Culturing Life: How Cells Became Technologies

Hannah Landecker
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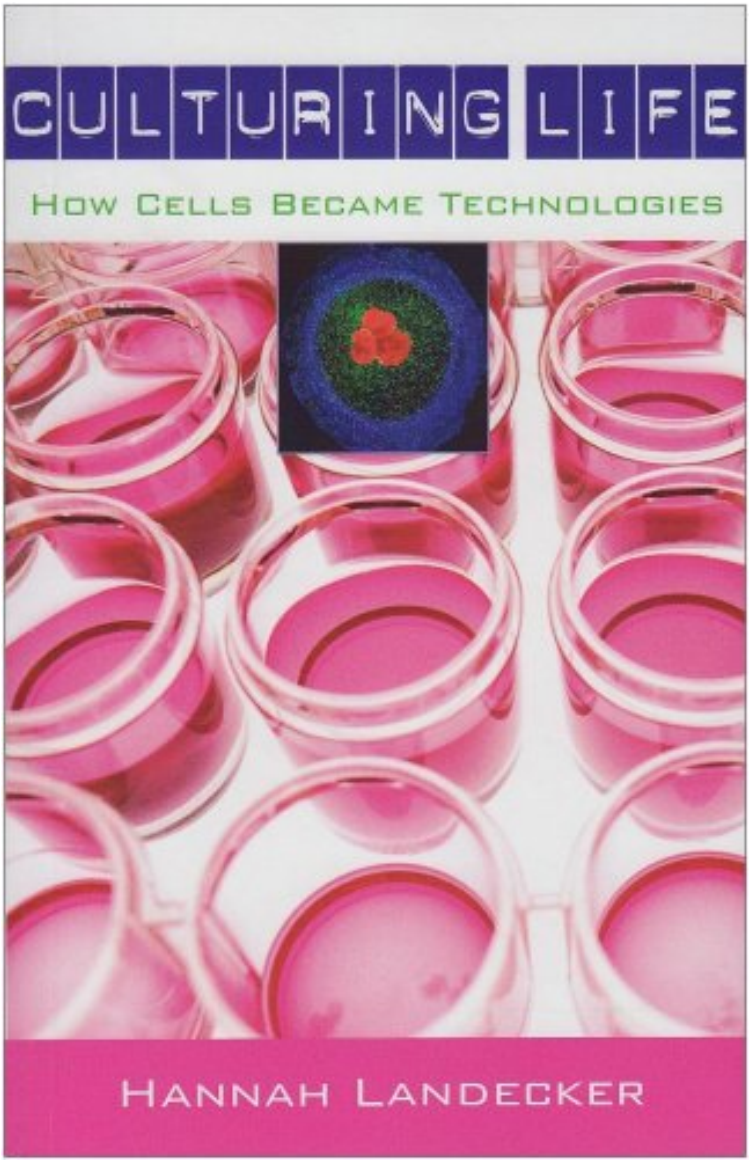

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Hannah Landecker : Culturing Life: How Cells Became Technologies before purchasing it in order to gage whether or not it would be worth my time, and all praised Culturing Life: How Cells Became Technologies:

How did cells make the journey, one we take so much for granted, from their origin in living bodies to something that can be grown and manipulated on artificial media in the laboratory, a substantial biomass living outside a human body,

plant, or animal? This is the question at the heart of Hannah Landecker's book. She shows how cell culture changed the way we think about such central questions of the human condition as individuality, hybridity, and even immortality and asks what it means that we can remove cells from the spatial and temporal constraints of the body and "harness them to human intention."Rather than focus on single discrete biotechnologies and their stories--embryonic stem cells, transgenic animals--Landecker documents and explores the wider genre of technique behind artificial forms of cellular life. She traces the lab culture common to all those stories, asking where it came from and what it means to our understanding of life, technology, and the increasingly blurry boundary between them. The technical culture of cells has transformed the meaning of the term "biological," as life becomes disembodied, distributed widely in space and time. Once we have a more specific grasp on how altering biology changes what it is to be biological, Landecker argues, we may be more prepared to answer the social questions that biotechnology is raising.

From Publishers WeeklyMany of us back in our high school days peered through a microscope at cells jiggling around in a petri dish. But a mere century ago, scientists didn't know how to culture cells in a medium and believed that cells couldn't live outside their parent organism. As Landecker reminds us, today we can hardly live without cell cultures, which are used for everything from routine medical tests to genetic engineering. Landecker, a professor in the anthropology department at Rice University, focuses on five aspects of how cells have literally taken on a life of their own. Around 1900, scientists learned to observe cellular activity in the lab and then pursued the immortality of cell lines, a project that resulted in more than one notorious fiasco. Mass reproduction of cells was the obvious next step at mid-century and led to the polio vaccine. A widely distributed cell line (HeLa) derived from a Baltimore woman with cervical cancer made it possible for scientists to standardize their research, but also demonstrated how lines could grow out of control. Most recently, scientists learned in the late 20th century how to hybridize cells, mixing ingredients from various species. Landecker at times interprets to distractioneven minor aspects of her story are weighed for their significancebut she is a keen observer of scientific practice. (Feb.) Copyright Reed Business Information, a division of Reed Elsevier Inc. All rights reserved. In Culturing Life: How Cells Became Technologies, Landecker offers a history of the development of cell culture in biology that is sparkling with originality and insight. She has an anthropologist's eye for nodes of cultural significance even as her narrative arc is deeply historical. The book weaves a rich tapestry of biological, historical, and cultural connections. (Angela N. H. Creager, Associate Professor of History, Princeton University)Landecker hits exactly the right balance of interpretive analysis and presentation of substance. Her stories carry the more technical descriptions so that both are motivated and compelling. I thoroughly enjoyed reading this book and, moreover, I found it exciting. (Jane Maienschein, Regents' Professor and Parents Association Professor of Biology and Society)Culturing Life is a beautifully written, lucid account of the history of tissue culture, a technology that permits the isolation of cells from bodies, their continuous reproduction, and global distribution as immortalized cell lines. Landecker draws us into a world where the limits of biological plasticity are continually tested, cell fusion and cloning are commonplace, and biological time is transcended--in short, technological manipulation has forever transformed what it is to be biological. This book will rapidly become indispensable reading in the field of science and technology studies. (Margaret Lock, author of Twice Dead: Organ Transplants and the Reinvention of Death)In our age of cloning and stem cells, Landecker's challenging study does a real service as it locates the techniques and ideas, developed through time, which make these cell manipulations possible. Landecker charts the uncertain movement of cells from organisms (including humans) to the laboratory, moving beyond cell cultures to the expectations of biologists and to the philosophical and ethical issues that emerge as control over life becomes possible. Others have written histories of cell theory; here Landecker recovers the story of the cell practices that have transformed what we mean by life. (Everett Mendelsohn, Harvard University)A mere century ago, scientists didn't know how to culture cells in a medium and believed that cells couldn't live outside their parent organism. As Landecker reminds us, today we can hardly live without cell cultures, which are used for everything from routine medical tests to genetic engineering...She is a keen observer of scientific practice. (Publishers Weekly 2006-11-13)The discovery that it was possible to grow cells in a lab dish transformed them from being the immutable building blocks of individual bodies into plastic, malleable resources with a life of their own. In Culturing Life, anthropologist Hannah Landecker skillfully interweaves the scientific, historical, and cultural aspects of this transformation, and examines how cell culture challenges humanity's notions of individuality and immortality...An insightful and thought-provoking perspective on how technology has changed scientists' and society's understanding of life. (Claire Ainsworth New Scientist 2007-02-24)In the flood of instant comment on cloning and stem cells, we need the longer and deeper views of cellular technologies that only history can provide. Historians of science have written much about the nineteenth-century advent of cell theory, but genes and molecules stole the limelight in the twentieth...Culturing Life by Hannah Landecker is a small book that does much to fill that large gap...[An] original book...[A] stimulating reconstruction of the cultures that gave us cultured cells. (Nick Hopwood Nature 2007-03-08)Few laymen realize that scientists first fused cells from different species as far back as the 1960s, as Ms. Landecker describes...The level-headedness that can be gained from historical perspective is the value in reading Ms. Landecker's account. (The Economist 2007-03-31)Hannah Landecker's fascinating, beautifully written account of the history of

cell culture restores the sense of wonder felt by the first scientists who grew living cells apart from organisms and by the people who read about their achievements in scientific journals, popular magazines, and newspapers. But this book does much more than that; it sheds a unique light on the history of biology in the 20th century, the rise of biotechnology, and our understanding of what life is...By reflecting on the catastrophic, artificial, and radically new variety of life that arises in the laboratory, Landecker opens new ways to articulate the ideas of the French philosopher of science Georges Canguilhem about the distinction between the normal and the pathologic. Cultured cells bring into question our understanding of the biologic, but their infinite plasticity, as Landecker eloquently shows, often unfolds in the normative space of medicine. (Ilana Lwy New England Journal of Medicine)With her book Culturing Life, Hannah Landecker contributes an important chapter to the recent history of laboratory fractals. Her elegantly written and well-documented narrative demonstrates how, within 20th-century biological laboratories, a whole range of vessels and containers were used in order to store, breed, study, and manipulate cells and tissue outside the body of organic individuals: from hanging-drop preparations in the 1910s to tissue culture flasks in the 1930s and powerful freezers in the 1950s and 1960s....The great merit of this book is its demonstration that these spaces of knowledge also create and imply specific regimes of temporality. (Henning Schmidgen Project Muse Scholoary Journals Online)Hannah Landecker provides a wonderful assortment of descriptions of experimental design, eureka-type moments in the lab and the scientists responsible for initiating this new technology during the early 1900s, along with its evolution to the present...Well-written historical accounts of scientific discovery allow the reader to appreciate the adversities confronting the scientists involved and the circumstances that drove their discoveries and to wonder what may happen next. Culturing Life is no exception. (Kendall L. Knight Nature Publishing Group Book)In this thoughtful, often elegant book, Hannah Landecker bridges the histories of science, medicine, and technology as she explores how cells were domesticated to the laboratory...She argues persuasively that appreciating the subtleties of cell culture history enables us to think more clearly and more deeply about current biotechnology. Culturing Life, then, is a fine example of translational historical research. (Nathaniel Comfort Project Muse Scholoary Journals Online)Well-written historical accounts of scientific discovery allow the reader to appreciate the adversities confronting the scientists involved and the circumstances that drove their discoveries and to wonder what may happen next. Culturing Life is no exception. (Kendall L. Knight Nature Medicine 2008-07-01)About the AuthorHannah Landecker is Associate Professor of Sociology at University of California, Los Angeles.