very influential, especially among chemists and medical writers. This omission is particularly odd, since Knoeff mentions Boerhaave's admiration for Van Helmont.

The book seems to have gone to press without benefit of a good copy editor. There are many instances of uneasy English usage and even grammatical errors. There are errors of fact such as a reference to Alan Debus (his name is Allen) and the mistaken dating of Locke's *Essay* as 1689 (it was published in 1690). Knoeff claims that Boerhaave's admiration for Van Helmont is evident in his referring to him as '*Helmontius pater*', a phrase she mistranslates as 'Father Helmont'. In fact, the reference is to the elder Helmont (*Helmont père*) to distinguish him from his son Franciscus Mercurius (*Helmont fils*) who was also a natural philosopher.

We need a good study of Boerhaave, who was an important and influential figure. Unfortunately, this book is not it.

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SARAH FRANKLIN AND MARGARET LOCK (eds), *Remaking Life & Death: Toward an Anthropology of the Biosciences*, Santa Fe: School of American Research Press, 2003, xii + 372 pp., $60.00 / £34.41 ($24.95/£14.31 paperback).

This volume serves as the culmination of an extended research project guided by Sarah Franklin and Margaret Lock. These editors began by organizing a panel before the American Anthropological Association in 1998 entitled 'Changing Definitions of Life and Death'and, because of the interest generated by this panel, they applied to the School of American Research in Santa Fe, New Mexico, for what ultimately became an advanced seminar on 'Animation and Cessation: Anthropological Perspectives on Changing Definitions of Life and Death in the Context of Medicine' (2000). *Remaking Life & Death* is a collection of essays by nine of the participants from this seminar, as well as an introductory essay by Franklin and Lock.

The unifying theme among the essays is an interest in evolving conceptions of 'life' and 'death' (as well as the implications of these evolving conceptions), particularly as fostered by developments in contemporary science. Each contributor investigates how the boundaries between life and death have been affected by one of the following issues: 'organ transplantation, cloning, new reproductive and genetic technologies, embryo research, the political economy of body parts, bio-prospecting, organ and tissue 'harvesting', the patenting of life forms, and the necessity for cross-cultural comparison' (jacket). Since each essay shows how life/death boundaries have been challenged by *different* scientific practices, there is very little engagement *among* the essays. But, as the editors acknowledge, this volume is 'less a representative set of findings than an indicative range of case studies that invite further elaboration by scholars in anthropology and related fields on a topic of increasing economic, political, and cultural importance' (16). So, while there might be only a loose association among the articles, it is quite possible that any of these articles might spawn its own separate literature and become seminal; Franklin and Lock therefore do us a service by gathering these contributions, as well as by serving as the catalysts for the entire field of inquiry.

In the interest of guiding prospective readers toward useful or interesting ideas, it might be helpful to briefly comment on each of the articles:

Hannah Landecker's 'On Beginning and Ending with Apoptosis: Cell Death and Biomedicine' offers a historical analysis of apoptosis, or programmed cell death, and shows how various approaches to cellular animation and cessation pertain to more holistic considerations of (organismic) life and death. Ironically, cell *death* is important to the continued *life* of the organism insofar as apoptosis serves an important biological function.

Linda Hogle's 'Life/Time Warranty: Rechargeable Cells' considers recent research into the tapping of cellular function for both health care and profit. For example, tissue engineering offers tremendous therapeutic promise, but has also commanded a nearly $500M investment in the United States alone. For these technologies and others, Hogle discusses both the medical promise and the financial prospects (both in terms of expense and profit).

Sarah Franklin's 'Ethical Biocapital: New Strategies of Cell Culture' begins by considering the reaction to the cloning of Dolly (focusing on the United States and Great Britain), and shows how these reactions are suggestive of important moral distinctions between therapeutic and reproductive cloning. Franklin goes on to argue that many of our scientific processes, particularly cloning and stem-cell research, embody 'built-in ethics' (113) as companies seek to balance public opinion with scientific progress and their research agendas.

Rayna Rapp's 'Cell Life and Death, Child Life and Death: Genomic Horizons, Genetic Diseases, Family Stories' illustrates the personal elements of genetic disease by paying attention to the effects these diseases have upon patients, families, and health care professionals. Through her essay, cell lines gain powerful 'social identities' (18) that transcend their mere biological ontology.

Margaret Lock's 'On Making Up the Good-as-Dead in a Utilitarian World' discusses the ethical issues inherent harvesting organs of the 'good-as-dead' (169) in order to save patients who depend on those organs. Of specific interest is Lock's discussion of brain death and persistent vegetative state; these are conditions wherein the distinctions between life and death are highly attenuated.

Corinne Hayden's 'Suspended Animation: A Brine Shrimp Essay' offers an interesting foray into the field of bioprospecting, using brine shrimp (*Artemia salina*) as a case study. Plant toxicities can be measured by noting their affects upon the mortality of the shrimp and, through these interactions between plants and animals, bioprospectors can gain insights into the value of various plants for therapeutic and/or industrial purposes.

Stefan Helmreich's 'Life@Sea: Networking Marine Biodiversity into Biotech Futures' investigates how 'life' as biodiversity becomes visible in social practice, particularly through the lens of marine science' (233-234). Helmreich, through his invocation of the sea, conceives of life as a network which 'connects local organisms to global systems' (255). Furthermore, he points out that these relationships transcend mere science and permeate political, economic, and cultural issues.

Lynn Morgan's 'Embryo Tales' considers the intersection of scientific research and wider social issues, particularly as pertains to embryos and fetuses. In these arenas, we see the confluence of expert, professional, lay, and legislative voices which, in effect, makes for the 'public fetus' (19-20). In addition to a perceptive discussion of the moral issues, Morgan offers an interesting semiotic analysis of the fetus (as portrayed in public life).

Donna Haraway's 'Cloning Mutts, Saving Tigers: Ethical Emergents in Technocultural Dog Worlds' uses canines as a case study to delve into pressing genetic and moral issues. For example, attempts to maintain genomic stasis can readily lead to pathologies when inbreeding is the mechanism used to limit the diversification of the gene pool. This phenomenon can be innocuous with dog breeding (the offspring being mutts) but more nefarious when we try to save endangered species, such as tigers.

Remaking Life & Death offers more than the sum of its contributions: it offers an entirely new way to conceive of the conceptual boundaries between life and death as challenged by contemporary science. And, lest the authors lose sight of the wider implications of this conceptual challenge, the essays readily admit discussion of moral, political, and social issues thus affected. While this collection does not constitute and in-depth inquiry into a focused issue, it does offer a new perspective, and such contributions can often be more valuable. I would encourage prospective readers to reflect upon the central theme of the collection, and then to find articles that might address specific topics of interest.

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ANDREAS GIPPER, *Wunderbare Wissenschaft. Literarische Strategien naturwissenschaftlicher Vulgarisierung in Frankreich. Von Cyrano de Bergerac bis zur Encyclopédie*, München: Wilhelm Fink Verlag, 2002, 378 pp., € 52,00.

La vulgarisation scientifique a mauvaise presse. Prise entre le marteau du *docere* et l'enclume du *placere*, entre l'idéal de scientificité et les réalités socio-économiques de son époque, elle relève d'un type de discours hybride et transgénérique qui n'a pendant longtemps intéressé ni les historiens des idées, ni la critique littéraire. Il faut donc saluer l'ouvrage d'Andreas Gipper qui se propose de corriger la 'dénégation historiographique' (p. 11) dont la littérature didactique, pourtant très populaire, a trop longtemps été la victime. Partant de l'observation que les textes de vulgarisation scientifique sont l'expression d'une évolution qui produit à partir du XVII^{e} siècle les domaines, de plus en plus autonomes, de la science et de la littérature, avec leurs institutions et leurs normes respectives, Gipper se propose de mettre en évidence que le rôle de la vulgarisation ne peut pas être décrit de façon adéquate à l'aide du seul concept d'une 'traduction' d'un savoir scientifique en un langage plus simple. La vulgarisation ne consiste pas uniquement en la médiation d'un certain savoir; elle contribue surtout à représenter et à légitimer la science au sein de la société. Il est donc important de noter que ces textes cherchent à la fois à s'orienter par rapport au savoir du public et à orienter ce savoir: c'est pourquoi une analyse de la rhétorique persuasive utilisée est essentielle à la compréhension de la vulgarisation scientifique en tant que phénomène culturel. Au centre de l'étude de Gipper, qui étudie une série de cas allant de Cyrano de Bergerac à l'*Encyclopédie*, se trouve donc la question de savoir quelles formes textuelles et quelles techniques argumentatives ont été jugées aptes à toucher quel type de public. La cohérence de l'enquête se trouve renforcée par l'attention particulière que le critique porte à une logique du merveilleux, d'origine baroque, qui marque, notamment à travers l'importance accordée à l'imagination et à la curiosité, l'ensemble des textes étudiés.

Après un premier chapitre d'introduction méthodique, l'ouvrage propose l'analyse détaillée de cinq cas de vulgarisation littéraire qui permettent de retracer l'évolution de ce type de discours didactique du milieu du XVII^{e} à la fin du XVIII^{e} siècle. Soulignons tout de suite qu'en dépit de l'élargissement diachronique de son enquête, Gipper évite la réduction des exemples choisis à autant de 'moments' dans l'évolution de la vulgarisation scientifique. Son analyse de *L'autre monde* de Cyrano, qui marque ce que Gipper appelle 'la naissance de la vulgarisation scientifique à partir de l'esprit baroque', est à cet égard