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Time and politics in the scientific ice age

Radin, Joanna. 2017. *Life on ice: a history of new uses for cold blood*. Chicago, IL: Chicago University Press. 305 pp. Hb.: US\$40.00. ISBN: 9780226417318.

Radin, Joanna and Emma Kowal (eds.) 2017. *Cryopolitics: frozen life in a melting world*. Cambridge, MA: The MIT Press. 362 pp. Hb.: US\$40.00. ISBN: 9780262035859.

The two books under review highlight the importance of artificial cold in the modern political and scientific constitutions. These works may well constitute an important contribution to spur a new field of anthropological interest around the domestication of low temperatures in our current political ecology (in its widest sense), exploring its complex entanglements around scientific and cultural aspects, as well as its historical and social dynamics. Joanna Radin and Emma Kowal seem to have successfully melted several fields of social research and shown the utility of theoretically and analytically delving into the consequences of taming coldness, especially when considering its use for the preservation of collections of biological materials. Radin's socio-historical framework, as deployed in *Life on ice*, caught the collections of human blood and plasma assembled by anthropologists, biologists and physicians, which led, in *Cryopolitics*, to the tracing of several still unstated associations connecting scientific, ecological and economical action, relevant in the global political and scientific environments that emerged during the Cold War period.

Life on ice is, essentially, an elegantly framed piece of science history, solidly grounded on archival research conducted around the professional life of some prominent American biologists and physicians of the 20th century who were engaged in collecting as a base method for knowledge production. The book is, in Radin's own words, a work that 'began with an interest in recovering the invisible history of a mode of scientific work that had structured contemporary biomedical research' (p. 186). It is about the work of post-war scientists who collected and, by means of freezing technologies, preserved blood or serum samples from some human groups identified as relevant (some of them constituting examples of the so-called 'primitives'). These collections were built in order to gain insights into some biological traits of individuals and populations, to be used in the scientific work of epidemiologists, geneticists, evolutionists and ecologists.

Radin's work succeeds in demonstrating that freezing technologies, when applied to biological sciences, may eventually be seen through an anthropological lens and destabilise some fundamental categories of thought, such as those that define life and death in opposition to each other; 'time' as a linear sequence of chronological series;

or the 'individual' as a single body in relation to an external world. Scientific action is presented throughout the book, along the course of a few decades, in connection with the unfolding social and political contexts that, in the end, impeached some of their salvage projects.

The first chapter of *Life on ice* is written as a historical sketch of the works of some of the pioneering 'cryotechnologists'. This allows a better appreciation of the ground-breaking contributions of Basile Luyet that led, since the 1930s, to techniques that maintain biological living material at low temperatures, thought of as a form of life in a state of latency. This first chapter serves as a historical introduction to the development of this particular techno-scientific field of cryopreservation and is important to frame the following core section of two chapters dedicated to the actual exploration and reflection of cryobiological sciences and their temporalities.

The first core section begins with Chapter 2, which presents the story of a future-oriented programme of biological research, mainly within an ecological-informed epidemiology that aims to preserve some serological, infectious and immunological elements of a few somewhat isolated populations, living apart from an industrial world undergoing accelerating changes. Centred on the works of John Rodman Paul that began during the 1950s, it describes how biologists pursued the purpose of preserving these materials in order to make them available in a future time, knowing that they might contain information not yet within the range of existing scientific technologies. The serum samples thus preserved were seen as retaining scientific value about diseases and elements of human biology 'yet unknown', and therefore could be taken as a way of managing epidemic risks in the future.

In the third chapter, cold blood's story is focused on James Neel and the International Biological Program, while scientific motivations that were emerging on the premises of a salvage biology control the course of historical narrative. Analogies to the salvage anthropological programmes of decades before are inevitable. Here, however, instead of the 'sociocentric' (Needham 1963) idea of saving the 'cultures' and worldviews of primitives, we are presented with a similarly biocentric vision focused on the biological characteristics of 'primitive', 'stone-age' groups. The idea that new mutations and unseen health risks are emerging as industrial civilisation advances and assimilates those resisting pre-modern communities pushes these programmes of research toward the study of the 'pure' genetic features of humanity, still present in those peoples living in an ecological and evolutionary equilibrium within a natural, but increasingly threatened, environment. 'Before it's too late', primitive blood – seen as a precious biological heritage – had to be saved from the perils of progress, so that medicine, biological anthropology and evolutionary studies could gain and maintain access, in the future, to these unique materials.

Radin highlights the fact that scientists' interests and ideas were directed toward future usages; a time when their value would finally be actualised. This is so because these collections took their value not only from their actual condition of relics of the past but because their potential scientific utility will only be fully realised in a future state of scientific development, when still unknown facts and undeveloped technologies will reveal occult elements that had been lying in them unperceived. This disruption of the linear course of time and this methodological projection of the present as the future's past is one of Radin's main arguments for the exploration of the particular structures of temporality that inhabit these frosty collections. In fact, this is one of the topics that emerges as a central theme of *Cryopolitics*, appearing as the object of reflection of, at least, two central chapters of this edited volume (Keck and Bunning, Chapters 6 and 11), and being a distinctive aspect of several others.

This temporal effect of taming extreme low temperatures for the preservation of biological materials is here perceived as emerging from the suspension of the processes of life and death, an effect which is sought through the so-called cryopreservation techniques. The political consequences of this temporal effect are clearly enunciated by Radin and Kowal and may be taken as one of the main aspects of ‘cryopolitics’ as a theoretical proposal that pretends to extend the biopolitical Foucauldian paradigm. As is said in the Introduction, one of ‘the most striking temporal dimension[s] of cryopolitics [is] the abdication of responsibility for action in the present made possible by recourse to the promise of an ever-receding, and techno-scientifically enabled, horizon of future salvation’ (Radin and Kowal, p. 9). Must this be taken as a critique about current scientific and political actions around the somewhat apocalyptic idea of the Anthropocene and the messianic thoughts that it generates? A few paragraphs later, it is argued that a ‘cryopolitical analysis of the Anthropocene redirects attention away from the anxieties about the future to examine the assumptions that guide actions in the present’, only to conclude that ‘cryopolitics offers a means of analysing the [...] refusal to mourn the demise of the political economic regime of carbon-based capitalism’, when ‘the denial that these fundamental Western projects may already be dead is often managed through practices of freezing’ (Radin and Kowal, pp. 10–11).

This same cryopolitical critique of collecting practices and amassing biological material at low temperatures is somewhat implicit in the last two chapters of *Life on ice*. Here Radin explores the expansion of cryopreservation as an instrument of biomedical research, describing the case of *Alpha Helix*, a mobile boat-laboratory used in three different missions in tropical settings where its freezing capacities were taken to their limits. The narrative reaches its closing arch with the story of how those collections and scientific projects became, by the 1980s – when the future had finally arrived – a target of protest and revolt, with ensuing accusations of primitivism and racism, while DNA was emerging as a new and promising object of biological research and the new genetic sciences were firmly rising. Eventually, as collections acquired renewed value and usefulness, technological and biological research progresses may have displaced and delayed progress and investment in care and well-being, as is argued by van Dooren and Chrulew in the final section of *Cryopolitics* (Chapters 13 and 14), offering still another instance of the cryopolitical critique.

Some 30 years ago, the French historian Pierre Nora called our attention to what he considered to be one of the most distinctive features of our times, namely our predisposition to continually produce sites of memory. These would be, in his view, a way of deceiving ourselves about our modern collective ‘amnesia’. In a world where memory had become an object of reflection more than a fact of communal life, and where the acceleration of time had given rise to the urgency of reclaiming our past, there had to be created special places dedicated to its preservation. The archive has, hence, become the obsession of our age (Nora 1989; Anderson, Chapter 12: 251).

However, for Radin and Kowal, the amnesia and the accelerated pace of change of our present times may also be seen as denial, postponement or deferral of the possibility of consciousness and taking action, which, more than a cause, is a consequence of the archival fever and of the acceptance of the temporal and ontological suspension effects of freezing life for the future (Hoeyer, Chapter 10).

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