



“THE GENE: AN INTIMATE HISTORY,”
EXECUTIVE PRODUCED BY
KEN BURNS AND DR. SIDDHARTHA MUKHERJEE,
TO PREMIERE ON PBS APRIL 7 & 14, 2020

- Documentary Series Unravels History of the Human Genome and Explores the Ethical Implications of Groundbreaking Developments in Genetics —
- WETA Washington, D.C., Launches National Engagement Campaign, Digital Initiatives and Public Screenings Across the U.S., with Outreach and Education Partner National Institutes of Health’s National Human Genome Research Institute —

WASHINGTON, D.C. — February 19, 2020 — WETA Washington, D.C., the flagship public broadcasting station in the nation’s capital, announced today that **KEN BURNS PRESENTS THE GENE: AN INTIMATE HISTORY**, a two-part, four-hour documentary based on Pulitzer Prize-winning author Dr. Siddhartha Mukherjee’s book of the same name, will premiere on Tuesdays, April 7 and 14, 2020 from 8-10 pm ET on PBS stations nationwide. The film airs at a critical moment for the scientific community, as geneticists around the world wrestle with the ethical implications of new technologies that offer both promise and peril. **THE GENE** weaves together science, history and personal stories for a historical biography of the human genome, while also exploring breakthroughs for diagnosis and treatment of genetic diseases — and the complex ethical questions they raise.

Groundbreaking treatments will improve the lives of millions of people — potentially treating diseases like sickle cell — but there are worries that scientists will take gene-editing technology too far, using it to modify germline DNA in order to enhance certain traits deemed “preferable.” As **THE GENE** demonstrates, those fears have already been realized: in November 2018, Chinese researcher He Jiankui stunned and horrified the scientific community with an announcement: he had created the first genetically edited babies, twin girls born in China — a medically unnecessary procedure accomplished well before scientists had fully considered the consequences of altering the human genome.

“These revolutionary discoveries highlight the awesome responsibility we have to make wise decisions, not just for people alive today, but for generations to come,” said Dr. Mukherjee, assistant professor of medicine at the Department of Medicine (Oncology), Columbia University and staff cancer physician at Columbia University Medical Center. “At this pivotal moment when scientists find themselves in a new era in which they’re able to control and change the human genome, **THE GENE** offers a nuanced understanding of how we arrived at this point and how genetics will continue to influence our fates.”

The documentary includes interviews with pioneers in the field — including doctors Paul Berg, Francis Collins, Jennifer Doudna, Shirley Tilghman, James Watson, Nancy Wexler and Mukherjee himself. As with Burns’s other projects, **THE GENE** uses a remarkable trove of historical footage, including Rosalind Franklin’s “Photograph 51” from 1952, to track the journey of human genetics. Beginning with the remarkable achievements of the earliest gene hunters and their attempts to understand the nature of heredity, the film traces the history of genetics from Gregor Mendel’s pea plant studies in the 19th Century and Watson’s and Crick’s discovery in 1953 of the structure of DNA to the efforts by Sydney Brenner and Marshall Nirenberg, among others, to understand how the genetic code is translated in human cells. We also witness the massive technological transformation from the 1970s through the 2000s from the sequencing of individual genes by Fred Sanger to the sequencing of the whole human genome. As **THE GENE** introduces us to the scientists solving these great mysteries, the film also examines the insidious rise of eugenics, which bore horrific results in the United States, Europe and, in particular, in Nazi Germany.

THE GENE juxtaposes this dynamic history with compelling, emotional stories of contemporary patients and their families who find themselves in a desperate race against time to find cures for their genetic diseases. The film follows the inspiring, heart-wrenching journeys of people such as Audrey Winkelsas, a young scientist born with Spinal Muscular Atrophy researching a treatment for her own condition, and Luke Rosen and Sally Jackson, parents on a tireless quest to raise awareness for their daughter’s rare degenerative disease. Hopes rise and fall with new discoveries and setbacks, revealing how intimate and profoundly personal this science can be for families affected by genetic diseases.

As it traces groundbreaking developments in genetics that promise to revolutionize life for millions of people, **THE GENE** also documents the thorny ethical questions some of these new treatments raise. Today, geneticists find themselves on the brink of curing diseases long thought fatal — but given the harrowing history of eugenics, both the scientific community and the public are forced to grapple with the ethical implications of these new technologies. Are there unintended consequences to changing human genomes? Could changes accidentally unleash cancer or some novel new genetic disease? From the prospect of genetic therapies to CRISPR, the film explores the complex web of moral, ethical and scientific questions facing this generation.

The series is directed by Chris Durrance and Jack Youngelson, with award-winning filmmaker Barak Goodman serving as senior producer and Ken Burns as executive producing alongside Dr. Mukherjee. **THE GENE** has largely the same production team as **CANCER: THE EMPEROR OF ALL MALADIES**, which premiered on PBS in 2015 and was the Emmy Award-nominated adaptation of Mukherjee’s 2010 book, *The Emperor of All Maladies: A Biography of Cancer*.

“**THE GENE** explores the ultimate mystery story — it unpacks the once-impenetrable science of what makes us who we are,” said senior producer Barak Goodman. “This is a moment for the general public and the scientific community to engage in a national conversation about the thrilling future of genetics and the ethical challenges posed by new science.”

“We want people to leave our film feeling both hopeful about these stunning developments and sensitive to the ethical questions facing the field,” said directors Chris Durrance and Jack Youngelson.

“I was thrilled to reunite with Sid and Barak on this project,” said Ken Burns. “For me, science, like history, is the exploration of what has come before and the promise of the future. **THE GENE** untangles the code of life itself.”

“**THE GENE** represents a groundbreaking opportunity to broaden public understanding of this important subject, and Sid, Ken and Barak are the ideal team to bring the fascinating book to film,” noted Sharon Percy Rockefeller, president and CEO of WETA, the producing public media station for **THE GENE**.

Integral to the project is an extensive engagement program created by WETA in collaboration with an array of partners, in particular the National Institute of Health’s National Human Genome Research Institute, the project’s primary Outreach and Education Partner. The project will enable the film to reach an even larger audience, engaging researchers, physicians and patients in the national conversation about the history of genetics and the state of the field today. Partners and funders will host screenings and discussions in cities across the country, working with local public media stations and a wide range of educational, medical and scientific organizations.

In conjunction with the broadcast, WETA is developing an expansive interactive website and social and digital media components, including a multi-media educational initiative designed to engage teachers and students through multiple platforms. including a six-part animated series, that delves into the complexities of genetics. Using mixed illustration styles, each episode will focus on a particular approach to genetics, including “How Things Work,” “When DNA Goes Sideways,” “The Future of DNA,” and more. WETA has also developed a companion teaching guide. The series will be distributed through various digital platforms by the National Institutes of Health’s National Human Genome Research Institute, PBS, and member stations.

For more information about **KEN BURNS PRESENTS THE GENE: AN INTIMATE HISTORY**, visit pbs.org/thegene. An electronic press kit, including the film for press preview and downloadable talent photos for promotional use, is available at pressroom.pbs.org. To follow the project on Twitter, use the hashtag #TheGenePBS.

KEN BURNS PRESENTS THE GENE: AN INTIMATE HISTORY is a production of Florentine Films and WETA Washington, D.C., in association with Ark Media. Executive Producer and Senior Creative Consultant: Ken Burns. Written by Geoffrey C. Ward; and Barak Goodman & David Blistein. Based on the book *The Gene: An Intimate History* by Dr. Siddhartha Mukherjee. Narrator: David Costabile. Senior Producer: Barak Goodman. Directors: Chris Durrance and Jack Youngelson. Executive Producers: Dr. Siddhartha Mukherjee, Dalton Delan, Tom Chiodo, John F. Wilson and Anne Harrington.

Production funding for **THE GENE** has been provided by Genentech, 23andMe, Cancer Treatment Centers of America, Alfred P. Sloan Foundation, Gray Foundation, American Society

of Clinical Oncology (ASCO) & Conquer Cancer Foundation, Judy and Peter Blum Kovler Foundation, Craig and Susan McCaw Foundation, and the Corporation for Public Broadcasting. The Outreach and Education Partner is the National Institutes of Health's National Human Genome Research Institute. Outreach support is provided by Foundation Medicine.

About the Film Advisory Committee

The project received expert guidance from leading scientists. Dr Shirley Tilghman, professor of molecular biology and public policy and president emerita of Princeton University, was the Senior Scientific Advisor. The Advisory Committee members included Nobel Prize winners Dr. David Baltimore, president emeritus, Robert Andrews Millikan professor of biology, Caltech; Dr. Elizabeth Blackburn, President Emerita, Salk Institute; Dr. Phillip Sharp, professor, MIT/David H. Koch Institute for Integrative Cancer Research; and Dr. Harold Varmus, former director, National Institutes of Health and National Cancer Institute. In addition, the advisory board included R. Alta Charo, University of Wisconsin/co-chair of the new National Academy of Sciences Human Gene Editing Advisory Group; Dr. Francis Collins, director, National Institutes of Health; Sir Michael Stratton, director, Wellcome Trust Sanger Institute and chief executive officer, Wellcome Genome Campus; Dr. Eric Topol, director, Scripps Translational Science Institute; and Dr. Huda Zoghbi, professor, Baylor College of Medicine and Texas Children's Hospital.

About WETA

WETA Washington, D.C., is the second-largest producing station of new content for public television in the United States and the flagship public broadcasting station in the nation's capital, with four digital television channels, the nation's most-listened to classical music radio service, and extensive digital educational content. WETA productions and co-productions include PBS NEWSHOUR, WASHINGTON WEEK, THE KENNEDY CENTER MARK TWAIN PRIZE, THE LIBRARY OF CONGRESS GERSHWIN PRIZE FOR POPULAR SONG, documentaries by filmmaker Ken Burns, including CANCER: THE EMPEROR OF ALL MALADIES, THE CIVIL WAR, BASEBALL, THE VIETNAM WAR and COUNTRY MUSIC; and productions by Dr. Henry Louis Gates, Jr., including FINDING YOUR ROOTS WITH HENRY LOUIS GATES, JR. and RECONSTRUCTION: AMERICA AFTER THE CIVIL WAR. Sharon Percy Rockefeller is president and CEO of WETA.

About Ark Media

Ark Media was founded by Barak Goodman and Rachel Dretzin in 1996, and they were joined by partner John Maggio in 2003. Together, Goodman, Dretzin, and Maggio have grown Ark into a leading producer of non-fiction series, theatrical documentaries, and television specials on a wide variety of subjects, along the way nurturing a diverse roster of passionate and talented filmmakers. Ark's films have been honored with four national primetime Emmy Awards, an Academy Award nomination, multiple Writers Guild Awards, two duPont Columbia batons and three George H. Foster Peabody Awards, among many other awards and accolades. Coming soon: the feature documentary adaptation of Andrew Solomon's monumental nonfiction book, FAR FROM THE TREE, in partnership with Participant Media; an AMERICAN EXPERIENCE film about Teddy Roosevelt's fateful journey down an unknown Amazonian river in 1914, which almost cost him his life; and a film for MSNBC about the press during the civil rights era.

About PBS

PBS [pbs.org], with nearly 350 member stations, offers all Americans the opportunity to explore new ideas and new worlds through television and digital content. Each month, PBS reaches over 90 million people through television and 30 million people online, inviting them to experience the worlds of science, history, nature and public affairs; to hear diverse viewpoints; and to take front row seats to world-class drama and performances. PBS 'broad array of programs has been consistently honored by the industry's most coveted award competitions. Teachers of children from pre-K through 12th grade turn to PBS for digital content and services that help bring classroom lessons to life. Decades of research confirms that PBS 'premier children's media service, PBS KIDS, helps children build critical literacy, math and social-emotional skills, enabling them to find success in school and life. Delivered through member stations, PBS KIDS offers high-quality educational content on TV – including a 24/7 channel, online at pbskids.org [pbskids.org], via an array of mobile apps and in communities across America. More information about PBS is available at www.pbs.org [pbs.org], one of the leading dot-org websites on the internet, or by following [PBS on Twitter](https://twitter.com/PBS) [twitter.com], [Facebook](https://www.facebook.com/PBS) [[facebook.com](https://www.facebook.com)] or through our [apps for mobile and connected devices](http://pbs.org) [pbs.org]. Specific program information and updates for press are available at pbs.org/pressroom [pressroom.pbs.org] or by following [PBS Pressroom on Twitter](https://twitter.com/PBSPressroom) [twitter.com].

Press Contacts:

Lancy Downs - lancy_downs@dkcnews.com - 212-981-5219

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