
Books Forum

The twenty-first book review of *The Alzheimer Conundrum*

Margaret Lock

The Alzheimer Conundrum: Entanglements of Dementia and Aging. Princeton, Princeton University Press, 2013, US\$23.22, ISBN: 978-0691149783

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Since medical anthropologist Margaret Lock's book *The Alzheimer Conundrum: Entanglements of Dementia and Aging* was published with Princeton University Press in 2013, around twenty English book reviews have appeared in scientific journals, newspaper literary supplements and academic blogs.¹ Not only the places of publication but also the disciplinary perspectives of the book reviewers reflect a broad spectrum ranging from neurophysiologists and age gerontologists to historians and sociologists. At latest, when a prominent scientific figure of the Alzheimer debate that Margaret Lock refers to by name as one of her interviewees – and also as one of her

“colleagues near and far” who “perused parts of the manuscript and made important suggestions” (p. x) – contributed a book review (George and Whitehouse, 2016), *The Alzheimer Conundrum* seems to have come full circle. Now, this does not need to be a bad thing. Quite the contrary: isn't this Ping-Pong play between ‘actors’ and scholars who scrutinize present and past developments in science and medicine the goal of many such scholars, their departments and also journals such as *BioSocieties*? Indeed, many of the book reviews praised *The Alzheimer Conundrum* precisely because of its large transdisciplinary audience, including social scientists, historians, philosophers, neuroscientists, gerontologists, geriatricians, public health and health care professionals, critical lay readers, upper level undergraduate and graduate students in medical anthropology or science and technology studies, young scientists and medical students (Vardy, 2015; McLean, 2015; Kenny, 2014). While I promise to contribute yet another book review on *The Alzheimer Conundrum* to the readers of this *Books Forum*, I will do so in combining my own critical appraisal of the book with a reflection on the amount and diversity of reviews that have already been written about it.

The Alzheimer Conundrum: Entanglements of Dementia and Aging is in a way itself an ‘entanglement’, namely of an ethnographic study of recent biomedical research

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1 I included in my analysis: Altschuler (2013), Seaman (2013), van Someren (2013), Barley (2014), Bynum (2014), Fitzgerald (2014), Pierce (2014), Karlawish (2014), Kenny (2014), Mast and Shouse (2014), Tooke (2014), Corrie (2015), Gaines (2015), Mason (2015), McLean (2015), Moreira (2015), Palladino (2015), Russ (2015), Vardy (2015), George and Whitehouse (2016). For some of the media coverage, see also the links compiled at the end of Paul Mason's blog entry about the book on *Culture Matters*: <https://culturematters.wordpress.com/2015/08/03/a-stubborn-conundrum/>.

on Alzheimer's disease with a committed advocacy for a greater attention of future research approaches to social and political factors that impact on disease development. The book combines a review of the genesis of current scientific hypotheses about the causes of Alzheimer's disease up to the end of 2012, with an anthropological account of how principal investigators, but also tested people, their relatives, general physicians and a genetic counsellor react upon the uncertainties afflicted with clinical trials and genetic and genomic research. Lock's approach invites at least two readings – and, of course, an 'entanglement' of both.

1. For one, the reader can engage with Lock's call for alternative approaches in Alzheimer research. Some reviewers have focused on these aspects, acknowledging her apparent call for "different knowledge-making institutions and public health approaches that can support epigenetic, flexible, local 'techniques of the body'" (Moreira, 2015, p. 2f.). Others even regretted that she did not further "lay out ideas for how to move the public health agenda forward in a world dominated by molecularized health" (George and Whitehouse, 2016, p. 306) or "detail any existing studies", arguing that "therefore it is not clear what a public health approach could offer" (Tooke, 2014, p. 1276).
2. For another, one can study the book as a contribution to understanding how Alzheimer researchers dealt with failing clinical trials, and produced and interpreted new findings, "simultaneously heightening excitement and uncertainties" (p. 171). Reviewers acknowledged *The Alzheimer Conundrum* as "facing the scientific and clinical uncertainties" (Mast and Shouse, 2014) or as exemplifying "uncertainty's

tidal power and biomedicine's attempt to shore up understanding against it" (Seaman, 2013).

Lock details these movements, drawing largely on the literature reviews and on the interviews that she conducted between 2008 and 2012 (a few date back to 2002). Most of her conversations were with senior researchers involved in identifying and validating biomarkers or candidate genes associated with an elevated risk to develop Alzheimer's disease as well as with people who were tested for susceptibility genes or who had undergone early diagnosis in a specialized memory clinic. Accordingly, the major part of Lock's study is on the (still on-going) scientific debates about disease causation and on the (strikingly limited) implications that the 'geneticization' of Alzheimer's had for many of the tested people. As one neuroscientist-reviewer pointed out, the structure of the book allows to see how both, the scientists and the tested people, seemed to show an "astonishing reluctance ... to change their convictions" (van Someren, 2013) and to incorporate even conflicting evidence into their existing explanatory frameworks. Lock highlights prior debates upon unresolved difficulties to purify the Alzheimer pathology from comorbidities and to delineate it strictly from 'normal' processes of ageing, or even to obtain and enact pragmatic consensus criteria for diagnosis. In particular, Lock discusses the rise and apparent limitations of the overpowering amyloid cascade hypothesis since the early 1990s, which proposed that deposits of the protein amyloid beta bring about neuronal loss leading to Alzheimer symptomatology. Against this backdrop, she approaches the recent move towards prodromal stages as a shift in focus from a search for a cure to prevention and



early detection. This transition is not least marked by the introduction of the diagnostic in-between category of Mild Cognitive Impairment. Lock vividly characterizes the genealogy of the precarious status of this debated clinical entity, and its effects on the people who get this diagnostic label.

To be sure, Lock is well-aware of the plethora of possibilities to frame her empirical study, and she provides her readers with many references to theoretical accounts in the history, philosophy, anthropology and social studies of medicine, for instance on biosociality and interactive kinds, on divination and incorporation of risk, on the realignment of the normal and the pathological through biomedical platforms or on environmentally embedded bodies and local biologies, to name just a few. Yet, as several reviewers noted, the book “never quite delivers the full blow of a theoretical statement” (Vardy, 2015, p. 133), and “lack[s] a more ambitious *theory* of uncertainty” (Fitzgerald, 2014).

While I do agree, I would like to offer an alternative perspective on the ‘lack of theory’ argument. The reading of the book really transports *the feel* of a conundrum: even though it is “such a complex book full of information about Alzheimer’s disease” (Corrie, 2015), as one reviewer put it, the reading makes clear that it is very unclear what the ‘findings’ of recent research actually yield information about. In this vein, eminent historian of medicine W.F. Bynum (2014) closed his discussion of the book by musing that “[t]he more that has been learned about Alzheimer’s, the more complicated it has been revealed to be”. In a similar vein, Robin Pierce (2014) concluded his review in *The Lancet Neurology*: “[F]or all the uncertainty and multiplicity of causal suspects, *The Alzheimer Conundrum* is not a whodunit. In fact, this book left me thinking that we may not even be sure what the ‘it’ is”.

From my own perspective, coming from the history and philosophy of the biomedical sciences, *The Alzheimer Conundrum* is a great documentation of one important part of recent Alzheimer research. Even when focusing primarily on genetic or genomic research and amyloid beta-related hypotheses of disease causation, the book makes the plurality of actors and stakeholders, affected people and societies, the variety of research avenues, interests and assumptions about health and health care, as well as the many ‘entanglements’ between all of these and many more facets of contemporary biomedicine tangible – even if, or perhaps precisely because, Lock does not provide us with a satisfying answer about how to theorize these interlacements in the production and management of epistemic uncertainty.

While all critics appreciated Lock’s rigorous and comprehensive reading of the scientific literature and her collection of more than 80 interviews with a dozen dementia experts, some reviewers longed for more estrangement. In the most critical review, historian Paolo Palladino (2015) complained that “*Alzheimer Conundrum* disappoints most because its focus is steadfastly upon biomedical concepts and arguments, ignoring perspectives in science and technology studies and how these have changed critical understanding of the biomedical enterprise and its relationship to social organisation”. To Lock’s defence, it should be said that her study offers plenty of material to address Palladino’s question of how the social position of Lock’s interviewees, institutional structures and modes of inquiry intertwine: for instance, in one chapter, she provides us with an overview of heavily funded genome-wide association studies that include thousands of patients, hundreds of researchers at dozens of institutes and coordinating centres, using various genotyping platforms, whose findings are published in a high-



impact, company-run journal. However, big science approaches do not replace “the old boy’s network” that one of her interviewees complained about earlier in the book (p. 68). Rather, Lock writes about the senior researchers who lead some of the genome-wide association studies that they “have known each other for more than 20 years and meet regularly at conferences and workshops”. Two of the best-known scientists “have breakfast about once a month”, letting Lock muse that “this is time well spent, no doubt, when future directions are taking shape for research involving massive amounts of money and hundreds of labs worldwide”. (p. 172). Of course, this observation does not replace an analysis of the sort Palladino was calling for, but it underlines that Lock’s book might be a source for many further, perhaps more theoretical ambitious, examinations of biomedical knowledge production about Alzheimer’s disease in the early 21st century.

It is noteworthy that Lock herself conducted part of her research within the framework of the Risk Evaluation and Education for Alzheimer’s Disease (REVEAL) programme, which conducted a series of randomized controlled trials, funded by the National Institutes of Health from 1999 onwards. The principal investigator Robert Green presented REVEAL as “a landmark study to explore ways of talking and communicating susceptibility information” (p. 185). While Lock notes that she used her own funding to maintain independence (p. 186), her involvement in this large-scale and much-noticed study nonetheless shows that she took an active role within the field of Alzheimer research. Drawing on Lock’s various kinds of interactions with Alzheimer research, medical anthropologist Atwood Gaines suggested that “[t]his sort of (post)-modern medical anthropological work requires a very different kind of ethnography,

one done in many places; this is not ethnography in situ” (Gaines, 2015, p. b18).

Lock’s call for changing directions in Alzheimer research to focus more on protective factors and the ways in which public health measures, broadly construed, could help to create a healthier environment for ageing people must be evaluated in light of her own position. At times, she seems to act herself as an Alzheimer expert, for instance, when she gives papers at the Alzheimer Association’s International Conferences, and, in particular, when giving “presentations at gatherings designed to educate the public about Alzheimer’s”. She writes that on these occasions she was faced with questions of people “who continue to hope in vain (...) that a cure for AD may be shortly forthcoming” (p. 21). One reviewer noted with respect to Lock’s normative engagement with unsettled issues of the scientific debate on Alzheimer’s disease that “the book stimulates scepticism, even about Lock’s claims” (Altschuler, 2013). In his appreciating review, sociologist Tiago Moreira (2015, p. 1) wrote “the need to position oneself in relation to *The Alzheimer Conundrum* is a function of how the book is written”.

This is certainly the case, and, I think, it has a lot to do with Lock’s own position as someone who describes a conundrum, but ultimately seeks to resolve it by proposing what she calls entanglement theory. Nowhere does her stance become clearer than in the concluding chapter, in which she introduces the “boundary-traversing mind” as “a concept that mediates between external and internal environments and stimuli” (p. 232). It serves to transcend the dichotomies of brain/mind, ageing/pathology and gene/environment (p. 6). In my opinion, however, this discussion paints a too clear-cut picture of reductionist, localisation theory-adhering, biomarker-searching biomedicine as ‘normal science’,

when, for the most part, the book reveals how many deep disagreements pertain even in the community of researchers who all relate in one way or another to the amyloid cascade hypothesis. Although Lock herself lays out these disagreements and uncertainties in much detail, not least about the question whether Alzheimer's disease is categorically different from so-called normal ageing or not, her conclusion is firm: "aging and dementia cannot be disentangled" (p. 242). Whether people are diagnosed with "mixed dementia", Alzheimer's disease or not diagnosed at all due to limited access to health care, for Lock it is evident that "the approaching pandemic of aging" will result in an increased prevalence of dementia, and that this global concern cannot be fully and fairly addressed with "a molecularized approach to AD" (ibid.).

Margaret Lock draws from Marilyn Strathern's work on "partial connections" to characterize her own approach, being fully aware that anthropologists' "writing can never adequately portray what their informants have told them, in particular the unexamined assumptions embedded in what was said". Lock concludes that the story she tells "is necessarily incomplete, and no doubt leaves much to be desired in the minds of certain experts, but the timing is appropriate because many AD specialists believe that their approach is currently undergoing a shift that has a sense of urgency about it, and is attracting considerable attention due to global concern about aging populations" (p. 21).

This sense of urgency and concern seems to drive Lock's ethnography just as powerfully as her interest in uncertainties. In the concluding chapter, she notes that "the number of times the word 'uncertainty' has been used in this book by so many researchers whom I interviewed is remarkable" (p. 240). Reviewers have repeatedly addressed her book as "a case history in uncertainty" (Seaman, 2013) or "a very welcome addition

to the literature on biomedical uncertainty" (Fitzgerald, 2014). I think it is equally striking how often the words "urgent" and "timely" are used by Lock's interviewees, by herself and by her reviewing audience without, however, unpacking the urgency in the same way as the uncertainties. It seems as if *The Alzheimer Conundrum* and the many reactions to it eventually bring us back to an old debate: what is the right amount of distance and closeness between the anthropologist and her subject of study?

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