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NYLAH CHACE

Cloning Report Greenhaven Press, Incorporated
A Nobel Prize–winning cancer biologist, leader of major scientific institutions, and scientific adviser to President Obama reflects on his remarkable career. A PhD candidate in English literature at Harvard University, Harold Varmus discovered he was drawn instead to medicine and eventually found himself at the forefront of cancer research at the University of California, San Francisco. In this “timely memoir of a remarkable career” (American Scientist), Varmus considers a life’s work that thus far includes not only the groundbreaking research that won him a Nobel Prize but also six years as the director of the National Institutes of Health; his current position as the president of the Memorial Sloan-Kettering Cancer Center; and his important, continuing work as scientific adviser to President Obama. From this truly unique perspective, Varmus shares his experiences from the trenches of politicized battlegrounds ranging from budget fights to stem cell research,

global health to science publishing. The Culture of the Copy Phoenix Principles of Cloning, Second Edition is the fully revised edition of the authoritative book on the science of cloning. The book presents the basic biological mechanisms of how cloning works and progresses to discuss current and potential applications in basic biology, agriculture, biotechnology, and medicine. Beginning with the history and theory behind cloning, the book goes on to examine methods of micromanipulation, nuclear transfer, genetic modification, and pregnancy and neonatal care of cloned animals. The cloning of various species-including mice, sheep, cattle, and non-mammals-is considered as well. The Editors have been involved in a number of breakthroughs using cloning technique, including the first demonstration that cloning works in differentiated cells done by the Recipient of the 2012 Nobel Prize for Physiology or Medicine - Dr John Gurdon; the cloning of the first mammal from a somatic cell - Drs Keith Campbell and Ian Wilmut; the demonstration that cloning can reset the biological clock - Drs Michael West and Robert Lanza; the demonstration that a terminally differentiated cell can give rise to a whole new individual - Dr Rudolf Jaenisch and the cloning of the first transgenic bovine from a differentiated cell - Dr Jose Cibelli. The majority of the contributing authors are the principal investigators on each of the animal species cloned to date and are expertly qualified to present the state-of-the-art information

in their respective areas. First and most comprehensive book on animal cloning, 100% revised Describes an in-depth analysis of current limitations of the technology and research areas to explore Offers cloning applications on basic biology, agriculture, biotechnology, and medicine

Cloning Garland Science

A novel attempt to make sense of our preoccupation with copies of all kinds—from counterfeits to instant replay, from parrots to photocopies. The Culture of the Copy is a novel attempt to make sense of the Western fascination with replicas, duplicates, and twins. In a work that is breathtaking in its synthetic and critical achievements, Hillel Schwartz charts the repercussions of our entanglement with copies of all kinds, whose presence alternately sustains and overwhelms us. This updated edition takes notice of recent shifts in thought with regard to such issues as biological cloning, conjoined twins, copyright, digital reproduction, and multiple personality disorder. At once abbreviated and refined, it will be of interest to anyone concerned with problems of authenticity, identity, and originality. Through intriguing, and at times humorous, historical analysis and case studies in contemporary culture, Schwartz investigates a stunning array of simulacra: counterfeits, decoys, mannequins, and portraits; ditto marks, genetic cloning, war games, and camouflage; instant replays, digital imaging, parrots, and photocopies; wax museums, apes, and art forgeries—not

to mention the very notion of the Real McCoy. Working through a range of theories on biological, mechanical, and electronic reproduction, Schwartz questions the modern esteem for authenticity and uniqueness. The Culture of the Copy shows how the ethical dilemmas central to so many fields of endeavor have become inseparable from our pursuit of copies—of the natural world, of our own creations, indeed of our very selves. The book is an innovative blend of microsociology, cultural history, and philosophical reflection, of interest to anyone concerned with problems of authenticity, identity, and originality. Praise for the first edition “[T]he author... brings his considerable synthetic powers to bear on our uneasy preoccupation with doubles, likenesses, facsimiles, replicas and re-enactments. I doubt that these cultural phenomena have ever been more comprehensively or more creatively chronicled.... [A] book that gets you to see the world anew, again.” —The New York Times “A sprightly and disconcerting piece of cultural history” —Terence Hawkes, London Review of Books “In The Culture of the Copy, [Schwartz] has written the perfect book: original and repetitive at once.” —Todd Gitlin, Los Angeles Times Book Review

Bulletin of the Atomic Scientists W. W. Norton & Company

This book presents pro-and-con opinions concerning animal cloning, medical research related to cloning, legal and moral issues raised by the possibility of human cloning, and the question of

whether human cloning should be temporarily or permanently banned.
Cloning Oxford University Press, USA
This book provides a detailed introduction to the cloning of both plants and animals and discusses the important social, ethical, political, technical, and other issues related to the practice. The history of cloning experiments dates back more than a century, but advances in technology in recent decades have multiplied the potential applications of cloning-and expanded the controversies surrounding these possibilities. Cloning: A Reference Handbook provides an accessible description of the development of plant and animal cloning from the early stages of human civilization to the present day and coherently covers the science and technology involved. It reviews the essential controversies that have arisen about cloning-particularly applications involving human DNA-as researchers have advanced and extended the tools for cloning organisms. Additionally, the book discusses public opinion about cloning and the legislative and administration actions that have been taken with regard to the practice. This single-volume work provides a broad treatment of the subject, going back further in history than is the case with most texts, covering plant cloning and providing a thorough overview of the nature of animal cloning and related issues. Examples of the topics covered include the natural "cloning" processes of regeneration in plants and animals; crucial research breakthroughs on

animal cloning by Robert Briggs and Thomas King, John Gurdon, Gail Martin, James Till and Earnest McCulloch, and others; and the laws that regulate which types of cloning are allowed and prohibited in the United States and in other countries.

Cloning Greenhaven Publishing LLC

Human reproductive cloning is an assisted reproductive technology that would be carried out with the goal of creating a newborn genetically identical to another human being. It is currently the subject of much debate around the world, involving a variety of ethical, religious, societal, scientific, and medical issues. Scientific and Medical Aspects of Human Reproductive Cloning considers the scientific and medical sides of this issue, plus ethical issues that pertain to human-subjects research. Based on experience with reproductive cloning in animals, the report concludes that human reproductive cloning would be dangerous for the woman, fetus, and newborn, and is likely to fail. The study panel did not address the issue of whether human reproductive cloning, even if it were found to be medically safe, would beâ€"or would not beâ€"acceptable to individuals or society.

Cloning of Animals from Adult Cells U of Minnesota Press

The ability to successfully clone genes underlies the majority of our knowledge in molecular and cellular biology. Gene Cloning introduces the diverse array of techniques available to clone genes and how they can be used effectively both in

the research laboratory, to gain knowledge about the gene, and for use in biotechnology, medicine, the pharmaceutical industry, and agriculture. It shows how cloning genes is an integral part of genomics and underlines its relevance in the post-genomic age, as a tool required to test predictions of gene regulation and function made through bioinformatics. Applications of gene cloning in medicine, both for diagnosis and treatment, and in the pharmaceutical industry and agriculture, are also covered in the book. Gene Cloning takes a fresh approach to teaching molecular and cellular biology and will be a valuable resource to both undergraduates and lecturers of biological and biomedical science courses.

The Second Tree U of Minnesota Press
The terms 'recombinant DNA technology', 'DNA cloning', 'molecular cloning' or 'gene cloning' all refer to the same process: the transfer of a DNA fragment of interest from one organism to a self-replicating genetic element such as a bacterial plasmid. The DNA of interest can then be propagated in a foreign host cell. This technology has been around since the 1970s, and it has become a common practice in molecular biology labs today. Reproductive cloning is a technology used to generate an animal that has the same nuclear DNA as another currently or previously existing animal. Dolly was created by reproductive cloning technology. In a process called 'somatic cell nuclear transfer' (SCNT), scientists transfer

genetic material from the nucleus of a donor adult cell to an egg whose nucleus, and thus its genetic material, has been removed. The reconstructed egg containing the DNA from a donor cell must be treated with chemicals or electric current in order to stimulate cell division. Once the cloned embryo reaches a suitable stage, it is transferred to the uterus of a female host where it continues to develop until birth. Therapeutic cloning, also called "embryo cloning," is the production of human embryos for use in research. The goal of this process is not to create cloned human beings, but rather to harvest stem cells that can be used to study human development and to treat disease. Stem cells are important to biomedical researchers because they can be used to generate virtually any type of specialised cell in the human body. This new book presents an up-to-date Chronology of Cloning along with current and selected abstracts dealing with cloning as well as a guide to books on the topic. Access to the abstract and books sections is provided by title, subject and author indexes.

Animal Cloning Open Road Media

An insider's view on bringing extinct species back to life Could extinct species, like mammoths and passenger pigeons, be brought back to life? In How to Clone a Mammoth, Beth Shapiro, an evolutionary biologist and pioneer in ancient DNA research, addresses this intriguing question by walking readers through the astonishing and controversial process of de-extinction.

From deciding which species should be restored to anticipating how revived populations might be overseen in the wild, Shapiro vividly explores the extraordinary cutting-edge science that is being used to resurrect the past. Considering de-extinction's practical benefits and ethical challenges, Shapiro argues that the overarching goal should be the revitalization and stabilization of contemporary ecosystems. Looking at the very real and compelling science behind an idea once seen as science fiction, How to Clone a Mammoth demonstrates how de-extinction will redefine conservation's future.

Forgotten Clones Houghton Mifflin Harcourt P

Cloning was first published in 1985. Minnesota Archive Editions uses digital technology to make long-unavailable books once again accessible, and are published unaltered from the original University of Minnesota Press editions. In this, the first published monograph devoted exclusively to the cloning procedure, Professor McKinnel reviews the results obtained in nuclear transplantation experiments with amphibia and provides an extensive discussion of the methodology used. He explains that while biologists generally use the word "cloning" to refer to the production of multiple genetically identical individuals, he uses it in a more general sense to refer to one or more individuals produced by nuclear transplantation. He points out that results obtained from the cloning technique are often oversimplified and

are sometimes misleading, and he discusses conditions which may lead to success or failure in achieving cloning. The extensive section on methodology describes, sufficiently to instruct new comers to the technique, the preparation of microscopic tools, micromanipulation procedure, the husbandry and reproductive biology of amphibians, dissociation of donor cells, and the activation and enucleation of mature ova. The work is generously illustrated with halftones and line drawings.

Scientific and Medical Aspects of Human Reproductive Cloning Createspace Independent Publishing Platform

The Second Tree documents a biological revolution that will change the way you think about the material world, your own life and even the inevitability of your own death Genetic scientists are busily pushing back the boundaries of the humanly possible, climbing the branches of a tree of life that has been grafted by man, not God. Elaine Dewar chronicles the lives, the discoveries, and the feuds among modern biologists, exploring how they have crafted the tools to alter human evolution. She travels the globe on the trail of Charles Darwin and his intellectual descendants, telling the story of James D. Watson and his partner Francis Crick, who first described DNA; of Frederick Sanger, who invented how to sequence genes and won two Nobel prizes; of the computer scientists who put the human genome on the World Wide Web. She visits companies that are trying to turn cloned sheep into pharmacies on the hoof, to resurrect

prize cows from the grave, to transplant human genes into mice — ultimately attempting to give us immortality in pieces while trying to keep investors happy. As these tales spill out, we find out how biologists learn by doing: tearing mice and worms and flies and human eggs apart, twinning disparate animal cells and genes together — creating clones and chimeras as outlandish as any sphinx. In public, research biologists often express their good intentions about curing the big diseases. In private, many of them are compelled by furious struggles to be rich, famous and first. Dewar lays bare the motives, conflicts and fears of the men and women whose job it is to trespass the boundaries of what laypeople consider ethical and sacred.

Gene Cloning Bloomsbury Publishing USA
Examines the scientific, legal, and ethical issues surrounding animal cloning technology.

The Human Cloning Debate Greenhaven Press
The Washington Post Co. offers a special report on cloning research and the ethical and legal issues associated with cloning. The report contains background information and opinion articles.

Remaking Eden MIT Press
This debut sci-fi novel by the Nebula and Locus Award–winning author of The Shore of Women follows five human clones in an unforgiving world. Shock and outrage greet Paul Swenson’s announcement of the success of his latest and most controversial scientific

endeavor. Having taken advantage of a brief lull in legislative restrictions, the renowned astrophysicist and a team of bioscientists have created five human clones—four males and one female—from Swenson’s own genetic material. From the moment Michael, Edward, Albert, James, and Kira Swenson are revealed to the world, they are viewed with hostility and suspicion. Growing up under the heavy yoke of specialness, the five exceptional human “experiments” have no one but each other to turn to for emotional support. Then tragedy strikes and everything falls apart . . . Now Kira and her brothers must follow their destinies down separate, divergent paths. Heading out into a world that never welcomed them, each clone is intent on pursuing knowledge, career, family—all the desired elements of a so-called normal life. But they cannot escape their shared past, because the true purpose behind Paul Swenson’s remarkable achievement remains shrouded in shadow. And his children are prepared to travel to the ends of the Earth and beyond for an answer to the question that has always haunted them: Why were we made?

Human Cloning Research Prohibition Act

Princeton University Press

In the past year, stem cell research has exploded in South Korea and received $3 billion worth of research money in California, proving that the bioethics of cloning will only become more important in the future. For readers who want to be informed an increasingly important issue, "Human Cloning Debate collects

trenchant analysis and revealing facts on the debate that began 10 years ago with Dolly the sheep. The book looks at things from multiple angles, including the scientific underpinnings, and the philosophical and religious implications. Responsive to the continuing evolution of the cloning issue, this edition features an emphasis on the arguments revolving around stem-cell technology.

How to Clone a Mammoth Infobase Publishing

The prospect of human cloning burst into the public consciousness in 1997, following the announcement of the successful cloning of Dolly the sheep. It has since captured much attention and generated great debate, both in the United States and around the world. Many are repelled by the idea of producing children who would be genetically virtually identical to preexisting individuals, and believe such a practice unethical. But some see in such cloning the possibility to do good for infertile couples and the broader society. Some want to outlaw it, and many nations have done so. Others believe the benefits outweigh the risks and the moral concerns, or they oppose legislative interference with science and technology in the name of freedom and progress. Complicating the national dialogue about human cloning is the isolation in 1998 of human embryonic stem cells, which many scientists believe to hold great promise for understanding and treating many chronic diseases and conditions. Some scientists also believe that stem cells derived from cloned

human embryos, produced explicitly for such research, might prove to be uniquely useful for studying many genetic diseases and devising novel therapies. Public reaction to this prospect has been mixed, with some Americans supporting it in the hope of advancing biomedical research and helping the sick and the suffering, while others are concerned about the instrumentalization or abuse of nascent human life and the resulting danger of moral insensitivity and degradation.

Human Cloning and Human Dignity Minnesota Archive Editions

Primary sources discuss the early history of cloning, the cloning of Dolly the sheep, controversies in cloning, and recent developments in cloning.

Cloning University of Pittsburgh Press

In nature clones occur naturally in plants, but not in animals. According to the National Human Genome Research Institute, animals must be scientifically manipulated through different processes to create an identical copy of the genetic material, known as cloning. This thought-provoking volume explores the history of cloning, the ethical issues it raises, where research may lead it in the future, and cloning's role in curing diseases, creating custom organs, improving food, and saving animals.

Cloning Vintage Canada

Cloning was first published in 1985. Minnesota Archive Editions uses digital technology to make long-unavailable books once again accessible, and are published unaltered from the original University of Minnesota Press editions.

Cloning has become in recent years a subject of widespread speculation: the word is a source of fear and wonder, the concept a jumping-off point for the fantasies of cartoonists, film producers, and novelists. With this book, cell biologist Robert Gilmore McKinnell provides the first clear scientific explanation of the procedure for general readers. Cloning is best defined as the asexual reproduction of genetic duplicates. The word clone derives from the Greek word for a twig or a slip, and the first "cloners" were in fact horticulturalists. Early attempts to clone animals culminated in 1952 when biologists reported that they had produced frogs by transplanting genetic material from an embryonic body cell into an egg from which the nucleus had been removed. In this account, McKinnell traces the historical background of cloning and describes in detail the modern procedure used in the cloning of frogs—the highest animal thus far cloned. He emphasizes that the purpose of cloning is not to produce numerous frogs—or people—but rather to serve as a tool in biological research—to achieve greater understanding of cancer and aging, immunobiology and the differentiation of cells. McKinnell also deals with questions about potential mammalian clones and examines the social, ethical, and biological problems we face in our considerations about human cloning. He concludes that human clones are not necessary for research purposes and that the diversity achieved with sexual reproduction is far

more desirable than the sameness of cloned creatures.
From Cell to Clone National Academies Press
A leading geneticist explores the "brave new world" of baby-making in an age that looks onward from IVF and surrogacy to human clones and genetic engineering. Lee Silver explains the science of embryology, explores what science can and will be able to do to affect the natural processes, and through a series of individual stories, both contemporary and imagined from the future, looks at the moral, ethical and legal implications.

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