 September 01; 161(9): 1976–1982. doi:10.1097/j.pain.0000000000001939.

## The Revised IASP definition of pain: concepts, challenges, and compromises

Srinivasa N. Raja<sup>1\*</sup>, Daniel B. Carr<sup>2</sup>, Milton Cohen<sup>3</sup>, Nanna B. Finnerup<sup>4</sup>, Herta Flor<sup>5</sup>, Stephen Gibson<sup>6</sup>, Francis Keefe<sup>7</sup>, Jeffrey S. Mogil<sup>8</sup>, Matthias Ringkamp<sup>9</sup>, Kathleen A. Sluka<sup>10</sup>, Xue-Jun Song<sup>11</sup>, Bonnie Stevens<sup>12</sup>, Mark Sullivan<sup>13</sup>, Perri Tutelman<sup>14</sup>, Takahiro Ushida<sup>15</sup>, Kyle Vader<sup>16</sup>

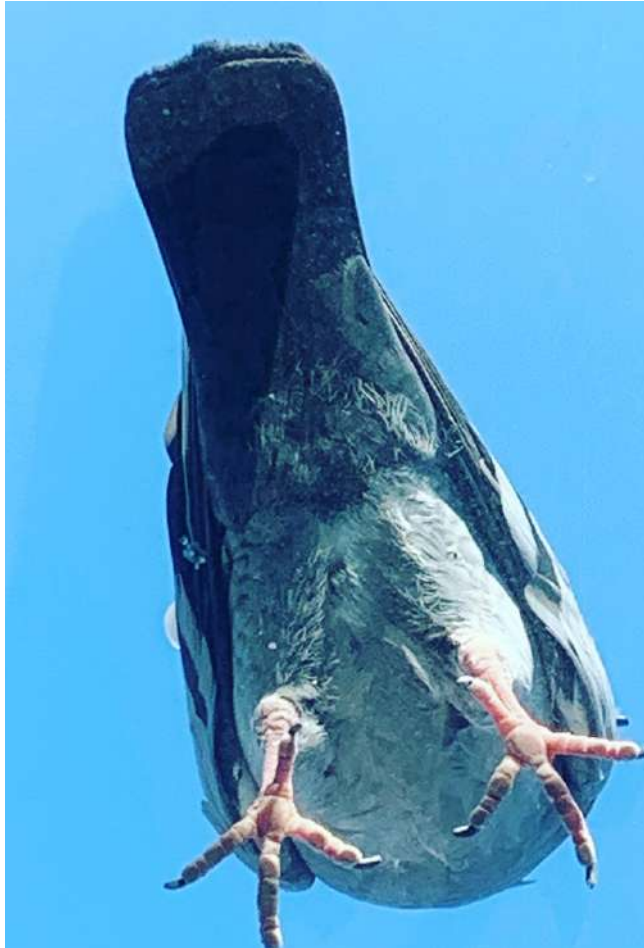
### Abstract

The current IASP definition of pain as “An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage” was recommended by the Subcommittee on Taxonomy and adopted by the IASP Council in 1979. This definition has become accepted widely by health care professionals and researchers in the pain field and adopted by several professional, governmental, and nongovernmental organizations, including the World Health Organization. In recent years, some in the field have reasoned that advances in our understanding of pain warrant a re-evaluation of the definition and have proposed modifications. Therefore, in 2018, the IASP formed a 14-member, multinational Presidential Task Force comprising individuals with broad expertise in clinical and basic science related to pain to evaluate the current definition and accompanying note and recommend whether they should be retained or changed. This review provides a synopsis of the critical concepts, the analysis of comments from the IASP membership and public, and the committee’s final recommendations for revisions to the definition and notes, which were discussed over a 2-year period. The task force ultimately recommended that the definition of pain be revised to “An unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage,” and that the accompanying notes be updated to a bulleted list that included the etymology. The revised definition and notes were unanimously accepted by the IASP Council early this year.

“Scientific and medical definitions are tools. Even when we recognize them as imperfect or provisional, awaiting replacement by an improved version, they perform work that cannot be accomplished by less precise instruments.”

David B. Morris [27]





## TO SUM UP: WHAT CAN PHILOSOPHY OF MEDICINE DO FOR MEDICAL DOCTORS?

Help understand basic concepts from an external point of view, that is, from outside one's paradigm

Answer questions that cannot be settled by evidence alone

Recognize that some fundamental scientific concepts are value-laden, that is, their definition and extension depend on ethical or practical reasons (more on this later)

# PHILOSOPHICAL PROBLEMS IN MEDICINE

Can be found in all areas, for example:

Clinical and  
preclinical  
research

Diagnosis and  
intervention,  
cure and care

Doctor-patient  
relationship

Healthcare  
system  
organization

Scientific  
communication  
health policies

# WHAT IS A DISEASE?

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Whatever doctors take care of or cure?

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Whatever is included in medical nosologies?

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What makes people suffer?

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A physical condition that has a negative impact on survival?

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A physical condition that has a negative impact on functionality?

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A physiologically abnormal condition?

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An undesirable and disadvantageous physical condition?

# EXAMPLE OF NOSOLOGY (DISEASE CATALOGUE): ICD-11 (WHO 2022)



85,000 entities or labels (an entity is anything that is relevant to health, including as pregnancy and old age)

Work started in 2007 to update the previous version

300 specialists from 55 countries divided into 30 work groups

Effective from January 22

Global standard for encoding information about health and causes of death



Elisabetta Lalumera - University of Bologna

ELISABETTA LALUMERA UNIVERSITÀ DI BOLOGNA

The traditional classification provided by WHO for malignant tumors is based on:

Location (organ and tissue)

Type

Origin

Grade

Stage Recently also molecular characteristics

WHO Classification of Tumours



The WHO Classification of Tumours series are authoritative and concise reference books for the histological and molecular classification of tumours. The series is currently in its fifth edition. Each volume is prepared by a group of internationally recognized experts.

# WHAT IS A DISEASE? WHY THE QUESTION MATTERS

Whether a certain condition is a disease or not has consequences on research, health policies,

on how people perceive their experience (validation or stigma)

and how society at large regards this condition



CONCEPTS ARE RULES FOR  
THINKING AND ACTING

Here are flowers for you!

What do you mean with flower? What  
is your concept of flower?

What are diseases?

Different concepts → different goals  
for medicine → different actions



## Disease, illness, and sickness (A.Twaddle 1979, sociologist)

DISEASE

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DISEASE: a malady from the doctor's point of view

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physiological, biochemical, genetic, and mental entities and events are the basic phenomena of disease. It can be observed, examined, mediated, and measured

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It is objective in this sense. It is also the target of health professionals who want to classify, detect, control, and treat disease , ultimately in order to cure.

# ILLNESS

Emotions and experience, such as anxiety, fear, pain, and suffering, are its basic phenomena.

Although illness is in this sense subjective, it can be argued that we can have access to another person's illness through their verbal reports, or through their narratives of introspection (phenomenology)

For example, illness is characterized in terms of bodily and/or mental awareness and a feeling of estrangement, unpleasantness, or uncanniness.

Health professionals' aim with regard to illness is comfort, care, and/or relief of suffering.

# SICKNESS

Sickness, has expectations, conventions, policies, and social norms and roles as basic phenomena.

Its criteria are discovered through social interaction, participation, and social studies. Accordingly, the knowledge about sickness is intersubjective

(i.e., it is knowledge shared by a social group).

Sickness determines whether a person is entitled to treatment and economic rights, exemption from social duties, such as work (sick leave), but also whether a person is legally accountable for his or her actions.

In such matters, sickness is established and governed by formal structures, such as social institutions (including laws).

# SICKNESS AND COVERT NORMS



However, sickness can also be framed by overt or covert norms, which give diseases different prestige and render them stigmatizing or discriminating.



For example, myocardial infarction has a higher prestige than fibromyalgia among medical doctors



The fact that homosexuality was classified as a disease for many years was experienced as stigmatizing; obesity can lead to discrimination in health care and society at large.

# ILLNESS, DISEASE, SICKNESS

	<i>Disease</i>	<i>Illness</i>	<i>Sickness</i>
Field, Area, Primary agents/ stakeholders	Profession, medical and other health care professions	Personal, (experiential, existential)	Society, social institutions, health policy makers, lawyers
Basic phenomena	Physiological, mental, genetic, environmental entities or events	Subjective experience, first-person negative experience, suffering, pain	Social conventions, norms, roles (including social prejudice)
Access to phenomena through:	Observations, examinations, measurements (by the natural sciences and by the use of technology)	Introspection, intuition (phenomenology), interaction (language), mental states (psychology)	Participation, interaction, social (science) studies
Knowledge status	Objective	Subjective	Inter-subjective
Altruistic approach	Cure	Care	Resource allocation, justice
Entitles to: Results in:	Examination, diagnostics, treatment	Attention, support, moral and social excuse, reduced accountability	Economic support and compensation, sick leave, but may also result in discrimination and stigmatization

# TWO MAIN PHILOSOPHICAL POSITIONS



## Naturalism

diseases are dysfunctions of physiological systems. The concept of disease is purely descriptive, non-evaluative, and non-normative. Focuses on diseases.



## Normativism

diseases are disvalued states. Normative, evaluative concept. Focuses on illnesses.

# AND TWO INTERMEDIATE ONES

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**Hybridism** a midway position between naturalism and normativism. It holds that diseases are dysfunctioning physiological systems that bring harm to those with the dysfunction

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**Value-conscious naturalism** Diseases are dysfunction of systems, but values can be needed to apply the concept to particular cases (eg. In setting thresholds)

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# FACT

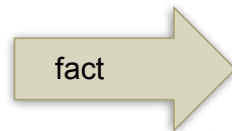


1. For the purposes of this Convention, the term "torture" means any act by which severe pain or suffering, whether physical or mental, is intentionally inflicted on a person for such purposes as obtaining from him or a third person information or a confession, punishing him for an act he or a third person has committed or is suspected of having committed, or intimidating or coercing him or a third person, or for any reason based on discrimination of any kind, when such pain or suffering is inflicted by or at the instigation of or with the consent or acquiescence of a public official or other person acting in an official capacity. It does not include pain or suffering arising only from, inherent in or incidental to lawful sanctions.

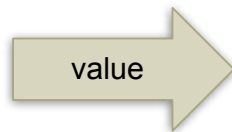
# VALUE

Torture is immoral

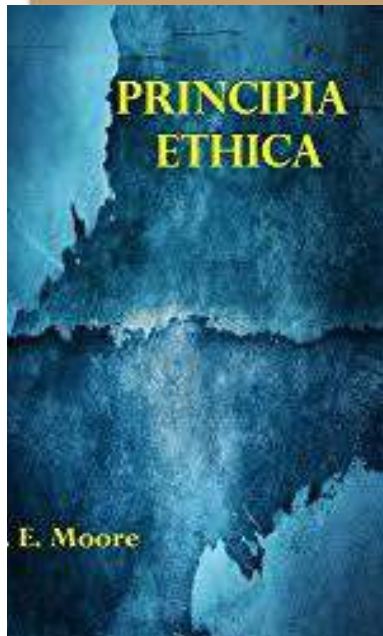
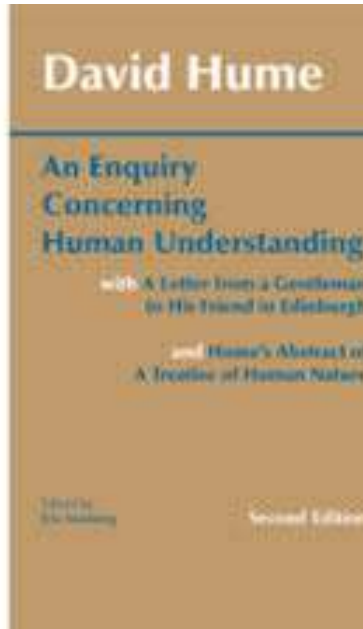
# FACT / VALUE



Freedom is the condition of not being subject to controls, restrictions, coercions, obstacles, and similar, and of having the capacity of autonomous agency



Freedom is good



## VALUES

- Values can't be derived or read off from facts
- We need principles to connect facts and values



## VALUES AND DISAGREEMENT



Our value judgments often go unnoticed.

We respond first to a friend who asks for urgent help, then to one who asks us if we want to go out for a coffee

We choose ripe strawberries at the grocery

In general, the existence of values in our statements or decisions appears when a disagreement or a dilemma arises.

# VALUES AND FAULTLESS DISAGREEMENT

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In contemporary philosophical debate, disagreement among different individuals based on values is often called "faultless disagreement".

---

By this we mean that if A and B disagree on a matter of value, it may be that both are perfectly aware of the relevant facts

---

If we are dealing with a genuine disagreement between values, it is of no use to either side to provide more facts to settle the issue.





# A SIMPLE CASE

Anna and Beatrice are at a restaurant with colleagues and have finished dinner. They are charged with accounting for the amount to be paid per person

A: We have to give 28.50 euros each

B: No, we have to give 29.50

A: Let's double check.

A: Ok, sorry, I made a mistake

B: So it's 29.50

A: We spent too much for the quality of what we got. I didn't like the risotto.

B: No, we spent little for what they gave us. The seafood risotto was excellent.

A: **\*let's double check**

## A LESS SIMPLE CASE

### Anna and Bea discuss about the LEA

A: Dental services are free to those with an ISEE of less than 20,000 euros

B: Not true. They are free for those with less than 8000 euros

A: You are wrong

B: Let us fact-check on the Ministry website

A: OK, you were right

A: it is not fair that dental services are only free to those with less than 8000 euro of ISEE

B: it is right because in this way, other services can also be guaranteed

A: no, it would be better to guarantee only the basic ones to everyone

B: \*let us fact-check



Ministero della Salute

### Servizio sanitario nazionale: i LEA

Home / Argomenti - I Livelli essenziali di assistenza (LEA) / Cosa sono i LEA

#### Cosa sono i LEA

Cosa sono i LEA: il DPCM 12 gennaio 2017

Archivio: DPCM 28 novembre 2011 e altre norme

I Livelli essenziali di assistenza (LEA) sono le prestazioni e i servizi che il Servizio sanitario nazionale (SSN) è tenuto a fornire a tutti i cittadini, gratuitamente o dietro pagamento di una quota di partecipazione (ticket), con le risorse pubbliche raccolte attraverso la fiscalità generale (tasse).

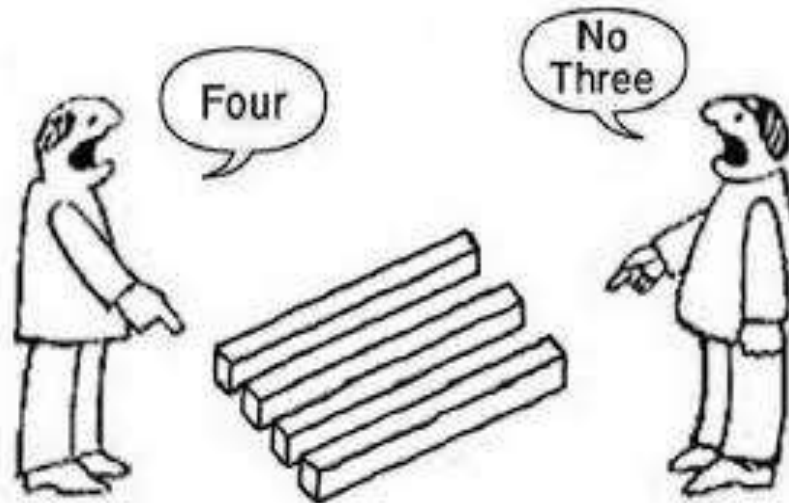
I LEA previsti dal DPCM 12 gennaio 2017



## WHAT ARE THE LEA IN ITALY

Essential Levels of Care (LEA) are the benefits and services that the National Health Service (SSN) is obliged to provide to all citizens, either free of charge or against payment of a participation fee (co-payment), with public resources collected through general taxation (taxes).

Both can see  
Both can count



Unlike this cartoon, in the case of disagreement over values, reasons can be given to arrive at a solution.

It is not 'I see it this way, you otherwise, we can't do anything about it'.

# DESCRIPTIVE VS NORMATIVE CONCEPTS

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Descriptive concepts, examples: gold, prime number, araucaria, sister, strawberry, glove, shoe, intention and extension

Based on facts

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Normative (prescriptive and evaluative) concepts: good, bad, right, wrong, accurate, appropriate, cruel, murder, funny, interesting, right, sexy, mature, useless

based (also) on our values, norms, preferences, interests

# RIPE STRAWBERRIES: FACT OR VALUE?



HEALTHY  
PERSON:  
FACT OR  
VALUE?

Naturalism vs  
normativism



# NATURALISM ABOUT DISEASE

- The concept of disease is valueless and descriptive in the same sense that the concepts of atom, copper or rain are valueless and descriptive.
- A disease in a human being can be discovered through empirical investigation and the use of scientifically validated procedures, without invoking any normative assessment of the body or mind of the person as a whole.
- The same applies to illness as a nosological entity.
- Further evaluation of the condition as undesirable or harmful is not excluded. The basic scientific description and evaluation are, however, independent, according to this type of theory.
- Conceptual precedence of disease over illness and sickness
- Precedence to the idea of disease as a condition common to several people over individual condition

# NORMATIVISM ABOUT DISEASE

The concept of illness is constitutively evaluative, in that it does not depend (exclusively) on factual elements but has values and norms as a necessary conceptual component

Disease is such insofar as it essentially implies disability, failure of action, harm, suffering, misfortune or undesirability. Otherwise, there is no disease or pathology.

Identifying what is or is not disease requires reference to the values of a community, society or individual.

Description and evaluation are not separable.

Epistemic and conceptual precedence of illness, the state of the patient's experience

Precedence to the idea of illness as an individual condition

# BOORSE'S BIOSTATISTICAL THEORY

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Disease is 'an internal state in which normal functional capacity is impaired - that is, in which one or more organic functions operate at a level below typical efficiency - or in which functional capacity is reduced due to environmental agents' (1977).

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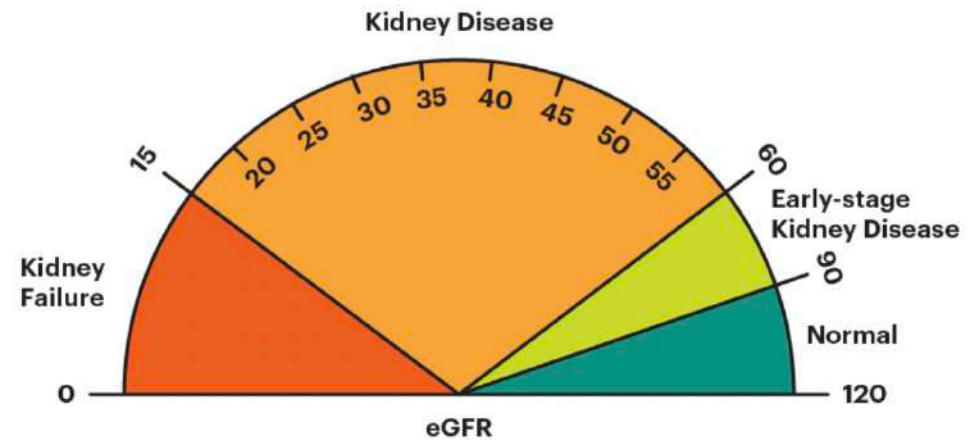
Example: phenylketonuria is a genetic disorder that manifests as a deficiency or absence of the enzyme phenylalanine hydroxylase, that normally metabolises an amino acid, phenylalanine, from food. In the absence of phenylalanine hydroxylase, dietary phenylalanine accumulates in the body, quickly becoming toxic. Phenylketonuria can cause cognitive impairment and seizures. Phenylalanine hydroxylase functions normally in the vast majority of people. To use Boorse's formulation, phenylketonuria is caused by a biological function that operates well below the typical level of efficiency, so phenylketonuria is a pathological condition (from Stegenga, ch. 3)

# TYPICAL EFFICIENCY (NORMALITY, NORMAL VALUES)

To determine the 'efficiency' of a particular subject, examine other subjects of the same gender and age (ethnic and demographic group optional)

Example: To assess the efficiency of my kidney, measure its capacity to regulate electrolyte levels and eliminate organic waste from the blood, then compare it to that of the average of women in my same age group.

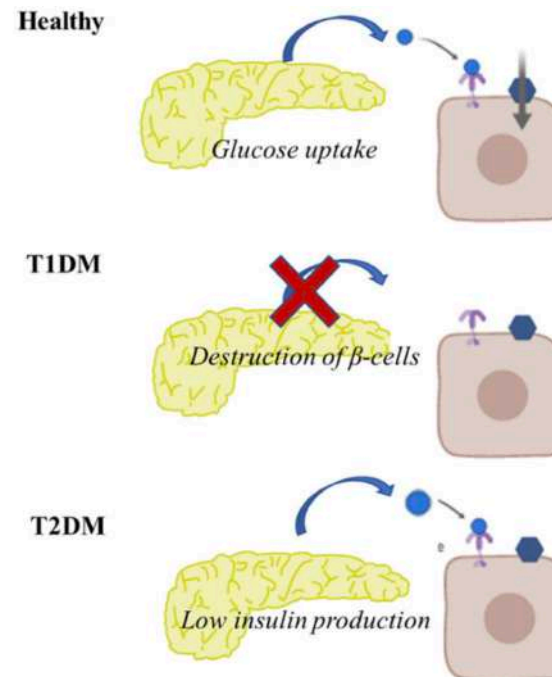
glomerular filtration rate (GFR) and Kidney disease



# FUNCTION

the causal contribution that entities and processes in a system make to the organisation and capabilities of that system

Example: the normal function of pancreas cells is to produce insulin, which controls blood sugar levels and contributes to glucose metabolism.



Figure

Caption

Figure 1. Main characteristics of pancreatic function in healthy individuals versus in diabetic individuals. In healthy individuals, the pancreas responds to hyperglycaemia with insulin secretion aiming to maintain gluco-homeostasis. Diabetes occurs when the pancreas fails to produce insulin, DMT1, insulin-dependent, or when insulin produced is insufficient or unable to produce glucohomeostasis (DMT1).

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Naturalism about disease (biostatistical theory): pros



Measurable



Scientific



Objective



Extensible to other  
species (animals,  
plants)



Limits  
inappropriate  
medicalization

# NATURALISM AND REFERENCE CLASSES

Let's assume that Sara, an adult female, has normal estrogen levels for her age group. If Joe, an adult male, has the same estrogen values as Sara, then Joe has physiological dysfunction (and from a naturalistic perspective he would be ill or ill – see chapter 2). Similarly, if Mary is an infant female and has the same estrogen levels as Sara, Mary's physiological functioning is also problematic. To determine normal or typical functionality, therefore, naturalism needs appropriate reference classes.

Reference classes that we would NOT use: heavy drinkers for liver function, the short-sighted for visual acuity, the inhabitants of Bologna... \*obviously\* gender, age and partly ethnicity or geographical origin are the variables to consider for a reference class... WHY OBVIOUSLY?

# TOO MUCH MEDICINE?

Improper medicalization comes with the risks of unnecessary labeling, pejorative treatments, iatrogenic ailments, and wasted money, as well as the opportunity cost that arises from taking resources away from the treatment and prevention of more serious diseases. In a more psychological sense, it can fuel unhealthy obsessions with disease, obscure or muddle political or sociological explanations of health problems, and arouse excessive interest in pharmacological, individualized, or privatized solutions.  
(Moynihan, Heath & Henry 2002)

Elisabetta Lalumera - University of Bologna

Review Article | Published: 08 November 2021

## Health inequities and the inappropriate use of race in nephrology

Nwamaka D. Eneanya [✉](#), L. Ebony Boulware, Jennifer Tsai, Marino A. Bruce, Chandra L. Ford, Christina Harris, Leo S. Morales, Michael J. Ryan, Peter P. Reese, Roland J. Thorpe Jr., Michelle Morse, Valencia Walker, Fatu A. Aroqundade, Antonio A. Lopes & Keith C. Norris

*Nature Reviews Nephrology* **18**, 84–94 (2022) | [Cite this article](#)

10k Accesses | 15 Citations | 380 Altmetric | [Metrics](#)

Chronic kidney disease is an important clinical condition beset with racial and ethnic disparities that are associated with social inequities. Many medical schools and health centres across the USA have raised concerns about the use of race – a socio-political construct that mediates the effect of structural racism – as a fixed, measurable biological variable in the assessment of kidney disease. We discuss the role of race and racism in medicine and outline many of the concerns that have been raised by the medical and social justice communities regarding the use of race in estimated glomerular filtration rate equations, including its relationship with structural racism and racial inequities. Although race can be used to identify populations who experience racism and subsequent differential treatment, ignoring the biological and social heterogeneity within any racial group and inferring innate individual-level attributes is methodologically flawed. Therefore, although more accurate measures for estimating kidney function are under investigation, we support the use of biomarkers for determining estimated glomerular filtration rate without adjustments for race. Clinicians have a duty to recognize and elucidate the nuances of racism and its effects on health and disease. Otherwise, we risk perpetuating historical racist concepts in medicine that exacerbate health inequities and impact marginalized patient populations.

# THE REFERENCE CLASS OBJECTION TO NATURALISM

In medicine we choose reference classes on the basis of an idea of advantage or disadvantage, value or disvalue of a certain condition ...

nature itself does not divide groups of people into reference classes.

To define the reference classes suitable for determining people's health and disease, we consider what is pragmatically useful.

Therefore the naturalistic conception of health is not really value-free

# MORE ON THE REFERENCE CLASS OBJECTION TO THE BST THEORY

Elselijn Kingma (2007, 2014)

Let us consider the reference class (a, b) (for example woman, over 50) and the reference class (a,d), where d is a pathology (for example woman, with Down syndrome).

Why is (a,b) a good reference class and (a,d) not? Because Down syndrome is a pathology and we cannot define the standard of normality starting from a pathology.

Why are we excluding pathologies from reference classes? Because they are disadvantageous condition. So the BST theory doesn't work, because it assumes a value choice (of reference classes) in defining what is a disease

## More problems: the threshold problem

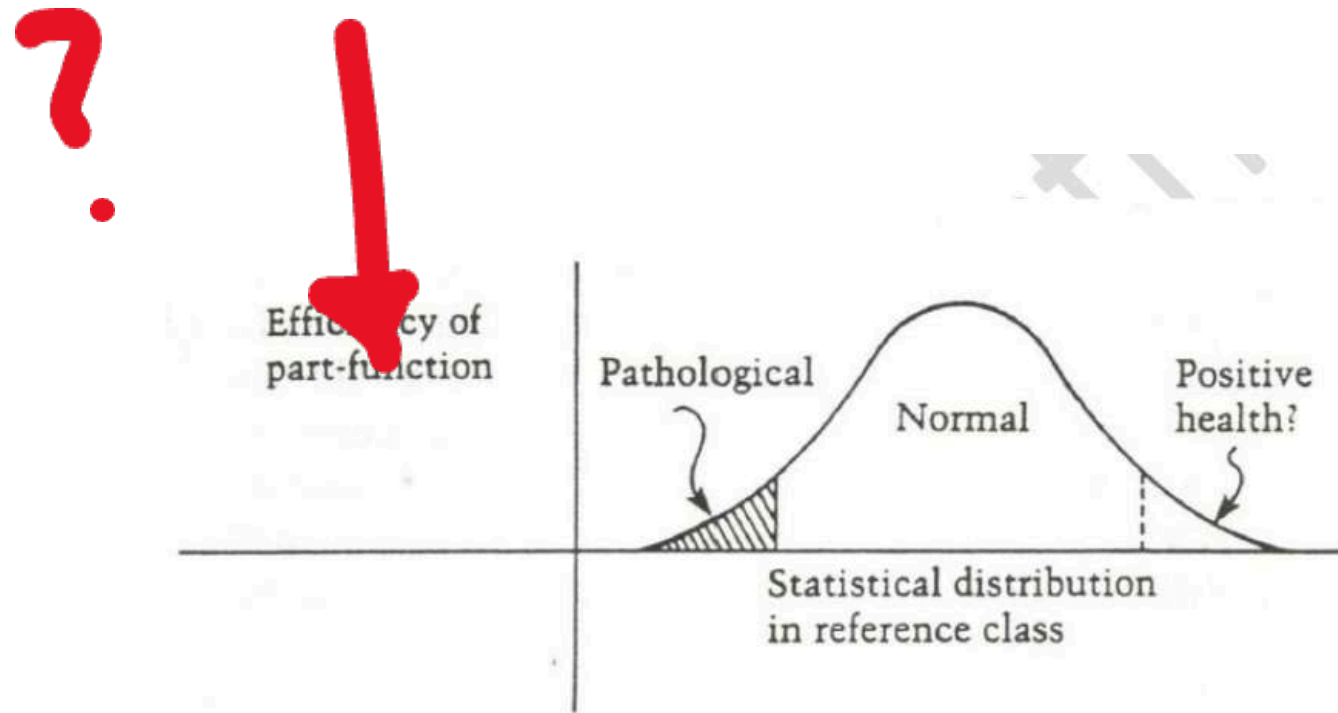


Fig. 1. Normal vs pathological.

## Historical formulation of the problem: Georges Canguilhem



# MAIN LINES



Le normal et le pathologique by Georges Canguilhem (1904-1995), published in 1966 is a critique of approaches which affirm the existence of a general and objective notion of health which exists prior to the individual and to which the individual must conform in order to be healthy.



Two main ways of defining health norms are considered: the experimental norm and the statistical norm.



The experimental norm was defined by Claude Bernard, father of modern experimental medicine, in the context of laboratory research, with the assumption that biological phenomena behave in a deterministic way. The statistical norm is similar to that of BST.



Canguilhem criticizes both approaches for neglecting the essential and constitutive variability of living things.

# CANGUILHEM: WE NEED NORMS TO SPECIFY WHAT IS NORMAL



*We certainly do not intend to state that an analysis of the conditions or products of pathological functions cannot provide the chemist or physiologist with numerical results that can be compared with other numerical results obtained at the end of the same analyses on corresponding so-called physiological functions.*



*But we dispute that the terms plus and minus, when they enter into the definition of the pathological as a quantitative variation of the normal, have a purely quantitative meaning. We dispute the logical consistency of Claude Bernard's principle: «The disturbance of a normal mechanism, consisting of a quantitative variation, an exaggeration or an understatement, constitutes the pathological state.*



*As has been pointed out (...), it is in relation to a norm that one can speak, in the order of physiological functions and needs, more and less...*

# CANGUILHEM: ANOMALY IS NOT PATHOLOGY

---

*The anomaly is the element of individual variation that prevents two beings from being able to replace each other in a complete way. It illustrates the Leibnizian principle of indiscernibles in the biological order.*

---

*But diversity does not mean disease. The abnormal is not the pathological. Pathological implies pathos, a direct and concrete feeling of suffering and impotence, a feeling of impeded life.*

---

*The anomaly manifests itself in spatial multiplicity, the disease in chronological succession. The proper character of the disease is to succeed in interrupting a course, to be properly critical. Even when the disease becomes chronic, after being critical, there is a past time for which the patient or those close to him yearn.*

---

*One is therefore not sick only in relation to others, but in relation to oneself. This is the case with pneumonia, arteritis, sciatica, aphasia, nephritis etc*

# ILLNESS IS NOT ANORMALITY, BUT A LESS ADVANTAGEOUS NORM: THE HEMOPHILIAC CASE

---

*All functions of the hemophiliac are performed similarly to those of healthy individuals. But the bleeding is unstoppable, as if the blood were indifferent to its location inside or outside the vessels.*

---

*In short, the life of the haemophiliac would be normal if animal life did not normally involve relationships with an environment,*

---

*relationships whose risks, in the form of lesions, must be faced by the animal to compensate for the nutritional disadvantages that the break with the 'vegetable inertia entails, a rupture which from many other points of view, especially in the path of consciousness, constitutes real progress.*

---

*Hemophilia is the type of anomaly of a possible pathological nature, due to the obstacle encountered here by an essential vital function, the clear separation of the internal environment from the external one. In summary, the anomaly can lead to disease, but it is not in itself a disease.*

---

# CANGUILHEM AND THE THRESHOLD PROBLEM



---

*It is not easy to determine at what moment an anomaly turns into disease.*

---

*Should we or should we not consider the sacralization of the fifth lumbar vertebra as a pathological fact? There are different degrees in this malformation. The fifth vertebra is to be considered sacralized only when it is welded to the sacrum. In this case, on the other hand, it is rarely the cause of pain.*

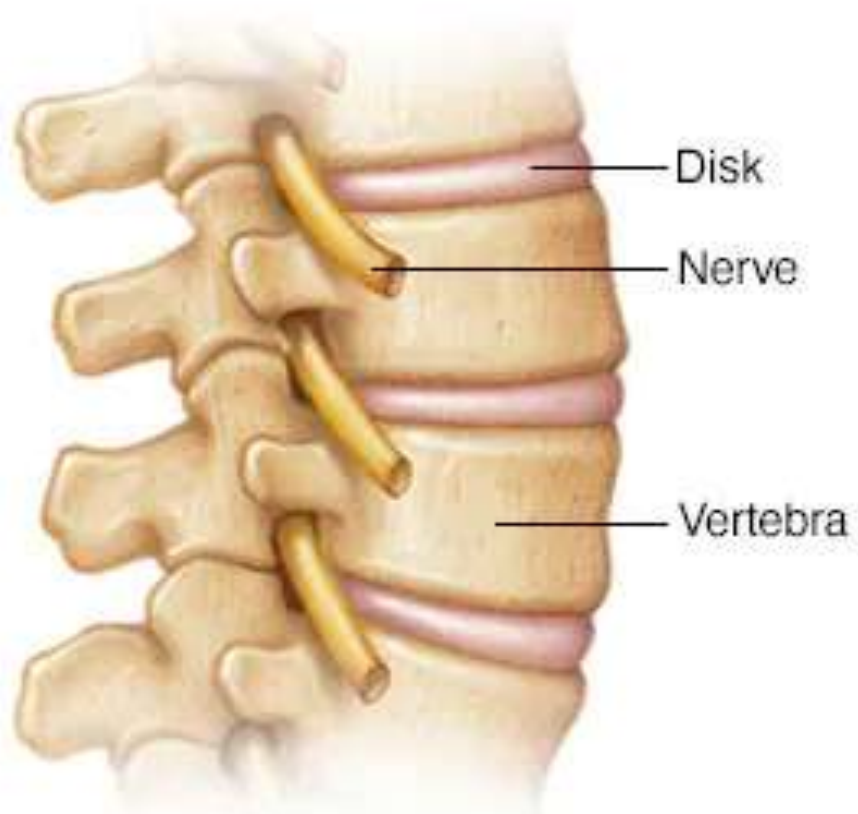
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*The simple hypertrophy of a transverse apophysis, its more or less real contact with the sacral tubercle are often considered responsible for imaginary damage.*

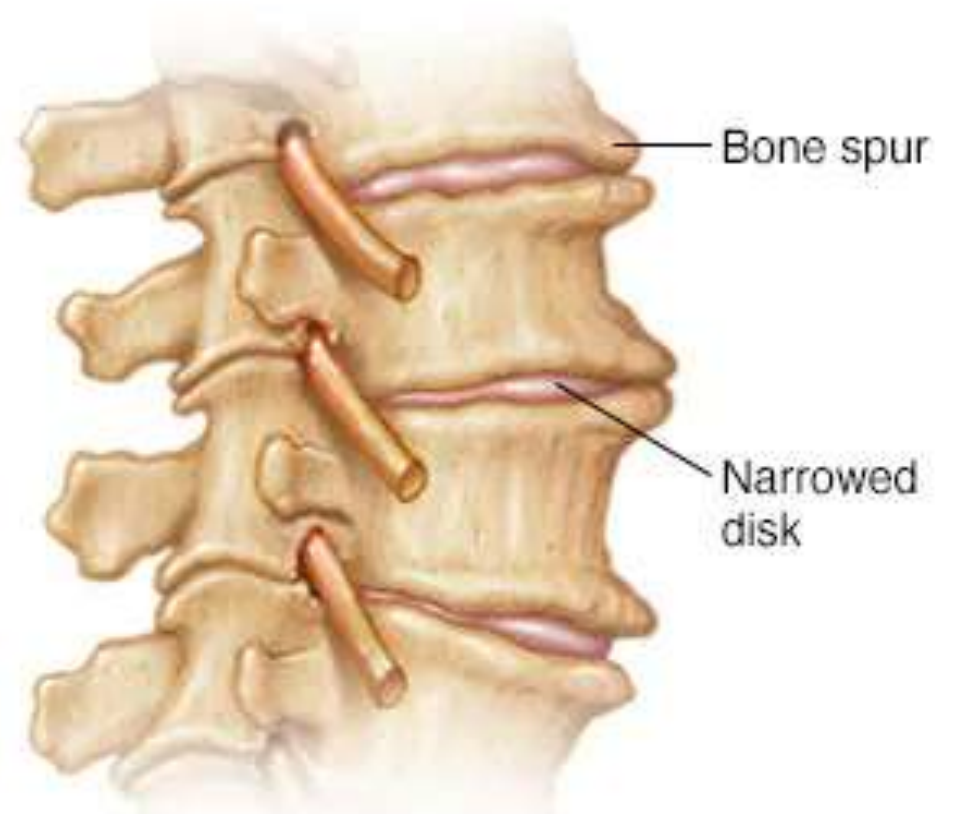
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*Ultimately, these are congenital anatomical anomalies that only become painful late, and in some cases never do*

Typical spine



Osteoarthritic spine



# MORE FROM CANGUILHEM



*A living being is normal in a given environment as it is the morphological and functional solution found by life to respond to all the needs of the environment. Compared to any other form from which it distances itself, this living being is normal, even if it is relatively rare, insofar as it is, in relation to it, good enough.*



*The frontier between the normal and the pathological is imprecise for different individuals considered simultaneously, but it is extremely precise for one and the same individual considered successively.*



*What is normal as normative under given conditions can become pathological in another situation, if it remains identical to itself. The individual is the judge of this transformation, inasmuch as he is the one to suffer from it, at the very moment in which he feels inferior to the tasks that the new situation places on him.*



SUFFERING AND PAIN ARE THE KEY ELEMENTS OF DISEASE

# A DIFFERENT OBJECTION TO NATURALISM: HOMOSEXUALITY AND SIMILAR CASES

Homosexuality was long considered to be a disease and was even codified as a disease by the Diagnostic and Statistical Manual (DSM), the bible of psychiatric disorders.

Of course, now we do not consider homosexuality to be a disease, and the Diagnostic and Statistical Manual has purged homosexuality from its list of psychiatric diseases. What changed? Why was homosexuality once thought to be a disease and is no longer?

Critics of naturalism note that what changed was not a discovery about the natural facts regarding homosexuality, but rather, it was our society's moral views about sexuality that changed. Thus, according to this line of criticism, naturalism does not adequately track the way that disease attributions have been made in history.

# NORMATIVISM ABOUT DISEASE

Disease = a bodily or mental process that tends to cause a state of illness, i.e. suffering or disability experienced by the subject

For a naturalist about the concept of disease, a tumor is a disease because it affects the organ or tissue it affects, making this organ or tissue no longer able to contribute to its functions in a statistically normal way

For a normativist, a tumor is a disease because it tends to cause its bearer disability and suffering

Can there be conflicting judgments on specific conditions? Think of some examples

# NORMATIVISM ABOUT DISEASE

A physical condition is a disease if and only if it is undesirable: it causes damage, disability, obstacle to the primary goals of the person  
Analogy: weed or weed is an evaluative concept.  
Undesirable plants compared to our crops



# PROBLEMS FOR NORMATIVISM

- There are physical situations that are undesirable or disadvantageous or cause suffering, which we would not like to include among pathologies (being below average height, having a deviated nasal septum without functional impairment, having a limited tolerance to specific situations, etc.)
- Who judges what is harmful?
- Dependence on the values of a specific society, which can change, therefore relativism

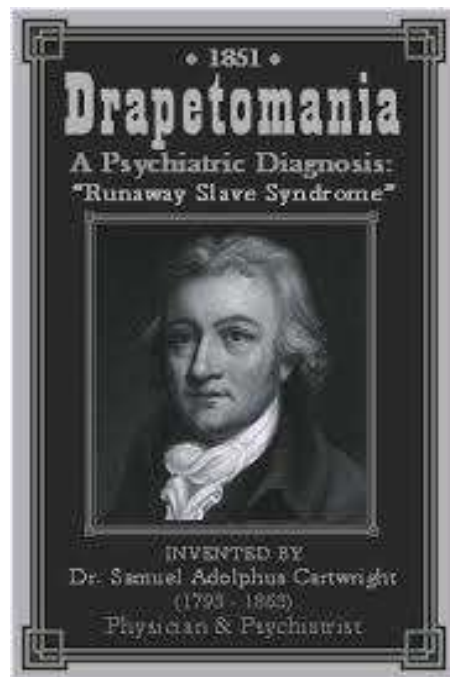
# DRAPETOMANIA, AN EXTREME CASE OF RELATIVISM TO CULTURAL VALUES

"Diseases and Peculiarities of the Negro Race," by Dr. Cartwright, 1851

DRAPETOMANIA, OR THE DISEASE CAUSING NEGROES TO RUN AWAY. It is unknown to our medical authorities, although its diagnostic symptom, the absconding from service, is well known to our planters and overseers...

a stone's throw of their noticing a disease not heretofore classed among the long list of maladies that man is subject to, it was necessary to have a new term to express it. The cause in the most of cases, that induces the negro to run away from service, is as much a disease of the mind as any other species of mental alienation, and much more curable, as a general rule. With the advantages of proper medical advice, strictly followed, this troublesome practice that many negroes have of running away, can be almost entirely prevented, although the slaves be located on the borders of a free state, within the view of abolitionists.

Elisabetta Lalumera - University of Bologna



If treated kindly, well fed and clothed, with fuel enough to keep a small fire burning all night--separated into families, each family having its own house--not permitted to run about at night to visit their neighbors, to receive visits or use intoxicating liquors, and not overworked or exposed too much to the weather, they are very easily governed--more so than any other people in the world. When all this is done, if any one of more of them, at any time, are inclined to raise their heads to a level with their master or overseer, humanity and their own good require that they should be punished until they fall into that submissive state which it was intended for them to occupy in all after-time, when their progenitor received the name of Canaan or "submissive knee-bender." They have only to be kept in that state and treated like children, with care, kindness, attention and humanity, to prevent and cure them from running away.

# INTERMEDIATE POSITION

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It can be admitted that the problem of the threshold in the definition of pathologies requires value judgments, but these can be settled by the opinion of medical experts

---

The role of scientific societies, consensus conferences, peer discussions is central to contemporary medical research

---

Therefore: it is not true that one cannot make science of the pathological, as Canguilhem concludes

---

Rather: let us admit that considerations of risk assessment and ethical-practical consequences intervene in the science of the pathological.

---

Not in the definition of disease, but in delimiting the extension of the concept in particular cases

# MORE ON THE INTERMEDIATE POSITION

- What is normal, dysfunctional and what is harmful to an organ or system is not just a fact
- The continuum between normal and disease in blood pressure or BMI is broken by considerations of what is important to people
- Freckles are abnormal but not harmful, so they are not diseases
- Some very small cancers aren't harmful, so they are not cancers (discussion is open)

The reference class for identifying infertility as pathological has changed over time and with changes in people's well-being goals

- Several philosophers of medicine from the naturalist tradition agree today on the idea that the biomedical concept of disease can in part be operationalized in terms of values (value-conscious)

# DISEASES AND VALUES



When evidence is not conclusive, experts and the public reason about ethical and practical considerations



Advantages of having a condition classified as a disease: more resources, research, assistance (see US healthcare system, legitimization of patients' experience)



Disadvantages: possible stigma, improper medicalization

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## **Regarding Obesity as a Disease: Evolving Policies and Their Implications**

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### **Synopsis**

The 2013 decision of the American Medical Association (AMA) to recognize obesity as a complex, chronic disease that requires medical attention came as the result of developments over three decades. Defining a condition such as obesity to be a disease is a very public process that is largely driven by expectation of costs and benefits. Although the public has been slow to embrace defining obesity as a purely medical condition, evidence is emerging for broader awareness of factors beyond personal choice influencing obesity. The AMA decision appears to be working in concert with other factors to bring more access to care, less blame for people with the condition, and more favorable conditions for research to identify effective strategies for prevention and clinical care to reduce the impact of this disease.

## EDITORIAL

# Defining obesity as a disease

MJ Müller and C Geisler

*European Journal of Clinical Nutrition* (2017) **71**, 1256–1258; doi:10.1038/ejcn.2017.155; published online 27 September 2017

Whether obesity should be declared as a disease is controversial.<sup>1–4</sup> Very recently, the World Obesity Federation argued that 'obesity was considered as a chronic, relapsing, progressive, disease process' that requires intervention.<sup>4</sup> By contrast, although the biological basis of obesity (e.g. so-called obesity genes, biology of fat cells) and pathological changes associated with the disease process have been characterized, obesity was not declared as a disease because there is no scientifically applicable definition of a disease.<sup>3</sup> Taking a public health point of view, many authorities again argued in favor of obesity as a non-communicable disease resulting from environmental drivers and host responses.<sup>5</sup> Finally, considering the benefits and harms arising from declaring obesity as a disease (i.e. taking an utilitarian point of view) also gave evidence to declare obesity as a disease.<sup>3</sup> It was assumed that the disease label would provide more benefits than harms to the general population, e.g. by the provision of more resources for novel and effective prevention and treatment of obesity.<sup>4</sup> There is however no evidence for the latter idea, i.e. the utilitarian approach is speculative.

Most of this scientific and public debate has been led in the US. Vallgarda *et al.* asked whether Europe should follow the US to declare obesity as a disease.<sup>6</sup> The authors addressed the utilitarian argument at two levels: (1) the legal and political level related to prevention and treatment of obesity; (2) the psychological and social level related to stigmatization and self-esteem. When compared with the US, health promotion, prevention and health care are already legal obligations of European states. Anyhow there is still a lack of attention to the obesity issue (e.g. by medical doctors and politicians) although obesity had been already included into the classification of diseases. At the psychological level, declaring obesity as a disease may affect the moral responsibility of obese patients; it may also give them a disability label and thus may add to discrimination. Taken together, the authors concluded that in a Western European welfare state a disease label will neither improve access to treatment and prevention nor provide a better protection of obese subjects. To summarize, the authors (i) questioned the utilitarian argument raised by the World Obesity Federation<sup>4</sup> and (ii) followed that obesity should be treated as a risk factor rather than a disease.

One of the major criticisms against defining obesity as a disease is its definition and diagnosis. Obesity has been defined as an 'abnormal and excessive fat accumulation that may impair health'.<sup>7</sup> In practice, obesity is diagnosed by body mass index (BMI), which is taken as a surrogate of percentage fat mass. However, BMI has some obvious limitations related to the assessment of fat mass as well as the diagnosis of overweight- and obesity-related disturbances.<sup>8–14</sup> BMI was introduced into research and clinical practice on the basis of the association between BMI and mortality (which is U- or J-shaped, with minimal

mortality toward the middle of the distribution), with a 'healthy' BMI range associated with the lowest mortality, which is in the range between 18.5 and 25 kg/m<sup>2</sup>. This range varies, for example, by age, ethnicity and chronic diseases. Then, BMI values exceeding 25 kg/m<sup>2</sup>, i.e. between 25 and 29.9 kg/m<sup>2</sup> and above 30 kg/m<sup>2</sup>, were defined as overweight and obese, respectively. Obviously, obesity is defined based on statistical criteria, which may not have a biological meaning.

BMI is a score rather than objectively measured fat mass (or fat mass-related mechanical and metabolic disturbances). Neither is it biologically sound nor does it reflect a suitable phenotype worthwhile to study.<sup>12</sup> In fact, detailed analyses revealed considerable inter-individual variances in the associations between BMI and either subcutaneous adipose tissue (SAT) or visceral adipose tissue (VAT) or skeletal muscle mass or biomarkers of insulin resistance and inflammation or the adipocyte secretory activity (Figure 1). It is obvious that BMI can define neither 'excessive fat accumulation' nor functional impairments related to it. Consequently, Sharma *et al.* proposed a re-definition of obesity based on the health status of the individual.<sup>14</sup> The latter is characterized by clinical assessment, laboratory and endocrine testing, as well as detailed body composition analysis. As Sharma *et al.* noted themselves,<sup>14</sup> it still remains to be proven that even in the case of a detailed assessment possible health deficits identified have to be related to excess fat to provide a rationale of specific obesity treatment strategies.

Taken together, the issue whether obesity should be declared a disease is not trivial at all. US advocates mostly refer to the utilitarian argument.<sup>2,4</sup> Taking a European point of view, the authors of the present paper<sup>6</sup> question the disease label. This position is in line with evidence from public health research suggesting that 'obesity is the result of people responding normally to the obesogenic environments they find themselves in'.<sup>5</sup> Thus, obesity cannot be declared as a disease. Finally, the definition of obesity based on BMI alone is weak. Faced with the public health issue of obesity as well as the high activities in biomedical research on genetics, molecular and cellular biology, metabolism, endocrinology, microbiology and psychology of obesity, we should be open minded that a weak definition of obesity does not only question its status as a disease but also adds to explain the limited success rates in research, treatment and prevention of obesity. Since obesity research still provides more speculations rather than solutions, there is an obvious need of a self-critical discourse within our scientific community.

### CONFLICT OF INTEREST

The authors declare no conflict of interest.

OPINION

Open Access



## How and why weight stigma drives the obesity 'epidemic' and harms health

A. Janet Tomiyama<sup>1\*</sup>, Deborah Carr<sup>2</sup>, Ellen M. Granberg<sup>3</sup>, Brenda Major<sup>4</sup>, Eric Robinson<sup>5</sup>, Angelina R. Sutin<sup>6</sup> and Alexandra Brewis<sup>7</sup>

### Abstract

**Background:** In an era when obesity prevalence is high throughout much of the world, there is a correspondingly pervasive and strong culture of weight stigma. For example, representative studies show that some forms of weight discrimination are more prevalent even than discrimination based on race or ethnicity.

**Discussion:** In this Opinion article, we review compelling evidence that weight stigma is harmful to health, over and above objective body mass index. Weight stigma is prospectively related to heightened mortality and other chronic diseases and conditions. Most ironically, it actually begets heightened risk of obesity through multiple obesogenic pathways. Weight stigma is particularly prevalent and detrimental in healthcare settings, with documented high levels of 'anti-fat' bias in healthcare providers, patients with obesity receiving poorer care and having worse outcomes, and medical students with obesity reporting high levels of alcohol and substance use to cope with internalized weight stigma. In terms of solutions, the most effective and ethical approaches should be aimed at changing the behaviors and attitudes of those who stigmatize, rather than towards the targets of weight stigma. Medical training must address weight bias, training healthcare professionals about how it is perpetuated and on its potentially harmful effects on their patients.

**Conclusion:** Weight stigma is likely to drive weight gain and poor health and thus should be eradicated. This effort can begin by training compassionate and knowledgeable healthcare providers who will deliver better care and ultimately lessen the negative effects of weight stigma.

**Keywords:** Weight stigma, Weight bias, Anti-fat attitudes, Discrimination, Health policy, Obesity

### The obesity epidemic: medical and ethical considerations

Jantina de Vries

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Published online: 30 January 2007  
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**Abstract** Obesity is increasingly becoming a problem for Western societies, to the extent that politicians, scientists, patient organisations and the media now refer to it as 'the obesity epidemic'. Concerns about the damaging effect of increasing body weight on public health has led to a strong growth in the amount of scientific work on the condition, with the medical professions leading the way. This article discusses that, first of all, scientific evidence for obesity-associated mortality is at best ambiguous, and proposes that at least some of contemporary medical preoccupation with obesity has a moral origin in that it seeks to correct unwanted or immoral behaviour. It then continues to reflect on the effect of the conceptual transformation of healthy children into patients, and concludes with some reflections on the ethical implications of the obesity disease for the wellbeing of children.

**Keywords** Obesity · Childhood · Medicalisation · Ethics

PETER  
SINGER:  
WEIGH  
MORE, PAY  
MORE

## Project Syndicate

### Weigh More, Pay More

Mar 12, 2012 | PETER SINGER

MELBOURNE – We are getting fatter. In Australia, the United States, and many other countries, it has become commonplace to see people so fat that they waddle rather than walk. The rise in obesity is steepest in the developed world, but it is occurring in middle-income and poor countries as well.

Is a person's weight his or her own business? Should we simply become more accepting of diverse body shapes? I don't think so. Obesity is an ethical issue, because an increase in weight by some imposes costs on others.

I am writing this at an airport. A slight Asian woman has checked in with, I would guess, about 40 kilograms (88 pounds) of suitcases and boxes. She pays extra for exceeding the weight allowance. A man who must weigh at least 40 kilos more than she does, but whose baggage is under the limit, pays nothing. Yet, in terms of the airplane's fuel consumption, it is all the same whether the extra weight is baggage or body fat.

Tony Webber, a former chief economist for the Australian airline Qantas, has pointed out that, since 2000, the average weight of adult passengers on its planes has increased by two kilos. For a large, modern aircraft like the Airbus A380, that means that an extra \$472 of fuel has to be burned on a flight from Sydney to London. If the airline flies that route in both directions three times a day, over a year it will spend an additional \$1 million for fuel, or, on current margins, about 13% of the airline's profit from operating that route.&

Webber suggests that airlines set a standard passenger weight, say, 75 kilos. If a passenger weighs 100 kilos, a surcharge would be charged to cover the extra fuel costs. For a passenger who is 25 kilos overweight, the surcharge on a Sydney-London return ticket would be \$29. A passenger weighing just 50 kilos would get a discount of the same amount.

Another way to achieve the same objective would be to set a standard weight for passengers and luggage, and then ask people to get on the scales with their luggage. That would have the advantage of avoiding embarrassment for those who do not wish to reveal their weight.

# CONTROVERSIAL DISEASES

Fibromyalgia

Hypoactive  
Female Desire  
Disorder

New  
addictions (eg  
Gaming)

# WHAT ABOUT LONG- COVID?



Social Science & Medicine

Volume 268, January 2021, 113426



Short communication

## How and why patients made Long Covid

Felicity Callard <sup>a</sup>, Elisa Perego <sup>b</sup>

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### Highlights

- Patients made visible the persistence and heterogeneity of COVID-19 symptoms.
- Patients experiencing long-term symptoms ('long-haulers') made Long Covid.
- Long Covid challenges early clinical and governmental assumptions about Covid.
- Knowledge travelled from patients through media to formal health and policy channels.
- Patient expertise and knowledge should be incorporated in the pandemic evidence base.

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journal homepage: [www.elsevier.com/locate/dsx](http://www.elsevier.com/locate/dsx)

## Long COVID-19: Challenges in the diagnosis and proposed diagnostic criteria



Reports from various parts of the world show that significant proportion of people who recovered from COVID-19 suffers from various health issues which are collectively called “long COVID-19” or post COVID-19 syndrome. The common symptoms include fatigue, breathlessness, cough, joint pain, chest pain, muscle aches, headaches and so on. Even though collectively called long COVID-19, researchers identified that it is a collection of at least 4 distinct clinical entities which are post-intensive care syndrome, post-viral fatigue syndrome, permanent organ damage, and long-term COVID-19 syndrome [1]. In our experience in addition to these we identified that drug related side effects, complications of COVID-19 (like pneumothorax, pneumomediastinum, vascular thrombosis leading to pulmonary thromboembolism, myocardial infarction, stroke etc), post-COVID-19 psychological issues and other infections (bacterial, other viral, fungal or re-infection with SARS-CoV-2 itself) can also cause similar symptoms in COVID-19 recovered patients. Careful evaluation to rule out causes unrelated to COVID-19 is important to offer correct treatment.

In people infected with SARS-CoV-2, 80% of infections are mild or asymptomatic, 15% are severe infection and 5% are critical infections [2]. Usually in people with mild disease symptoms resolve within 2 weeks, where as in severe illness it may persist for 3–6

weeks [3]. Presence of long COVID-19 challenges the assumption that “mild” disease recover within 2 weeks [4].

There are lots of challenges in the diagnosis of long COVID-19. Those who had history of typical symptoms of acute COVID-19 with positive throat swab RT-PCR, presenting with long duration symptoms, the diagnosis of long COVID is straight forward. But those with acute COVID-19 symptoms and negative throat swab RT-PCR, presenting with long symptoms pose real challenge in day to day clinical practice. Significant proportions of SARS-CoV-2 infected individuals are asymptomatic. And development of long COVID-19 symptoms in those asymptomatic individuals adds to the diagnostic confusion. Similarly the duration of acute symptoms vary in patients again adding confusion to differentiate acute COVID-19 from long COVID-19. Based on our experience and after reviewing relevant literature, we are proposing criteria for the diagnosis of long COVID-19 (Table 1).

Clinical criteria (symptoms of Long COVID-19) after defined time period in presence of essential criteria (evidence of preceding SARS-CoV-2 infection) helps to categorise long COVID-19 as confirmed, probable, possible or doubtful long COVID-19 syndrome (Table 2).

# CONCLUSIONS

The question of what makes a certain condition a disease is ontologically and epistemically complex, it has to do with facts and values

This makes it a philosophical question: that is, a question in which the reasons for and against are not only factual, but also derived from principles, interests and more generally values

That the question is philosophical does not mean that medicine is unscientific or, worse, corrupt

We can take a step beyond the idea of science without values, towards a conception of science that is aware of the non-epistemic reasons that drive it

# IN THIS CLASS

