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Reasoning, evidence, and clinical decision-making: the great debate moves forward

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Reasoning, evidence and clinical decision-making: the great debate moves forward

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Philosophy Thematic Edition 2017: Editorial Introduction

Title: Reasoning, evidence and clinical decision-making: the great debate moves forward

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It seems that not all crises are a bad thing. When we wrote the editorial to the first philosophy thematic edition of this journal, published in 2010, [1] critical questioning of underlying assumptions, regarding such crucial issues as clinical decision making, practical reasoning and the nature of evidence in health care, was still derided by some prominent contributors to the literature on medical practice. Influential texts proceeded as if all of the fundamental theoretical issues confronting practice had been resolved, and the key 'practical' questions concerned 'how to' apply the methods of evidence-based decision-making we had now developed, not 'why' certain methods should be adopted, let alone what rational decision-making *means* across a range of contexts. 'Philosophers' as a group were berated for raising questions of the latter sort, on the grounds that these questions were 'confusing, not helpful' and so of no 'relevance' to 'busy practitioners' who, by implication, had no time to engage in such 'intellectual ruminations'. [2]

In the editorials of subsequent thematic editions, we have disputed the neat divide between the intellectual and the practical assumed by such dismissals of philosophy. All thinking and all decision-making concerning the care of persons takes place against the background of conceptual frameworks that may only occasionally be made the subject of critical scrutiny, but which are by no means necessary, and may not be universally shared. There is no such thing as atheoretical thinking and practice, and it is a definitive feature of the reasonable person, and indeed of the autonomous practitioner, [1,3] that she spends some time identifying and interrogating the preconceptions that frame her practice. Far from being an activity somehow disconnected from practice, it is a precondition of adequate theorising that it enables practitioners to *make sense* of what they actually do. [4] Such activities as diagnosis, prediction, classification and treatment embody numerous assumptions about matters including the ontological status of disease, the nature of causality, probability and the nature of and relationships among rationality, validity, knowledge, value, objectivity and subjective experience. [5-8] We have been delighted to publish many excellent articles demonstrating not only that our thinking about these essential underlying matters is not yet settled, but offering ways to make substantive progress in the theoretical and practical problems that confront us. Even the most apparently reasonable assumption of the 'anti-philosophical' authors, that confusion is invariably unhelpful, is not strictly correct. Sometimes feeling confused is the first indication we have that something does not make sense, [1] and that feeling becomes the motivation for examining our assumptions. Indeed, there are times when the proposal of a confused solution to a problem can be preferable to the dogmatic insistence

that there is nothing to be confused about in the first place. [9] The former can help to move a debate forward while the latter invites stagnation.

What has been most gratifying is that the debate beyond the pages of this journal has so demonstrably moved forward. While many serious disagreements of course remain, the very idea that evidence-based medicine (EBM) might be 'a movement in crisis' [10] (to cite one of the papers that has been most helpful in moving the debate forward) has generated a sense of urgency to address questions that, whether or not they are explicitly identified as such, are clearly matters of medical philosophy. Far from being derided or dismissed as a distraction from practical concerns, the discussion of such fundamental questions, and their implications for matters of practical import, is currently the preoccupation of some of the most influential and insightful contributors to the on-going EBM debate. Simplistic dichotomies between 'pro' and 'anti' EBM positions have been replaced by an increasingly sophisticated set of exchanges, as authors who might previously have been sorted into 'proponents' and 'critics' of EBM recognise the need to develop accounts of the relationship between evidence, reasoning and clinical practice that are at once intellectually coherent and practically helpful.

In this edition, we present an array of up-to-date analyses of the problems of reason in practice, addressing a diverse range of healthcare contexts and methods, considering policy decisions as well as specific instances of clinical reasoning. [11-51] Contributors discuss the nature of practical wisdom, the relationship between reasoning, emotion, intuition and evidence, and the sense in which EBM is (or is not) a 'modern' scientific enterprise, in the light of considerations of the relationship between science, context and culture. [11-18] The edition includes important sections on mental health, where questions ranging from epistemic injustice to psychiatric nosology and validity are analysed [19-22] – discussions given both specificity and depth via a range of papers from a significant conference on how we conceptualise a number of psychiatric disorders. [23-28] There is also a significant section on causal reasoning, publishing papers delivered to a recent gathering of the CauseHealth collaboration. [29-35] The growing interest in medical and health philosophy is illustrated by the number of important texts currently being published in this area, and we present reviews of some of the most recent work in this field. [36-42] The edition concludes with an extensive debates section, where arguments presented in this and in previous editions are challenged by respondents, [43-51] in ways that we hope will further illustrate how underlying philosophical commitments can make a substantive difference to our understanding of the right ways to approach and improve practice.

Aspects of decision-making: context, evidence and wisdom

Our first paper in this edition is an attempt by two very important contributors to the development of EBM over many years to draw together a broad range of literature on the concept of rationality and to bring out its implications for clinical practice. With a very practical focus on reducing the waste of health resources on inappropriate care, Ben Djulbegovic and Shira Elqayam [11] examine 'The Great Rationality Debate', considering models of reasoning developed by philosophers, economists and psychologists, in an attempt to identify core ingredients of rationality commonly encountered across various theoretical models. Their survey reinforces a point made by several other contributors to this edition, that no one model can fit all contexts, such that 'context is of paramount importance to rationality'. They begin to identify different types of context in which different identified models may be more appropriate, from policy contexts in which 'expected-utility informed by best research evidence' might be the basis for the optimal approach, to what they describe as more 'context-rich circumstances', where such concepts as intuition and emotion form essential components of the 'cognitive architecture' providing the basis for practical reasoning.

Per Lytsy looks at the nature and limitations of statistical reasoning as a basis to inform practice, [12] explaining ways in which research trials can provide statistical evidence of false hypotheses, giving rise to non-purposive research programmes, policy changes and promotion of ineffective treatments. The paper provides an illustration of how a false theory can acquire the status of an 'evidence-based' approach to medical practice, before considering methods to minimize the problem. Daniele Chiffi and Renzo Zanotti note that, while models and reasoning about diagnoses have been extensively investigated, prognosis remains a relatively neglected topic in the literature on the foundations of clinical reasoning. [13] They argue that, while both prognosis and diagnosis involve prediction, only the former involves 'creative abduction'. Developing arguments based on the differences

between reasoning in clinical practice and in scientific research, they argue that prognostic judgement faces *fundamental* uncertainty in a way that diagnostic judgement does not: the probability of diagnostic error can be known, but the probability of error in prognosis cannot.

The first contribution to this edition by Julie Vaughan-Graham and Cheryl Cott seeks to explicate how clinical reasoning goes beyond cognition, to include professional practice knowledge in a widely adopted approach to neurorehabilitation, the Bobath concept. [14] To meet this aim the authors conducted a qualitative study. Across four study locations and time periods, in-depth interviews stimulated the recall and discussion of video-recorded treatment sessions and clinical reasoning with purposefully selected Bobath concept instructors with varying expertise. Through interpretive description, emergent themes highlighted a person-centred clinical framework that embodies interacting reasoning strategies. Informed by phronesis or practical wisdom, specifically visuo-spatial-kinaesthetic perception of the client and clinical presentation, these strategies facilitate wise action.

Sophie van Baalen and her colleagues emphasize the social nature of knowledge. [15] They explain how “knowing” in medical practice may be socially distributed among clinical professionals in expert multidisciplinary teams. Challenging an epistemology of knowing by individual clinicians, this perspective constructs clinical decision-making as a social process. The authors observed meetings of a single team and conducted qualitative interviews to reveal how imaging technologies for pulmonary hypertension mediate socially distributed knowing and agreement on what the images represent. The images provide social-technological mediation by acquiring, combining and communicating information from heterogeneous sources to ground social and epistemological responsibility for a coherent and shared framing of the management of the patient.

Ashley Graham Kennedy's paper focuses on the evaluation of diagnostic tests. [16] She begins by considering how to evaluate the diagnostic accuracy and the clinical effectiveness of a test, but argues that the clinical *value* of a test requires more than accuracy and clinical effectiveness. In addition, she argues that a diagnostic test may have value, in some cases, even when it does not affect a patient's treatment or prognosis.

Explicitly addressing the philosophical commitments of Evidence-based Healthcare (EBHC), Sietse Wieringa and colleagues note that the early EBM movement had 'a strong modernist agenda'. [17] Early work in EBM aimed to 'purify' clinical reality, assuming 'a dichotomy of objective "evidence" from nature and subjective "preferences" from human society and culture'. This agenda was identified from the outset and criticised by contributors to this journal over the years, [52-68] and in line with the arguments of these critics, Wieringa et al argue that the 'shift' to this notion of 'purified' evidence has proved impossible, because 'evidence in clinical decision-making is relentlessly situated and contextual'. Citing Latour, they state that 'the EBHC community needs to reconsider the assumption that science should be abstracted from culture' and they begin to outline what they take to be the 'far-reaching' implications for clinical reasoning that such a recognition would have. In contrast to authors such as Seth Thomas, who argued in a recent edition of this journal that there is no need for a 'philosophical overhaul' of EBHC to enable it to accommodate a person-centred approach to clinical practice, [69] these authors note that 'the starting point for clinical practice' needs to be 'the unique, individual patient, not abstracted truths from distant research studies'. [17] A brief communication from Amy Price and Ben Djulbegovic resonates with these arguments, focussing on how the term 'evidence' is 'interpreted across languages and cultures' [18] and noting (again in line with contributions to this journal and other work on person-centred care over the years [57,62,70-74]) that the assumption of shared meaning of a contested term can lead to confusion and miscommunication.

Reasoning in Mental Health

Reasoning about mental health has always provided significant challenges to the simple dichotomies embodied by the 'modernism' Wieringa et al [17] seek to challenge. [5,7] Clinicians Michalis Kyrtasous and Abdi Sanati apply Miranda Fricker's concept of a distinctively epistemic form of injustice – wronging persons in their capacity as knowers – to persons with borderline personality disorder (BPD). [19] Despite recognizing that pathology sometimes justifies epistemic disqualification, the authors use a case vignette to illustrate how valid consideration of persons as unreliable witnesses differs from disqualifying their epistemic status on the basis of negative stereotypes and prejudice. The problem of

prejudice is suggested to be evident here to the extent that health professionals have been inclined to ascribe knowledge, agency and moral responsibility for apparently manipulative behaviour to persons with BPD who lack these qualities. The authors contend that it is simplistic to assume that persons with BPD always understand the moral significance of their behaviour and are able to distance themselves from it.

Their insightful analysis is followed by three papers discussing the concept of psychiatric validity. Sander Lefere and colleagues [20] argue that discussions of psychiatric nosology have been dominated by an emphasis on the reliability of psychiatric diagnoses. They argue that this emphasis is misguided and responsible for the major concerns that have been raised about successive editions of the Diagnostic and Statistical Manual (DSM). They advocate a change of direction, abandoning the idea that 'all the psychiatric disorders that we currently discern reflect discrete, natural entities', instead recognising 'that most of them rely on clinical descriptions which implies that these disorders are discerned on a pragmatic, or fuzzy basis'. Again, the abandonment of a strict modern dichotomy, between objective evidence of natural diseases and a social, pragmatic understanding of people, their behaviour and problems, is identified as a way forward in making sense of diagnostic categories and practices.

This argument is followed by two papers from Diogo Telles Correia, the first of which provides a helpful summary of different perspectives on validity within psychiatry, grounding the discussion in broader accounts of the term as employed in philosophical and scientific discourse. [21] The discussions of 'realistic versus instrumental' validity resonate with the concerns of Lefer et al. [20]. Correia's second paper provides another useful summary, this time of the history of the concept of 'psychiatric validity', before making some tentative suggestions about its future evolution – arguing that explicit recognition of 'the specificity of psychiatry, a hybrid discipline between human sciences and neurosciences, may be the first step towards a paradigm shift'. [22]

KCL Identity (self) over time & mental disorder workshop

These broad, historical concerns are given focus by a series of papers based on presentations to an interdisciplinary workshop at Kings College London. The section opens with a detailed characterisation of the background to and context of the discussions in the workshop that gave rise to these papers, in the workshop report, co-authored by its three organisers. [23] They explain that a key goal was to examine a range of questions debated frequently within specific disciplines, including psychiatry, philosophy and law, concerning how the experience of a severe mental disorder can impact on an individual's sense of self and personal identity, and how this affects issues including personal responsibility. The aim of the workshop was to bring these discussions out 'from within disciplinary silos' to facilitate cross-disciplinary understanding.

Juliette Brown's paper brings together clinical experience and the ideas of theorists including Hume, Buber, Levinas and Lacan to throw light on our individual and cultural understandings of dementia and its relationship to self and identity over time. [24] She notes that dementia is understood in our culture as being 'synonymous with loss', but argues that this is due to our 'conscious and unconscious focus on the later stages of the illness'. This focus can undermine our abilities to think about and use 'the intervening years' – years which can 'deliver remarkable insights into the capacity to navigate fragmented identities'. Focussing on the social nature of identity as 'a relational, interactive quality', Brown examines ways of avoiding the objectification and disempowerment of persons with dementia, utilising our experience of attachment to facilitate 'an empathic response to others' which embodies 'an assumption of their value'. In academia the term 'fuzzy', when applied to someone's reasoning, is typically used pejoratively, but this paper (and indeed the one which immediately follows it in this edition) strikes us as an excellent illustration of the pragmatic or (in a very positive sense) 'fuzzy' approach to understanding clinical categories and practical reasoning advocated by Lefer et al. [20]

Suggesting how to overcome the gulf between 'explaining' and 'understanding', Jorge Gonçalves conceptualizes schizophrenia as a state of altered consciousness that, contrary to Karl Jaspers – the founder of psychopathology – can be at least partly understood beyond causal-mechanical modes of explanation. [25] This qualified comprehension of schizophrenia requires us to open ourselves to persons with this mental condition. They differ so radically from our own world that simulating their state of mental health is difficult or impossible for us.

So, opening our mind may require 'radical empathy', for example through implicitly or explicitly acquiring knowledge from their stories of lived experience of reality as a mental state. The possibility that schizophrenia is amenable to such psychological interpretation rehumanizes schizophrenia beyond neurological alterations and symptoms, and indicates a path of circular causality in which the brain mediates the biological and psychosocial worlds.

Natalie Gold and Michalis Kryatsous examine philosophical approaches to the self to assess their ability to help our thinking about identity disturbance in Borderline Personality Disorder. [26] They argue that models of the self based on continuity, including narrative identity, need to be supplemented by a notion of agentic identity, explaining how it connects impaired self-processing to both memory deficits and disinhibition. Distinguishing 'identification' from continuity, they explain the idea of 'mental time travel' as 'imaginatively projecting oneself into a mentally simulated event, either in the past or in the future', arguing that 'Imagining the future and recalling the past involve the same psychological processes and use the same brain circuitry' – linking the phenomenology of mental time travel to causal (neuroscientific) explanations of altered activity in the self-referential processing systems of BPD patients.

The paper by Tania Gergel and Eduardo Iaconi also examines the dominant philosophical models of continuing identity over time, noting that they all depend upon 'some notion of fundamental stability', and thus seem to be 'a poor fit for the trajectory associated with psychotic disorder'. [27] This explains the common conception of psychosis as 'loss of selfhood'. The authors, however, prefer a different approach, treating 'the transitions which accompany psychotic disorders' as presenting 'a challenge to conventional and philosophical notions of selfhood' and thus seeking 'an alternative model of identity to use in this context'. Their approach seems in line with the methodological point in our opening comments, that it is legitimate to hold theories to account for making sense of practice, which in this context means enabling practitioners to help patients make sense of their own experiences. Adopting a pragmatic stance which resonates with the arguments of other contributors to this section [24-6] Gergel and Iaconi find there are strong reasons to avoid the option of simply judging psychotic disorders as 'bringing about a loss of selfhood'. [27] They accept that some individuals with psychosis are prepared to 'posit a self/illness separation' as a way of managing the condition, but they note that even for those individuals, 'it was still they themselves who experienced the psychotic state and must somehow integrate these experiences into their self-concept, no matter how distinct this state might be from their non-psychotic self'.

Similar challenges to our notion of identity over time are presented by Nuala Kane, whose discussion of self-binding directives in bipolar disorder moves from an analysis of the debate about 'decision-making capacity' to the concept of an 'authentic self'. [28] In some of the fascinating case studies described, a very pressing practical conflict emerges between different candidates for a person's 'authentic self', as discontinuities in a person's beliefs and values over time could require practitioners and legal authorities to take a stance on when a person's wishes represented his 'true' self. Kane does consider the possibility that ('paradoxically') we might have to assess first of all whether a person's behaviour inclines us to think he is ill, *before* deciding if his wishes at that time represent his 'authentic self' whose autonomy must be respected (rather than our judging him ill because his choices are not authentic). Ultimately she argues for a framework based on 'risk to self' (rather than capacity) to justify self-binding directives for patients with bipolar affective disorder, but acknowledges that spelling out the meaning of 'risk to self' requires appeal to the concepts of self-creation and narrative accounts of identity, which are themselves contentious.

CauseHealth workshop

While the challenges to the 'modern' dichotomies identified by authors in our first section are particularly striking in the area of mental health, as noted in our opening comments, debates about the nature of causality and causal reasoning are by no means settled. In this section we present a series of papers produced by members of the CauseHealth collaboration, a group configured to apply philosophical understandings of the nature of causation to the resolution of practical problems in healthcare.

The first contribution to this section comes from Rani Anjum and Stephen Mumford. Focussing on the relationship between research evidence and decision-making, the authors note that EBM has 'two components', a methodological one concerning RCTs and their

systematic review, which embodies a 'difference-making conception of cause', and a 'policy component'. [29] We have seen that Djulbegovic and Elqayam identified 'policy contexts' in which the best model for practical reasoning was based on 'expected-utility informed by best research evidence'. [11] Anjum and Mumford agree that this model is utilitarian in nature, noting that utilitarianism is a normative (moral) theory which identifies 'the good' with that which produces 'the greatest happiness of the greatest number'. [29] They further note that, in ethical debate, there are two forms of utilitarian theory, 'act utilitarianism' and 'rule utilitarianism',¹ and they characterise 'evidence-based policy' as a form of rule utilitarianism.

The authors then argue that anyone familiar with the debate in moral philosophy will understand that rule utilitarianism 'inevitably collapses' because 'a utility maximiser should always ignore the rule in an individual case where greater benefit can be secured through doing so'. They conclude that a clinician 'who knows that a patient would not benefit from the recommended intervention has good reason to ignore the recommendation', whatever the evidence-based guidelines say. It is of course not clear that Djulbegovic and Elqayam would disagree, as the 'policy contexts' they identified where the 'expected-utility informed by best research evidence' model was appropriate were identified precisely because of the lack of rich, context-specific knowledge. The discussion does, nonetheless, raise important issues about the role of guidelines in clinical decision-making, and a common conception of 'practical wisdom' (as Djulbegovic and Elqayam note) does indeed suggest that a key component of such wisdom is knowing 'when not to' [11] follow guidelines based on expected general utility.

Anne Rose Feragen discusses the importance of philosophical and professional scepticism in the context of complexity and uncertainty, in particular complexity related to 'the profound epistemological problem of underdetermination'. [30] The 'underdetermination thesis' – that any set of data is logically compatible with different scientific theories – has long been a problem in the philosophy of science, and Feragen contends (with the use of illustrative examples) that it presents a real and serious challenge to contemporary clinical decision-making. She argues that contemporary practitioners need to learn from the ancient scepticism of Sextus Empiricus and the professional scepticism applied in contemporary auditing.

In a paper illustrating the sort of concerns raised by Lytsy, [12] Samantha Copeland analyzes the impact of an unexpected finding on research into chronic fatigue syndrome (CFS). [31] Upon finding that a CFS patient being treated for Hodgkin's disease experienced great improvement in her symptoms, researchers treated a small number of patients with a chemically similar drug, with similar results. Based on this, they advanced claims about 'the cause' of CFS that, Copeland shows, are both ethically and epistemically problematic. In the case of CFS research, underdetermination and causal complexity undermine the potential value of a mono-causal claim.

Matthew Low explores the potential of a dispositional metaphysics, paired with a vector model of causation, for improving person-centered clinical reasoning. [32] Low argues that this understanding of causation is well suited to clinical encounters involving complexity and medically unexplained symptoms, particularly by virtue of accounting for the context-sensitivity of medical causation and the particularities of the individual patient. He illustrates the approach using the familiar case of the patient with lower back pain.

In another paper making excellent use of 'an authentic life and sickness history', Anna Luise Kirkengen examines the roles of 'biomedical' and 'biographical-phenomenological' approaches to clinical reasoning, in particular the role of the latter in informing our understanding of the ontological status and causality of identified medical conditions and the real problems of persons. [33] Referring to her earlier work on objectification/ 'thingification', she illustrates the limits of biomedical framework 'with regard to identifying the social sources of an increasingly complex burden of disease', showing how what, from a biomedical perspective appears to be 'a longstanding state of co-morbidity of different and unrelated types of diseases' is 'rendered transparent' in a biographical reading.

1 Espousing the former meaning attempting to ensure each specific action maximises general happiness, while the latter involves adopting rules – such as truth-telling – that tend to maximise general happiness. (So the theories come into conflict when there are exceptions to a rule, for instance when a lie is likely to maximise happiness/minimise distress.)

Returning to the issue of value within evidence-based practice, Henrik Berg & Rasmus Slaattelid bring out the severe limitations placed upon practice in psychotherapy by the (philosophical) assumption of a sharp distinction between 'fact' and 'value', and an associated 'reductionism' which treats schools of psychotherapy as 'mere collections of empirical propositions'. [34] While conceding that it has traditionally (and often legitimately) been a core function of the scientific enterprise to 'provide models and theories that reduce the abundant complexity of the world', they note that some forms of reductionism risk undermining the purposes of practices in healthcare. The various psychotherapy schools 'have distinct ethos which are constituted by normative claims'. The whole purpose of psychotherapy is to 'improve the quality of life for those affected by psychological distress or illnesses' and this enterprise hinges on the assumption that some ways of living are preferable to others. It is consequently impossible to understand or meaningfully evaluate practices in psychotherapy without directly engaging with questions of value, employing such irreducibly normative concepts as 'character, virtue, ethical dilemmas, and notions of the good and righteous life'. Their concluding section explains very clearly that this involves much more than merely noting that a patient has 'certain values or preferences', effectively linking their argument to calls for a much more serious revision of the 'modern' philosophical framework in order to make sense of practice. [65,68,75-77]

Elisa Arnaudo considers the problems that arise from our current understanding of pain, with a particular focus on complex pain conditions such as fibromyalgia. [35] She argues that it is a form of 'epistemological dualism', on which the physician's objective stance is unable to account for patients' subjective experiences. This results in classifying patients whose pain does not have an identifiable biological cause as having psychogenic pain, which delegitimizes their experiences.

Book reviews

As the author of our first review in this section notes, [36] the growing literature on medical philosophy is extremely diverse, and arguably establishes the area as a field of inquiry distinct from its origins in medical ethics and bioethics. That is, at least, the view of Thomas Schramme and Steve Edwards, editors of the huge text very comprehensively reviewed by Juliette Ferry, the Springer *Handbook of the Philosophy of Medicine*. Ferry helpfully guides us through the text's seven main sections, (comprising two volumes, 68 chapters) which include chapters from leading authors in the field on core concepts in health care, medical knowledge, nosology, organisms, patients, the clinical setting and healthcare personnel, a range of social and political issues, the philosophy of psychiatry and (as Ferry notes, despite the editors' desire for 'independence' from bioethics) 'abundant ethical reflections'.

Ferry's review is followed by a series of reviews that further illustrate the diversity of work in the field. Andrew Lopez [37] reviews Matthew Ratcliffe's book, *Experiences of Depression: A Study in Phenomenology*, which examines, from a phenomenological perspective, what it is like to live with depression. Ultimately, Ratcliffe argues, a better understanding of this experience can improve both medical diagnosis and treatment. This argument is well-supported by philosophical literature from a wide range of sources. Lopez recommends the book to both practising psychologists with an interest in phenomenology and philosophers seeking thoughtful and rigorous work in applied phenomenology.

Erik Nelson [38] reviews *Becoming Human: The Ontogenesis, Metaphysics, and Expression of Human Emotionality* by Jennifer Greenwood. Greenwood's book connects the latest research on human development from a wide range of disciplines to work in the philosophy of mind. Greenwood argues that the empirical literature supports a particular philosophical position called 'transcranialism', in which cognitive processes are not merely contained within the brain but extend out into the world. While Nelson believes the book is 'an impressive example of empirically informed philosophy', he does offer some critical thoughts about the limitations of 'just so' stories in this domain and the possibility of a more charitable reading of the views held by critics of transcranialism.

Meghan Gosse [39] reviews Elizabeth Barnes' popular new book, *The Minority Body: A Theory of Disability*. Barnes' central argument is that to be physically disabled 'is not to have a defective or broken body, but to have a minority body' and she regards disability as primarily a concept people have 'found useful when organizing themselves in a civil rights struggle'. This identifies solidarity as a key feature of disability, and Gosse explains the importance of

this insight in her review. Gosse takes particular care to emphasize the importance of Barnes' final arguments in favour of disability pride. In the end, Gosse strongly recommends the book to a wide range of audiences.

Havi Carel's latest book, *Phenomenology of Illness*, is reviewed by Timothy Disher. [40] Disher notes that Carel aims to develop a comprehensive philosophy of illness, and in the process to highlight the value of illness to philosophy. Carel is tremendously skilled at weaving together gripping personal stories and high-level theoretical work, and the combination makes a strong impression on Disher. He offers some constructive critique around the possible limitations of a 'tool-kit' presented near the end of the book, drawing on his own clinical experience, but ultimately recommends the book to philosophers and clinicians alike.

Tanya MacLeod [41] reviews *The Patient as Agent of Health and Health Care* by Mark D. Sullivan. In the book, Sullivan draws on both clinical and philosophical training to argue that health care providers ought to help patients to become more active agents, not only in their health decisions but in their lives more generally. MacLeod notes that Sullivan follows in the tradition of 'patient-centred care' but wants to extend this model further to allow for health care professionals to become 'patient activators' who assist patients in formulating and pursuing meaningful life goals. MacLeod offers a strong recommendation in favour of the book, concluding, 'This is a book that you can pick up and revisit when time allows, and as long as you have an interest in medicine and philosophy, Sullivan will deliver with an interesting discussion on the relationship between the two.'

In the final review of this edition, Linnea Laestadius discusses Jan Deckers' *Animal (De)liberation: should the consumption of animals be banned?* [42] Laestadius notes that medical and public health communities 'continue to in large part view the consumption of animals as a personal ethical decision separate from the promotion of human health.' While 'modest' reductions in meat consumption might be advocated, based on research into connections with chronic disease or (sometimes) environmental harms, current discourse stops short of advocating veganism as a public health priority. Deckers' work can therefore be seen as 'pushing the boundaries' of public health discourse by arguing for the widespread adoption of vegan diets based on a holistic definition of human health and considerations of the negative Global Health Impacts (GHIs) of animal consumption. Deckers' 'qualified moral veganism' is the theory that vegan diets ought to be 'the default diets for the majority of the human population' and this is linked to 'the vegan project', which strives for the implementation of qualified bans on the consumption of animal products. While regarding Deckers' arguments as timely and refreshing, Laestadius raises numerous concerns, identifying the primary limitation of the book as a lack of concrete detail on what a 'qualified ban' would actually look like and how it could be facilitated.

Debates

This section opens with a characteristically timely response on the part of Deckers [43] to the review that concluded our previous section. He accepts the criticism that he does not provide enough detail on what a qualified ban on the consumption of animal products might look like, a limitation he attributes to a number of factors, including 'the complex business of evaluating the GHIs, for example the environmental costs and benefits of actual and potential diets'. However, he states that as 'more people take the key question addressed by the book seriously, it is my hope that further studies and value discussions will refine GHI calculations'. His article addresses several other criticisms levelled by Laestadius and other commentators, including his moral endorsement of a version of 'speciesism' and the prioritization of human health – positions that might seem to place him at odds with many other advocates of veganism, most notably Singer. [78] In a further contribution to this debate, [44] Eze Paez commends the arguments and evidence Deckers presents in favour of his view that 'in many eco-social settings, diets that include animal products produce more negative GHIs than vegan diets', but argues that Deckers' fundamental conception of 'holistic health' is inadequately explained and defended in *Animal (De)liberation*. It is evident that (in line with many contributors to this edition) Deckers rejects a reductionist or 'narrow' (biomedical) conception of 'good health' in favour of a notion of the health of the whole person, equivalent to the ideas of 'flourishing' or 'eudaemonia' associated with ancient Greek philosophers. However, Paez notes that Deckers' specific conception of the human good is 'insufficiently

developed' in the text and he looks forward to seeing a fuller defence of this and other contentious positions that form crucial parts of Deckers' overall argument.

The debates section continues with a commentary provided by Björn Hofmann [45] on a previously published paper by Wendy Rogers and Yishai Mintzker on overdiagnosis. [79] Hofmann argues that the two concepts Rogers and Mintzker propose, misclassification overdiagnosis and maldetection overdiagnosis, are neither exclusive nor exhaustive, and that overdiagnosis is fundamentally an epistemological problem (rather than an ontological problem, as Rogers and Mintzker suggest with their concept of misclassification overdiagnosis). He also argues that more work is needed to distinguish overdiagnosis from medicalization. In their reply, [46] Rogers and Mintzker argue that there is an overlap between these concepts, defending their typology of misclassification and maldetection overdiagnosis, and arguing that overdiagnosis involves both epistemic and ontological issues.

David Norris' brief communication [47] objects not only to the arguments of Anjum and Mumford discussed above, [29] but to Anjum's work in other contexts and (by implication) the whole thrust of the CauseHealth project in analysing 'the scientific norms of EBM' with reference to philosophical assumptions about causal ontology. [80] He characterises the use of 'rule-utilitarianism' as the demolition of a 'straw-man' and suggests Anjum is committed to a form of 'ontological relativism' – a claim we feel certain she would reject, and which Norris accepts is incompatible with the realism she 'seems to profess'.

The section concludes with an exchange inspired by the paper by Vaughan-Graham and Cott, published in the first section of this thematic edition. [14] While accepting that their investigation of clinical reasoning and practical wisdom is in principle legitimate, Roger Mepsted writes that the authors fail to mention that 'numerous investigations overwhelmingly conclude that Bobath is less effective than the alternatives'. [48] While 'clinical reasoning skills' are essential and 'help us adapt generalised interventions to an individual', this skill needs to be combined with 'treatments that have a good objective evidence base'.

In their response, [49] Vaughan-Graham and Cott reject Mepsted's claim about 'overwhelming' evidence against the effectiveness of the Bobath approach, arguing that the evidence is inconclusive and identifying numerous methodological flaws in existing studies. However, they point out that the key purpose of their paper was not to debate the effectiveness of this particular approach in contrast to alternatives, but rather 'to gain a greater understanding of the critical aspects of tacit knowledge that inform and extend cognitive reasoning strategies of expert neurorehabilitation therapists'. This broader and more fundamental project is not discredited by Mepsted's comments on effectiveness. Its objective is 'a reconceptualization of professional practice knowledge' (practical wisdom/phronesis), 'recognizing that clinical reasoning extends beyond the underlying cognitive processes'.

In a further reply, Mepsted and Sarah Tyson characterise the Bobath concept as 'a guru-led set of teachings unsupported by emerging evidence'. [50] They argue that Bobath is 'no more, or less, complex than other treatments that involve multiple components and inter-personal interaction' and that RCTs are appropriate in evaluating complex interventions of this sort. They go on to list several studies which they believe vindicate their claim that the objective evidence is indeed 'overwhelming'. They characterise the point that the 'Bobath Concept is a problem-solving approach and provides individualised client care' as 'an irrelevant detail', noting that 'all professional health care involves holistic problem solving and an individualised treatment plan'. In their rebuttal, [51] Vaughan-Graham and Cott object to the use of pejorative language and reiterate the point that their research was not about the effectiveness of the Bobath approach. They note that the ongoing debate as to whether the Randomized Controlled Trial (RCT) and the 'evidence hierarchy' is applicable to the rehabilitation sciences is not unique to rehabilitation, that neurorehabilitation is a complex intervention that poses significant challenges for an RCT, and other types of qualitative and quantitative designs are probably better suited to address complex rehabilitation interventions such as the Bobath concept.

Concluding comments: the direction of debate

Our title and opening comments suggest that the 'great debate' about reasoning, evidence and clinical decision-making has 'demonstrably moved forward'. Some might find this misleading. Arguably, our presentation of the papers in this edition suggests there is a sense

in which the debate has moved 'backwards', in that features of a distinctively 'modern' world view – its assumptions about science and objectivity – have come under critical scrutiny, while ideas from pre-modern (indeed, ancient) philosophy – including practical wisdom or *phronesis*, [14,49] human flourishing [42-4] and even the scepticism of Sextus Empiricus [30] – are being revived and employed in analyses of clinical judgement, medical knowledge and the nature of health.

We do not consider these developments regressive. The history of ideas reveals that key concepts (such as 'the atom', considered in a primitive form by the pre-Socratics but convincingly criticised by Aristotle) can be sidelined for years or even centuries, only to be revived at a later point in history, modified in adaptation to a new intellectual context, to play a central role in theories representing real intellectual progress. [81] What matters, as noted above, and as several contributions to this edition confirm, [20,24,27-9,33-4] is that theory performs the role of making sense of practice – of actually helping practitioners to understand and improve the work they do. Theories that fail to do this, that form an obstacle to further improvement, can be rejected for that reason. When dominant theories begin to function not to facilitate but to impede further progress, it is our duty, as a community of practitioners and intellectuals, to be prepared, in principle, to retrace our steps, to make revisions to our underlying conceptual framework that may or may not include reintroducing ideas that form part of our intellectual heritage.

Several of our contributors have identified features of the 'modern' philosophical world view as a key obstacle to solving the problems of contemporary healthcare practice. In rejecting or wishing to modify this world view, and the specific role it gives to scientific research as a basis for clinical practice, such authors are not taking up an 'anti-science' stance. Rather, they invite us to re-examine the relationship between science as a human activity and distinctive way of understanding the world, and other human activities, capacities and dispositions – including emotional reactions, ethical attitudes and social commitments. [81]

One such feature is the strict dichotomy identified by Wieringa et al [17] as part of the early EBM movement's efforts to 'purify' clinical reality. This conceptual divide, between 'evidence' derived from nature on the one hand, and subjective 'preferences' from human society and culture on the other, serves to separate scientific thinking from other forms of human interaction with the world. Their critique of this false dichotomy utilises insights derived from Latour, but any student of ancient philosophy would instantly be reminded of Aristotle's famous remark in *The Politics* that 'Man is by nature a social animal', [82] and understanding the remark's implications, the serious student of Aristotle might not be in the least surprised that this particular purification project proved impossible.

Just as many authors in our collection emphasise the social nature of knowledge and the centrality of context to practical reasoning [11,14-5,17,20-22,24,32-34], so many challenge, implicitly or explicitly, other modern dichotomies. The strict dichotomy between evidence and value – the former concerned with objective fact and the latter invariably reduced to matters of subjective 'preference' – suggests a clear philosophical dividing line between epistemic questions (concerning knowledge, empirical data and reason) and questions of an evaluative or moral nature (concerning what should be the case, what is preferable, matters of emotion and personal commitment). While this dichotomy may well have played an important role in intellectual progress and the development of numerous scientific specialisms, [34,81] it is also possible that its influence now inhibits progress. [3,34,77,81,83-4]

The most explicit challenge to this dichotomy in this collection of papers can be found in the excellent article by Berg & Slaattelid [34], who argue convincingly that only a direct engagement with questions of value can enable us to understand, let alone evaluate, the different schools of psychotherapy that they discuss. But many of the other papers also challenge the fact-value dichotomy. The ideas that we can only understand the problems of our fellow human beings by engaging with them, developing empathic responses and even committing to their value as persons [24,25] seem at once plausible and challenging to a strict conceptual divide between reason and knowledge on the one hand and the emotional and evaluative on the other. Similar points could be made about the idea that we need to go 'beyond' the cognitive to develop a broader notion of practical wisdom, with the revival of such 'pre-modern' concepts as *phronesis*. [14,49] The idea of epistemic injustice is 'predicated on a mutual entanglement between epistemology and ethics' [19] (as are the increasingly influential concepts of 'epistemic virtue' and 'epistemic vice' [85,86]). The claim that, to

develop a defensible conception of human health, we need to engage with the unapologetically value-laden concepts of 'flourishing' or 'eudaemonia', seems to be one shared by Deckers and his critics. [42-4] Where they differ concerns how they characterise this (and related) evaluative concepts.

All of this suggests that, in the debate about clinical practice, we are going to have to be more explicit and rigorous in future in developing and defending our views about what is valuable in human life. This is not an alternative to the continued development of empirical research, but a precondition of its adequate interpretation and application in real world contexts. The high quality of the contributions to this edition, the willingness on the part of authors to examine critically their own assumptions and to challenge established preconceptions, renews our confidence that the 'great rationality debate' [11] will indeed move forward, in the sense of developing ideas and arguments to enable the cultivation of good judgement in clinical practice.

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