# The enigma of health: cultural, health political, and philosophical aspects

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Ethics, at its core, relates to our practices and their moral justification. The practice of medicine, by definition, takes place in a fundamentally ethical context. In ordinary circumstances the goals to which physicians direct their medical practices are held tacitly, but sometimes fresh examination of these is occasioned. This conceptual article considers a range of approaches that have been taken to the notion of health, ancient and modern, historical and

contemporary, beginning with the socio-cultural, then the health political, and finally the medical philosophical. Although these are contrasting perspectives, each are bound up with questions of values and of the relation between the objective and subjective. The contrast is discussed between the idea of health as a positive and dynamic condition in terms of functional ability, and characterisations of health as purely the absence of disease. Finally, a typology of theories of health is proposed along ontological and epistemological lines.

Keywords: health, culture, values, ethics, philosophy of health

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Ethics, at its core, relates to our practices and their moral justification. The practice of medicine, by definition, takes place in a fundamentally ethical context. In ordinary circumstances the goals to which physicians direct their medical practices are held tacitly, but sometimes fresh examination of these is occasioned, and perhaps the present is such a time. This article considers a range of approaches to this question which, though contrasting, are each bound up with issues of values and of the relation between the objective and subjective.

Discussion of the goals of medicine is both ancient and modern, and ultimately leads to questions of health. One view might be that medicine seeks to deploy scientific understanding in response to disease, whether as intervention or prevention. For example, consider a territory where a responsible and forwardthinking approach to population health turns its attention towards a possible future epidemic.1 Some estimate of the anticipated harm to its citizens across the board would be valuable in planning for this, as it translates into the benefit gained from preventative action, and so informs vital decisionmaking and setting of priorities. Some kind of meaningful aggregation of metrics across the population distribution would then be entailed, a question that pertains as much to philosophical analysis as to health economics.2 It also speaks to moral philosophical considerations, since attention to risks, harms, and benefits in health contexts is intrinsic to medical ethics

The evaluation of health outcomes is obviously an essential component of evidence-based medicine. But what is the relationship between such variables and what we call 'health'? To answer this, we would need some notion of the nature of health. Contemporary philosophers of medicine stress that it is not just an issue of theory. Lennart Nordenfelt comments:

These questions are not simply academic. They are of great practical and thereby ethical concern. The consequences for health care diverge considerably, not least in economic but also in social and educational terms, depending on whether health is understood as people's happiness, or their fitness and ability to work, or instead just the absence of obvious pathology in their bodies and minds.3

Again, the Stanford Encyclopedia of Philosophy declares that this is 'not a matter of mere philosophical or theoretical interest, but critical for ethical reasons, particularly to make certain that medicine contributes to people's well-being, and for social reasons, as one's well-being is critically related to whether one can live a good life.'4 Ideas of 'well-being' and the 'good life' recur frequently in these discussions. That is, ethical theories of human flourishing are no less relevant to this question than theories based, say, on duties and consequences - again, a subject both ancient and modern. Concepts that are material to our thinking on the notion of health, and where they come from, are considered below; some of these will be recent and, necessarily, some not recent.

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# **Culture, health, and values**

Do interpretations of health in the social and cultural sphere have any relevance to the practice of medicine? The idea of 'culture' in social anthropology has a technical sense that differs from ordinary language usage. Anthony Cohen explains, 'Culture... is the means by which we make meaning, and with which we make the world meaningful to ourselves, and ourselves meaningful to the world.' Medical social anthropologists relate this to the way communities and persons make sense of experiences relating to health, leading to lay perspectives on health that differ from culture to culture, and even between different social groups and individuals within a given population.

The point, as Cecil Helman explains, is not that the physician adopts, for example, an Ayurvedic, or traditional Chinese, or 'alternative medicine', or 'New Age', or shamanistic, or voodoo, or some other non-scientific approach to the notion of health. Rather, by attempting to understand the system of health beliefs that a person holds, and communicating to that person within those terms, patient concordance and outcomes can be significantly improved. In a study of local general practitioners in the outskirts of London, Helman writes:

...biomedical treatment and concepts, particularly the germ theory of disease, far from challenging the folk model, actually reinforce it. Remedies which cannot be scientifically and biomedically justified are nevertheless prescribed by the physicians to meet their patients' need to 'make sense' of biomedical treatment in terms of their folk model of illness. At the interface between physician and patient, biomedical diagnoses and treatment are more 'negotiable' than previously realised – and this has important implications for the delivery of health care.<sup>7</sup>

Culture therefore inheres the values we bring to the notion of health, both societally and individually. As Kenneth Boyd writes, 'One reason then, why definitions of disease and health are sometimes so frustratingly elusive is the part played by value judgments in determining what we mean.'8 On the one hand, as he explains, there is a *general* core of health values in a society, but from person to person there will be *special* interpretations and divergences of perspective. We relate in our own ways to values that are none the less held in common. James Axtell's distillation of social anthropological analysis in terms of symbolic interaction is that a culture is constructed through 'meanings, values, and norms differentially shared by the members of a society'.9 (Emphasis added).

That is, people belonging to the same community can relate differently to their shared system of cultural symbols encoding these meanings, values, and norms. Anthony Cohen comments, 'Because of their very commonness we can use them competently with other people, exchange them – for that is what communication is – and yet mean different things by them, often being unaware of such differences.' <sup>10</sup>

### Positive notions of the nature of health

Values relating to health are equally present in health politics and health economics. It is uncontroversial for studies to find that initially promising but expensive innovative clinical practices, once established, may prove less effective than at first thought, or indeed to be no better than lower-grade alternatives. A review in the Mayo Clinic Proceedings from 2013 analysed a decade of original articles in one highimpact journal in order 'to identify medical practices that offer no net benefits.'11 Of the 363 articles that set out to test established practices, 146 found their efficacy to be no better, or actually worse, compared to a previous standard or to no intervention. Examples included hormone replacement therapy after menopause, angiotensin-converting enzyme inhibitors in stable coronary heart disease with preserved left ventricular function, and routine use of corticosteroids for persistent acute respiratory distress syndrome.

Positive (as well as negative) health outcomes represent change in health status, as established through health indicators, which can potentially be measured and therefore studied. Yet as proxies that are clearly relevant to health, plainly criteria such as these cannot define it. If a person is in the fortunate position of having no health problems, would that be the definition of being healthy? This would reduce health to the absence of factors militating against it, which some would argue is a less than adequate notion.

In what is surely an age-old insight, an early expression of this idea in the last century is found in a statement made by George Whipple, co-founder of the Harvard School for Public Health, in the 1916 Report of the City of New York Commission on Building Districts and Restrictions (of which he was a member):

Health is more than the absence of disease. It is something positive, and involves physique and vitality and it is mental as well as physical. The inherent difficulty at the present time is the absence of scientific methods of measuring this positive element in health. Yet the world knows as a matter of human experience that it is real and vital. 12

The report then describes health as 'a positive concept denoting physical and mental well-being' (emphasis added). The idea of health not being an absence of disease, and coupled with the notion of well-being, was also expressed in 1925 by Grant Fleming, who was appointed Professor of Preventive Medicine and Public Health at McGill University shortly afterwards:

Health is not mere freedom from obvious disease. It is a condition of *well-being* that allows for the best physical, mental and spiritual attainments. We are faced with the problem that there is a very large group of people who are not diseased but who are not well. Public Health today must meet this problem. Well people must be kept well in the sense of our definition of Health – a condition of *well-being*, not mere freedom from obvious disease. <sup>13</sup> (Emphases added.)

Later, in 1941 the Swiss medical historian Henry Sigerist wrote, 'Health is, therefore, not simply the absence of disease; it is something positive, a joyful attitude toward life, and a cheerful acceptance of the responsibilities that life puts on the individual.'14

Significantly, two years afterwards a fellow countryman of Sigerist (Raymond Gautier, the director-general of the League of Nations Health Organization) echoed the positive idea of health as not being reducible to an absence of disease. 15 With the anticipated ending of the Second World War, and the need thereafter for a rebuilding of international health structures, by 1945 he had already developed in conjunction with his French colleague in Geneva, Yves Biraud (head of epidemiology), a draft constitution for a possible global public health agency that contained a resolutely positive conception of health. At that time, the United Nations Charter was newly adopted, and the following year a preparatory committee was convened in Paris by the UN to negotiate a constitution text for what would later become the World Health Organization. The Yugoslavian vice president of the UN Economic and Social Council, Andrija Stampar, brought to that committee the draft proposal that Gautier had given him.16 lt contained the following statement:

...health is not only the absence of infirmity and disease but also a state of physical and mental well-being and fitness resulting from positive factors, such as adequate feeding, housing and training.<sup>17</sup> (Emphasis added.)

The final version of the WHO constitution signed in New York at the 1946 International Health Conference rendered this as, 'Health is a state of complete physical, mental and social well-being and not merely the absence of disease and infirmity.'18 (Emphasis added.) However, Lars Thorup Larsen cautions against reading this in terms of a formal definition:

Rather than a conceptual definition of health, it is perhaps more useful to think of WHO's statement as a health political objective. It sets a high yardstick for health policies at all levels and also expands the scope of what health authorities should be concerned with.<sup>19</sup>

Gautier's concern in 1943, explicitly citing the Beveridge Report from the year before, was that the post-war rebuilding of an international health agency should be done with aims that are of a revolutionary height.<sup>20</sup>

The quantifier 'complete' in the WHO statement has commonly been read to mean 'absolute' well-being, thereby attracting a chorus of universal criticism as something that lies beyond all human reach, as if it were a hopelessly utopian position.<sup>21</sup> However, this trope is an unnecessary interpretation that is innocent of the historical Sitz im Leben. Nor is it an expression of euphoric post-war optimism. Given the health political function of the statement, 'complete' in this context allows a more plausible reading as comprising the three domains of well-being holistically – physical, mental, and social as a whole - particularly as the subsequent

sentence of the constitution appeals pragmatically to 'the highest attainable standard of health' (emphasis added), a defensibly ambitious but hardly absolutist position. In 1978 the International Conference on Primary Health Care reprised the WHO stance in the Declaration of Alma-Ata, as echoed in its commitment to 'the attainment of the highest possible level of health' for all people, while advocating primary health care as being of central importance to this endeavour.<sup>22</sup>

# Health and the philosophy of medicine

Philosophers have been reflecting on the enigmatic nature of health since ancient times. The first known instance of a Western philosopher adopting a theory of health goes back to Alcmaeon of Croton (modern Crotone in Calabria), possibly around the end of the 6th century BCE, in which he construed health metaphorically in terms of the equality of opposing factors. 23,24 Ancient Eastern traditional medicine would also adopt similar oppositions. During that period the Hippocratic and much later the Galenic schools developed this approach, which ultimately reappeared in the 'bodily humours' model of the mediaeval schools.<sup>25</sup> Soon after Alcmaeon, in the 5th century BCE, Socrates is recorded in Plato's Republic to remark, 'You remember what people say when they are sick?... That after all nothing is pleasanter than health. But then they never knew this to be the greatest of pleasures until they were ill.'26 In Plato's Charmides, Socrates argues, 'this... is the reason why the cure of many diseases is unknown to the physicians of Hellas, because they are ignorant of the whole, which ought to be studied also; for the part can never be well unless the whole is well.'27

The association between wholeness, health, and well-being thus has very old roots but continues to be discussed in contemporary philosophy of medicine. Whether as expressed in Plato by Socrates, or by the WHO, on a holistic approach the diverse strands of well-being (not to be confused with 'wellness' as a marketing category) are indivisible. Commenting on the WHO definition almost 60 years after the constitution was formulated, the moral philosopher and economist John Broome argued that 'health cannot be separated out as a distinct component of well-being... we should be concerned with all of well-being.'2 He continues:

So we ought not to be trying to measure the harm done by disease in terms of health only, but in terms of the whole of well-being. The measure we shall emerge with may accurately be called a measure of the burden of disease, but it would be inaccurate to call it a measure of health. If it is not a measure of health, why should the World Health Organization take any particular interest in it? Because it measures the harm caused by disease, or the benefit caused by controlling disease. The cause is specifically to do with health. The effect is harm or benefit in general.<sup>28</sup>

What Broome has in mind in relation to the general are things like the ability to work, to earn an income, to have social contact (something the world is learning afresh), and to experience a sense of self-esteem, linking back to a

holistic view of well-being that is pertinent to health but not synonymous with it. A theory of well-being, then, is not to be equated with a theory of health, and some philosophers therefore prefer to frame health in other holistic terms. It is also interesting to note from Broome's comment that, perhaps inevitably, discussion of disease and illness is rarely distant in the literature on the nature of health. Indeed, Dominic Murphy observes that, 'Health has received less philosophical attention than disease... The conceptual terrain in the case of health is a little more complex than that of disease.'<sup>29</sup> Perhaps this is rather like discussion of war being more common than discussion of peace.

Part of this complexity comes back again to values. Not only are there health values, but health is itself a value, and our ideas of what health is rely upon the values we bring to it. That is, health is a value-laden concept.3 But there are also health facts that can be established through scientific investigation. Theories of health are generally categorised, then, in terms of the emphasis either upon fact or upon value. However, while independent of each other, fact and value are not mutually exclusive, are generally interwoven, and a focus on one to the elimination of the other is entirely artificial. Caroline Whitbeck and others maintain that concepts in the medical sciences can themselves be value-laden.<sup>30</sup> In 1943 the French physician and philosopher Georges Canguilhem published his ground-breaking doctoral thesis in medicine arguing that concepts of what is normal and what is pathological are not strictly objective.31

As a result, some philosophers take a mixed or hybrid approach to theories of health that is neither completely value-based (evaluative, normative, subjective, constructivist) nor completely fact-based (naturalistic, empirical, objective, realist), but which conjoins the naturalistic and the evaluative. <sup>32,33</sup> At one end of the continuum, Christopher Boorse takes the view that 'the medical conception of health as absence of disease is a value-free theoretical notion. Its main elements are biological function and statistical normality.<sup>34</sup> In contrast to a wholly biostatistical theory, but favouring an evaluative approach without negating the empirical, Nordenfelt advocates a holistic approach:

Health has its basis on the level of the whole person. It is the person, not the individual organs, who is healthy. Let me put this general idea of health in the old way once expressed by Galen, the famous Roman physician and philosopher from 200 AD: Health is a state in which we neither suffer pain nor are hindered from the functions of daily life.<sup>25</sup>

The ability to function as a criterion of health has found varied expression in the philosophical literature. In the naturalistic approach of Boorse, the impairment of function is used to define disease, and so health as the absence of disease. Nordenfelt, in his normative approach, views functional ability in terms of the capacity to realise 'essential goals of life' as defined by the individual.<sup>3</sup> Thomas Schramme, an appreciative critic of Nordenfelt's position, nevertheless offers a qualified defence of a naturalistic theory of health.<sup>35</sup>

Elsewhere, functional ability is framed in terms of adaptability to changes that impact upon the person. Canguilhem invokes a plasticity of function in response to such 'environmental' infractions of what has been hitherto normal, and 'instituting new norms in new situations.'36 Whitbeck's stance is that 'health... is the ability to act or participate autonomously and effectively in a wide range of activities.'37 Ingmar Pörn brings an ecological perspective to bear upon health as adaptability in terms of the individual's relation to the environment and relation to the self, again with reference to that person's goals.38 József Kovács gives an explicitly evolutionary theoretical account of health as adaptation to the environment.<sup>39</sup> Albert Musschenga writes of 'functioning normally in basic social roles as parent, householder, worker and citizen.'40 The functional adaptability model in the philosophical literature has since found its way into the medical literature over the past decade or so.41,21

Beginning with Canguilhem, all of these approaches represent a dynamic rather than static notion of health. Johannes Bircher summarises this as 'wellbeing characterized by a physical, mental and social potential, which satisfies the demands of a life commensurate with age, culture, and personal responsibility.'42

# **Conclusion: living well**

In his essay, 'On the enigmatic character of health', the neo-Aristotelian philosopher Hans-Georg Gadamer describes health as 'a condition of being involved, of being in the world, of being together with one's fellow human beings, of active and rewarding engagement in one's everyday tasks.'43 This is a positive expression of human flourishing and values, of the good life, a theme much considered by Ancient Greek philosophers and especially by Aristotle in his ethical discourses. In the Eudemian Ethics he observes, 'For being healthy is not the same as the things without which it is not possible to be healthy... So, living well is also not the same as the things without which living well is impossible.'44 And just as Socrates commented that health is registered as pleasant principally when it is absent, Gadamer also notes that health per se does not objectify itself to us. An objective science of health, as Canguilhem observes, would not be possible.<sup>45</sup> Certainly, an objective science of outcomes, measurements, and proxies; but not of health as such.

Much of the discussion in this article also turned on the relation between the objective and subjective. One possibility is to think of health as being *ontologically objective*. That is, a person's condition of health has a mode of existence that is independent of the observer. Another is to think of health as being *ontologically subjective*. That is, its mode of existence is in terms of how the individual experiences it. However, something that is ontologically subjective – i.e. relative to the individual's experience – can still be *epistemically objective*. That is, objective knowledge claims can be made about something that exists only insofar as it is subjectively experienced.<sup>46</sup> To the independent observer a person's functional ability may evidently be impaired, while clinically speaking nothing is 'wrong'.

Alex Broadbent deploys a slightly different 'objectivesubjective' analysis which is in terms of realism and antirealism, and according to whether or not health is interpreted as value-free or value-laden, but does so to similar effect.<sup>47</sup> In either analysis, the question is whether or not a theory of health encompasses the category of 'people who are not diseased but who are not well.'13 What makes this an issue for physicians and their patients is that it impacts directly on how the goals of medicine are to be construed, and therefore how they are to be achieved.

# References

- 1 Burke DS. Six months to act. (Op-Ed on SARS) [Internet]. Wall Street Journal 25 April 2003. Reprinted by Johns Hopkins: Bloomberg School of Public Health [Accessed 9 February 2021]. Available from: https://www.jhsph.edu/news/newsreleases/2003/sars-burke.html
- Broome J. Measuring the burden of disease by aggregating well-being. In: Murray CJL, Salomon JA, Mathers CD et al. (eds). Summary Measures of Population Health: Concepts. Ethics, Measurement and Applications. Geneva: World Health Organization; 2002. pp.91–113. (pp.91–93).
- Nordenfelt L. The concepts of health and illness revisited. Med, Health Care Philos 2007; 10: 5–10.
- 4 Reiss J, Ankeny RA. Philosophy of Medicine. The Stanford Encyclopedia of Philosophy (Summer 2016 Edition) [Internet]. Zalta EN. (ed.) [Accessed 9 February 2021]. Available from: https://plato.stanford.edu/archives/sum2016/entries/ medicine/
- Cohen A. Culture as identity: an anthropologist's view. New Literary History 1993; 195-209. (p.196).
- Helman CG. Culture, Health and Illness. London: Hodder Arnold; 2007. (p.127).
- 7 Helman CG. "Feed a cold, starve a fever" Folk models of infection in an English suburban community, and their relation to medical treatment. Cult Med Psychiatry 1978; 2: 107–37.
- Boyd KM. Disease, illness, sickness, health, healing and wholeness: exploring some elusive concepts. Med Humanit 2000; 26: 9-17.
- Axtell J. Ethnohistory: An historian's viewpoint. Ethnohistory 1979; 26: 1-13. (p.2).
- 10 Cohen A. Whalsay: Symbol, Segment and Boundary in a Shetland Island Community. Manchester: Manchester University Press; 1987. (p.13).
- 11 Prasad V, Vandross A, Toomey C et al. A decade of reversal: an analysis of 146 contradicted medical practices. Mayo Clin Proc 2013: 88: 790-8.
- 12 City of New York Board of Estimate and Apportionment Committee on the City Plan. Commission on Building Districts and Restrictions. [Internet] Report: 2nd June 1916. pp. 6-15. (p. 10) [Accessed 9 February 2021]. Available from: https:// babel.hathitrust.org/cgi/pt?id=hvd.li2xm1&view=1up&seq=26
- 13 Fleming AG. Keeping well people well. The Public Health Journal 1925; 16: 459-67. (p.461).
- 14 Sigerist HE. Medicine and Human Welfare. New Haven: Yale University Press; 1941. (p.100).
- 15 Larsen LT. Legitimizing positive health for all: A genealogy of the World Health Organization's definition of health. [Internet] Conference paper: American Political Science Association: San Francisco, 2017. [Accessed 9 February 2021]. Available from: https://pure.au.dk/ws/files/120910908/ APSALarsThorupLarsenWHOHealthDefinition.pdf
- 16 Burke DS. Origins of the WHO definition of health: Pittsburgh threads. [Internet] Presentation: CF Reynolds Medical History Society; University of Pittsburgh, 2017. [Accessed 9 February 2021]. Available from: https://www.pitt. edu/~super7/56011-57001/56051.pdf

- 17 Larsen LT. Legitimizing positive health for all: A genealogy of the World Health Organization's definition of health. [Internet] Conference paper: American Political Science Association; San Francisco, 2017. [Accessed 9 February 2021]. (p.14) Available from: https://pure.au.dk/ws/files/120910908/ APSALarsThorupLarsenWHOHealthDefinition.pdf
- 18 World Health Organization. Constitution of the World Health Organization. [Internet]. 1946. [Accessed 9 February 2021]. Available from: https://apps.who.int/gb/bd/PDF/bd47/EN/ constitution-en.pdf?ua=1
- 19 Larsen LT. Legitimizing positive health for all: A genealogy of the World Health Organization's definition of health. [Internet] Conference paper: American Political Science Association; San Francisco, 2017. [Accessed 9 February 2021]. (p.2) Available from: https://pure.au.dk/ws/files/120910908/ APSALarsThorupLarsenWHOHealthDefinition.pdf
- 20 Larsen LT. Legitimizing positive health for all: A genealogy of the World Health Organization's definition of health. [Internet] Conference paper: American Political Science Association; San Francisco, 2017. [Accessed 9 February 2021]. (pp.8–10) Available from: https://pure.au.dk/ws/files/120910908/ APSALarsThorupLarsenWHOHealthDefinition.pdf
- 21 Huber M, Knottnerus JA, Green L, et al. How should we define health? BMJ 2011; 343: 235-7.
- 22 International Conference on Primary Health Care, Alma-Ata, USSR [Internet]. 6–12 September 1978 [Accessed 9 February 2021]. The Declaration of Alma-Ata. Available from: https:// www.who.int/publications/almaata\_declaration\_en.pdf
- 23 Miller HW. Philosophy and medicine in ancient Greece. Review article of Jones WVS. Philosophy and Medicine in Ancient Greece. Supplements to the Bulletin of the History of Medicine No.8. Baltimore: Johns Hopkins University Press; 1946.] The Classical Journal 1949;44:309-18.
- 24 Mansfield J. The body politic: Aëtius on Alcmaeon on isonomia and monarchia. In: Harte V, Lane M. (eds). Politeia in Greek and Roman Philosophy. Cambridge: Cambridge University Press; 2013. pp. 78-95. (p.79).
- 25 Nordenfelt L. Understanding the concept of health. In: Rønnow-Rasmussen T, Petersson B et al. (eds). Hommage à Wlodek. Philosophical Papers Dedicated to Wlodek Rabinowicz, [Internet]. 2007. [Accessed 9 February 2021]. Available from: https://www. fil.lu.se/hommageawlodek/site/papper/NordenfeltLennart.pdf
- 26 Plato. The Republic. Book IX. In: The Dialogues of Plato. Vol. 3. Jowett B. (Trans.) Oxford: Clarendon Press; 1892. (p.295).
- 27 Plato. Charmides. 156e. In: The Dialogues of Plato. Vol. 1. Jowett B. (Trans.) Oxford: Clarendon Press; 1892. (p.13).
- 28 Broome J. Measuring the burden of disease by aggregating well-being. In: Murray CJL, Salomon JA, Mathers CD et al. (eds). Summary Measures of Population Health: Concepts, Ethics, Measurement and Applications. Geneva: World Health Organization; 2002. (p.98).
- Murphy D. Concepts of disease and health. In: Zalta EN. (ed.) The Stanford Encyclopedia of Philosophy [Internet] (Summer 2020 Edition). [Accessed 9 February 2021]. Available from: https:// plato.stanford.edu/archives/sum2020/entries/health-disease

- 30 Whitbeck C. Four basic concepts of medical science. PSA: Proceedings of the Biennial Meeting of the Philosophy of Science Association 1978; 1: 210–22.
- 31 Canguilhem G. On the Normal and the Pathological. Fawcett CR. (Trans.) Dordrecht: D Reidel Publishing Company; 1978.
- 32 Hamilton RP. The concept of health: beyond normativism and naturalism. *J Eval Clin Pract* 2010; 16: 323–9.
- 33 Alexandrova A. Can the science of well-being be objective? British Journal for the Philosophy of Science 2018; 69: 421–45.
- 34 Boorse C. Health as a theoretical concept. *Philosophy of Science* 1977; 44: 542–73.
- 35 Schramme T. A qualified defence of a naturalistic theory of health. *Med Health Care Philos* 2007; 10: 11–17.
- 36 Canguilhem G. *On the Normal and the Pathological*. Fawcett CR. (Trans.) Dordrecht: D Reidel Publishing Company; 1978. (p.115).
- 37 Whitbeck C. A theory of health. In: Caplan AL, Engelhardt (Jr) HT, McCartney JJ. (eds). Concepts of Health and Disease: Interdisciplinary Perspectives. London: Addison Wesley; 1981. pp.611–26. (p.616).
- 38 Pörn I. Health and adaptedness. *Theor Med* 1993; 14: 295–303.
- 39 Kovács J. The concept of health and disease. *Med Health Care Philos* 1998; 1: 31–39.

- 40 Musschenga A. The relation between concepts of quality-of-life, health and happiness. *J Med Philos* 1997; 22: 11–28. (p.23).
- 41 Editorial. What is health? The ability to adapt. *Lancet* 2009; 373: 781.
- 42 Bircher J. Towards a dynamic definition of health and disease. *Med Health Care Philos* 2005; 8: 335–41.
- 43 Gadamer H-G. The Enigma of Health: The Art of Healing in a Scientific Age. Gaiger J, Walker N. (Trans.) Oxford: Polity Press; 1996. (p.113).
- 44 Aristotle. *Eudemian Ethics* 1.2.1214b14-17. Woods M. (Trans.) *Aristotle: Eudemian Ethics. Books I, II and VIII*. Oxford: Clarendon Press; 1992. (p.2).
- 45 Canguilhem G. Health: popular concept and philosophical question. In: Geroulanos S, Meyers T. (Trans.) Writings on Medicine. New York: Fordham University Press; 2012. pp. 43–52. (p.45).
- 46 Searle JR. What your computer can't know [Internet]. New York Review of Books pp. 52–55. (9 October 2014). [Accessed 23 February 2021]. Available from: https://www.nybooks.com/articles/2014/10/09/what-your-computer-cant-know/
- 47 Broadbent A. Health as a secondary property. *Br J Philos Sci* 2019; 70: 609–27.