

- Kemp, M. 1990. *The science of art: Optical themes in Western art from Brunelleschi to Seurat*. New Haven, CT: Yale University Press.
- Kemp, M. 1997. *Behind the picture: Art and evidence in the Italian Renaissance*. New Haven, CT: Yale University Press.
- Kemp, M. 2000. *Visualizations: The 'Nature' book of art and science*. Berkeley: University of California Press.
- Kemp, M., and M. Walker. 1989. *Leonardo on painting: An anthology of writings by Leonardo da Vinci with a selection of documents relating to his career as an artist*. New Haven, CT: Yale University Press.

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F. P. Ramsey: Critical Reassessments

MARIA J. FRAPOLLI (Ed.)

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1903 saw the birth of Frank Ramsey, the greatest of all the remarkable philosophers working in Cambridge in the first half of the twentieth century. The centenary of his birth was marked by international conferences in Cambridge, Paris, and Vienna, and by several volumes of essays, of which this is one. As the volume's title implies, the essays are not primarily exegetical or historical, but are more concerned to assess the present interest and importance of Ramsey's ideas and the later work to which those ideas have led.

The contents of the volume illustrate the wide range of Ramsey's thought and influence. Its chapters deal with topics in the philosophies of science, mathematics, mind, and language, as well as in logic, ontology, epistemology, economics, Ramsey's pragmatism, and what the editor calls 'the mutual interactions between Ramsey and Wittgenstein'. As I can hardly do justice to the treatments of all these topics in a short review, I shall concentrate on those most likely to interest philosophers of science. These I take to be Acero and Hookway on the influence on Ramsey of Russell's and Peirce's pragmatism, Calzada on Ramsey sentences, and Howson on 'Truth and probability'.

Acero's 'Mind, intentionality and language: The impact of Russell's pragmatism on Ramsey' is a tour de force. In it, Acero traces the shifts in Russell's views of the nature and contents of our intentional states, and of the role of language in expressing and embodying them. He shows how Ramsey used Wittgenstein's *Tractatus* view of logic, and especially of 'not' and other logical constants, to solve the serious problems facing Russell's naturalism: notably of how to explain our grasp of molecular as well as of atomic sentences, and our capacity for formal inference. Acero also shows how far Ramsey went beyond Russell, for example in extending a pragmatic view of belief to degrees of belief in 'Truth and probability'.

Between them, Acero and Hookway, in his ‘Ramsey and pragmatism: The influence of Peirces show clearly how the pragmatism Ramsey got from Russell differed from the pragmatism he got from Peirce, with the latter having more to do with Ramsey’s views on truth and belief. About this, Hookway discusses the question, which may as he says be ‘of more interest for Peirce scholars than for the student of Ramsey’ (p. 193), of why Peirce failed to anticipate Ramsey’s pragmatist theory of degrees of belief. A related question that I think *should* interest Ramsey students is why Ramsey’s ‘Facts and propositions’ fails to apply its functionalist account of languageless ‘chicken’ beliefs to those ‘expressed in words, or possibly images or other symbols, ... [which] are the most proper subject for logical criticism’ (Ramsey 1990, 40). It is clear enough why Ramsey draws this distinction: only beliefs with symbolic expression are susceptible to logical criticism. Yet, as the states so expressed are still *beliefs*, I have never understood why he does not link his pragmatist view of them, that ‘the meaning of a sentence is to be defined by reference to the actions to which asserting it would lead’ (Ramsey 1990, 51), to his earlier view, that ‘any set of actions for whose utility p is a necessary and sufficient condition might be called a belief that p , and so would be true if p , i.e. if they are useful’ (Ramsey 1990, 40). Given the obvious equation of a sentence’s meaning with the content of the belief it expresses, this shows at once *how* to define the former ‘by reference to the actions to which asserting it would lead’, thereby yielding the basis of the so-called ‘success semantics’ developed decades later by Whyte (1990) and others.

Calzada’s ‘The Ramsey sentence and theoretical content’ is an excellent guide to the many uses to which philosophers have put the idea of Ramsey sentences, starting with what Ramsey does with them. In trying ‘to describe a theory simply as a language for discussing the facts the theory is said to explain’ (Ramsey 1990, 112), Ramsey does not presuppose that these facts must be observable. So, while Ramsey sentences do offer a solution to the empiricist problem of giving an empirical meaning to non-observational theoretical terms, that is not all they do, as Calzada shows in his well-structured historical discussion. In this, he deals with implications of Ramsey sentences for epistemology and ontology as well as applications made of them in semantics by Carnap, Lewis, and Sneed, leading up to Calzada’s own hierarchical ‘theory-net’ account of how theories can change without changing the core meanings of their terms.

Apropos the ontology of Ramsey sentences, to Calzada’s note that nominalists will of course reject their quantification over properties and relations, it is worth adding that on Ramsey’s view of universals, this quantification is completely unproblematic, which I assume is why he does not bother to defend it. It is also worth noting that while Ramsey himself took an instrumental view of theories, that is not presupposed by any of the later uses of Ramsey sentences, nor by Ramsey’s own discussion, which as he says ‘need not commit us on the philosophical question of whether a theory is only a language’ (Ramsey 1990, 112).

The title of Howson’s ‘Ramsey’s Big Idea’ refers to Ramsey’s revolutionary interpretation, in ‘Truth and probability’, of the laws of probability as ‘*consistency constraints on the distribution of partial belief*’ (p. 145, Howson’s italics). Howson makes the historical setting and technical detail of Ramsey’s system very clear, and in so doing gives an excellent introduction to it, about which I have only two qualms. First, I doubt

if Goodman's 'gruesome' predicates would impress Ramsey, whose realist and non-linguistic view of universals would give him good reason to deny that they correspond to properties that can be used to make reasonable inductions.

Second, I am unconvinced by Howson's argument that Ramsey does not give a *logical* interpretation of probability. For a start, Ramsey's view of belief is not as behaviourist as Howson says. For Ramsey, our beliefs and desires are propositional attitudes, which cause the preferences he uses to measure their degrees. As such, his a priori constraint on my simultaneous degrees of belief in any proposition p and its negation $\neg p$, requiring them to add up to 1, follows from the same inconsistency relation between p and $\neg p$ that we all call 'logical'. All Ramsey does is extend the qualitative constraint this relation entails, requiring us to disbelieve $\neg p$ when we believe p , to a quantitative constraint on our simultaneous degrees of belief in p and $\neg p$. I think that is quite enough to justify calling his interpretation of probability 'logical' without Howson's amendment, which seems to me to add nothing substantial to it.

The reader should not, however, take these caveats and comments to disparage this or any of the other articles in this book, which are individually all well worth reading and collectively constitute a worthy commemoration of Ramsey's work.

References

- Ramsey, F. P. 1990. *Philosophical papers*, edited by D. H. Mellor. Cambridge: Cambridge University Press.
- Whyte, J. T. 1990. Success semantics. *Analysis* 50: 149–57.

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Health Wars: On the Global Front Lines of Modern Medicine

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Medicine, as Talcott Parsons recognised more than half a century ago, is an integral and vital part of the modern social system. And just as the social system has become immensely more complex and extensive in the years since Parsons first wrote about it—a consequence of globalisation, urbanisation, and the growth and ramification of technological and economic networks—so too has medicine. Richard Horton's *Health Wars* details many of the consequences of these changes. As editor of *The Lancet*, Horton sits at the heart of a formidable network of medical communication, with unrivalled access to actors across the medical stage, from frontline doctors and researchers to World Health Organisation (WHO) policy bodies. He is therefore in an unrivalled position to report on the concerns that currently preoccupy the world of medicine. In

Health Wars, he draws together a collection of essays—some new, others revised from previous publications—that provide a trenchant commentary on the present state of medicine. The picture that emerges is one of barely contained crisis, as doctors and researchers, politicians, and administrators struggle to adapt to mortal challenges within and beyond the medical system itself.

Horton's perspective is essentially bifocal. One set of issues revolves around how medicine should involve itself in the work of international and global development. The stakes here are high. Increasing population density and accelerating rates of population movement bring a growing threat of novel infections, the consequences of which could surpass the devastation wrought by any previous plague or pandemic. But the risk of future global cataclysm should not obscure the profound medico-social problems already facing us, particularly among the world's poor. Widening economic and social inequality sustains ill health on a national and international scale, while sickness in turn exacerbates social and economic deprivation in a vicious cycle of bodily and societal degradation. How medicine responds to this situation has clear implications, not just for the health of individuals, but for the kind of world we live in.

However, medicine's ability to respond to such massive challenges is constrained by the fact that medicine itself is entangled in precisely the same web of economic, social, and political relations as underpin many of the health problems it sets out to address. National governments, transnational corporations such as the pharmaceutical companies, international and intergovernmental organisations like the World Bank and the United Nations, as well as local and international social movements, all bring their conflicting aims and interests to bear on the formulation of health policy at the national and international level. The strategies adopted by policy bodies like the WHO must inevitably take account of these kinds of social, economic, and political pressures, and the schemes they adopt for fulfilling their medical aims of protecting and promoting health and tackling the burden of sickness must be framed within the constraints and demands imposed by contending stakeholders. The crisis that medicine faces is thus as much a matter of defining and sustaining its aims and its integrity within the shifting world of global politics as it is one of tackling the health problems that those same politics precipitate.

Horton's response to these issues is essentially philosophical. What is needed, he suggests, is an overarching framework of political philosophy that will serve to identify common principles for medical development, while remaining sensitive and responsive to the diversity of local political, social, and cultural circumstances within which those principles must be implemented. He proposes that the basis of such a framework can be found in Rawls's liberal humanist conception of justice, and he outlines several principles of medical development that he sees as following from this perspective that he believes can help to build 'a bridge between health and politics' (p. 473). In the end, Horton is cautiously optimistic that such principles are beginning to be noticed and incorporated into development policy, including that of the WHO. But he also makes clear his view that medical experts must do much more to engage in the formulation of such policies:

Physicians have an important part to play in shaping public debate about improving the health of their own and other peoples. The fact that few adopt such a role leaves medicine increasingly disengaged from some of the global issues that matter most to the least-advantaged people. (p. 489)

The second set of issues that Horton focuses on—and that will be of particular interest to readers of this review—revolves around the decline of public trust in medicine, particularly in the developed world. Horton is particularly concerned about the role of science in medicine, and especially in patients' experience of medicine. In part, he argues, the problem lies with the overly sensationalist way that new scientific findings are reported in the media. His views are informed by personal experience. In his capacity as editor of *The Lancet*, Horton was responsible for the publication of Andrew Wakefield's now discredited claims to have demonstrated a link between MMR vaccination and autism, and of Arpad Puzstai's controversial evidence that a diet of genetically modified potatoes led to health problems in laboratory rats. While defending the need for such findings to be made available to proper scientific debate, he now ruefully acknowledges that he must bear some responsibility for the undue prominence they were given by the popular press. But he suggests that scientists, too, are often complicit in encouraging sensationalism. By failing to emphasise the provisional and partial character of their findings, and by exaggerating the practical significance of their research, medical scientists inevitably foster an atmosphere of disillusionment and cynicism among the public.

The problem is exacerbated by patients' own experiences: of technical and bureaucratic objectification in place of care, of doctors' refusal to listen to patients' concerns, and of the failure of the profession adequately to police its own mistakes. Faced with such experiences, patients increasingly see the health care system as driven by professional self-interest, the profit motive, and political expediency. Meanwhile, attempts to restore trust through bureaucratically scientific methods of managing medical practice appear as likely to aggravate the problem as to relieve it. In particular, Horton is ambivalent about the turn towards more stringent procedures of evidence-based validation of medical interventions. Of course medical practice must be based on sound evidence, carefully evaluated by appropriately qualified experts. But organised evaluation procedures bring problems of their own. Like many other aspects of medicine, such procedures are open to commercialisation, while governmental approval of new treatments is often determined by political as much as scientific considerations. Over-zealous demands for early validation can stifle the first uncertain steps towards medical innovation, while insistence that treatment be based on objective but abstract generalisations may widen the gap between medical experts and objectified patients. Science alone, it seems, is no answer to the problems that now bedevil medicine.

Once again, Horton is inclined to turn to philosophy, and especially epistemology, for help in resolving these problems. For one thing, he argues, medicine will be better served if the public are encouraged and assisted to take a more realistic view of how scientific advances occur in medicine. In place of the simplistic accounts of scientific discovery that underpin the excessive certainty with which medical claims are commonly advanced, doctors and journalists alike need to understand the provisional

and partial character of scientific research. 'A new finding is simply work in progress, part of a continuous process of advance and retreat in our knowledge about disease' (p. 217). Understanding this, Horton implies, will help to obviate the excessive and damaging optimism or alarm that so often results from medical pronouncements. Presumably, he hopes that philosophers will assist in promulgating more realistic views of scientific progress in medicine.

But it is not just a matter of changing how the public think about medicine; medicine itself needs to change if it is to regain the public's trust. Above all, the overwhelmingly technicist orientation of much modern medicine needs to be tempered with a more humane appreciation of the patient's place in the medical system. Again, Horton sees this as above all a question of medical epistemology: 'How can the patient and the doctor share ways of knowing about disease that enable each to fulfill their expectations of one another?' (p. 47). He does not pretend to have a comprehensive answer to this question. But he does point to various elements that might usefully be incorporated into such an epistemology. Traditional clinical skills; tacit and embodied knowledge; the virtues of experience, intuition, and judgement; analogical and narrative forms of explanation: all might be given greater prominence in our accounts of how medical knowledge is generated and employed at the bedside, if doctors are to collapse 'the false dichotomy between practice and science' (p. 60).

Horton's call for renewed appraisal of medicine's ways of knowing is both stimulating and timely. Indeed, I am inclined to agree with him that such a reappraisal could help to revive both confidence in and the fortunes of medicine as a key element of modern life. However, I have serious doubts that epistemology, at least as traditionally understood, can provide the resources that would be necessary for such a task. Horton persists in thinking about medical knowledge and decision-making in terms of how individual doctors garner information about their patients, and how they use that information to offer their patients appropriate advice. In so doing, he neglects to take account of the complex social and institutional settings within which doctor-patient encounters take place, and that inevitably structure those interactions and inform whatever epistemic interactions may take place. He neglects, in other words, precisely those social aspects of medicine that the rest of his book so eloquently identifies as lying at the heart of medicine's current crisis.

Rather than looking to epistemology alone, Horton might extend his already wide reading to include a larger selection of recent work in the sociology of science and medicine. At its best, such work pays close attention to the way that knowledge is constructed and instantiated in particular social settings—including how it mediates interactions between doctors and patients, but also how it is shaped by the various interests and institutions that sustain it. Taking medical knowledge and practice seriously as an object of sociological investigation provides a way of linking the local and idiosyncratic character of medical consultations to the much larger social and epistemic factors that bear on the organisation and outcome of such consultations. To mention just two of the issues that particularly preoccupy Horton, he would find much of value in recent sociological work on the character of evidence-based medicine, and on the organisation and aims of the care of the dying. Thus, Timmermans and Berg

(2003) have shown that while the implementation of guidelines and protocols can subject doctors to unhelpful managerial constraints, the same tools can also be used creatively and flexibly by doctors as opportunities for coordinating practices and improving quality within complex and fragmented medical systems while still preserving the autonomy of local clinical judgements. Meanwhile, other researchers have conducted close investigations of the way that decisions about end-of-life and palliative care are shaped by technical expectations and institutional structures, and have suggested practical ways in which such decisions might be made more responsive to patients' values and expectations (Anspach 1987; Seymour 2000).

By thus widening the traditional concerns of epistemology to recognise that knowledge, including medical knowledge, is constituted and instantiated within a rich variety of epistemic cultures, it may be possible to open up new ways of thinking about how medicine, its aims and its methods, could indeed be constituted differently so as to take fuller accounts of patients' predicaments. Moreover, by showing how social interactions are informed not just by local circumstances but by much larger social, cultural, and political configurations—including the influence of large private and governmental institutions, as well as the professional interests of doctors and scientists and the shared cultural expectations of their patients—such a sociological approach also has the potential to bring together within a coherent conceptual framework the two sets of issues that currently appear somewhat separately in Horton's book, namely the problem of redefining medicine's global aims and the problem of securing public trust in doctors. In the final essay in *Health Wars*, Horton tentatively suggests that such a unification might be achieved by introducing yet another grand philosophical concept—dignity—into our thinking about medicine at every level. Certainly, ethical ideas like dignity, justice, and indeed health must surely have a place in any reappraisal of medicine's aims and methods. But that can be no substitute for understanding how medicine actually works as a hugely complex and ineluctably social body of institutions, knowledges, and practices.

References

- Anspach, R. R. 1987. Prognostic conflict in life-and-death decisions: the organization as an ecology of knowledge. *Journal of Health and Social Behaviour* 28: 215–31.
- Seymour, J. E. 2000. Negotiating natural death in intensive care. *Social Science and Medicine* 51: 1241–52.
- Timmermans, S., and M. Berg. 2003. *The gold standard: The challenge of evidence-based medicine and standardization in health care*. Philadelphia, PA: Temple University Press.

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