

The
Man
Who
Made

THE ASCENT OF MAN

J. Bronowski, the man, his science, his
humanity . . . and his exciting television journey
along the paths of cultural evolution

by Kendrick Frazier

The man behind these extraordinary programs is Jacob Bronowski, a Polish-born, Cambridge-educated British subject who has been working in America for the past decade, as a senior fellow at the Salk Institute in California. A mathematician, philosopher, and historian of science, he is also a poet, playwright, literary critic and authority on the poetry of William Blake. In this age of specialization, he is a throwback—in the best sense—to a time when scientists were called natural philosophers. With his Renaissance approach to knowledge and the natural world, he has for the past two decades been happily crossing the boundaries between scientific disciplines and bridging that legendary gap between the two cultures of science and the humanities.

Bronowski, in fact, helped initiate the great debate known as "the two cultures." His book *Science and Human Values*, like so much he has done since, focused on the common ground shared by science and the humanities. C. P. Snow has said the book is one of six works he would choose to explain to an intelligent nonscientist "something of the deepest meaning of science." "The Ascent of Man" is the culminating expression of the philosophical inquiries begun by Bronowski in that work.

"My ambition has been . . . to create a philosophy for the 20th century which shall be all of one piece. This series presents a philosophy rather than a history, and a philosophy of nature rather than of science."

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"Among the multitude of animals which scamper, fly, burrow and swim

"The Ascent of Man" is a 13-part television series on the history of science as a history of man, coproduced by BBC TV and Time-Life Films and written and narrated by J. Bronowski. The programs were filmed in 27 countries over a two-year period, making full use of a multimillion-dollar budget. They have been shown twice this year on British television and once on Canadian television, and a third showing on the BBC is just under way.

Negotiations are moving slowly to show the films on American television. The American public premiere of the entire series opened to turn-away crowds last week in Washington at the Free Film Theater of the Smithsonian Institution, which will have multiple showings of each program for the next 13 weeks, and beyond.

Four of the programs were shown at the Copernicus symposium last spring and excited great interest among those who saw them (SN: 5/5/73). John H. Douglas' review in *SCIENCE NEWS* called them "an important step in the ascent of television programming" and praised their excitement, drama and intellectual toughness (SN: 6/23/73, p. 409). Last week, the *Washington Post* devoted a full page to them, calling the programs "an enormous undertaking . . . a marvelously ambitious . . . superlative film series, visually eye-catching, full of the wonder, mystery and excitement of human knowledge."

The programs are imaginatively and beautifully filmed and presented. Philosophically, they portray in dramatic, often powerful terms the values of science.

around us, man is the only one who is not locked into his environment. His imagination, his reason, his emotional subtlety and toughness, make it possible for him not to accept the environment but to change it. And that series of inventions, by which man from age to age has remade his environment, is a different kind of evolution—not biological, but cultural evolution. I call that brilliant sequence of cultural peaks 'The Ascent of Man.'

Bronowski speaks these words in the beginning of program one, standing on a La Jolla hillside illuminated by the light of the full moon. Along the shore in the background the grunion fish perform their precisely timed, species-sustaining task of depositing their eggs in the sand just at the beginning of the nine-day period between these very high

tides and the next ones that will wash the newly hatched fish out to sea. It is one of the many myriad examples, he tells the viewer, pausing, twisting the open-spread fingers of his left hand, "by which an animal fits into its environment like one cog-wheel into another." The analogy seems perfect.

It is difficult to imagine anyone more appropriate as a guide and narrator through a 13-part television series on the history of man as seen through the scientific and technological achievements that shaped his cultural evolution than Bronowski. His scope and intellect are essential to the series; but so are his gifts for language and his flair for drama.

To portray the origin of man, he and the cameras traveled to the valley of the river Omo in Ethiopia. "The

ancient stories used to put the creation of man into a golden age and a beautiful, legendary landscape. If I were telling the story of Genesis now, I should be standing in the Garden of Eden. But this," he says, turning to view the parched and desolate scene, "is manifestly *not* the Garden of Eden. And yet I am at the navel of the world, at the birthplace of man, here in the East African Rift Valley, near the equator."

Bronowski is a familiar television personality in Britain. According to Adrian Malone, the talented producer/director of "The Ascent of Man," "Bronowski has made almost as many public appearances in England as the Beatles. . . . If you ask any taxi driver in London, he'll tell you . . . that he's the only guy who's ever made science live, be exciting and understandable."

There's not an equivalent science figure in the United States. It's hard to think of any American scientist known so well to the public that he is stopped in the streets by people who've seen him on television. But that does happen to Bronowski. In fact it happened to him in Washington just last week—but his fan was a London newspaper editor in town on business. And it's happening to him now in Canada, where "The Ascent of Man" series was shown recently on Canadian television.

Unifying these 13 programs, which range over 2 million years of time and 27 countries of the world, covering scores of intellectual achievements from the discovery of agriculture to the ideas that made 20th century physics "the greatest achievement of the human imagination," is the engaging presence of Bronowski. There's an undercurrent of excitement and anticipation when he appears on camera. He has that special knack of personal communication that draws in the listener, an uncontained exuberance and passion to have us all share his insights into the turning points of intellectual history.

Just as important, for television, is that Bronowski is a comfortable person. He has a warmth and genuineness that comes across well, both in person and on the screen. He is, to use the TV moguls' criterion, somebody you'd feel happy to have in your living room.

In a time of often-misguided fears of an impersonal and rigid science, Bronowski offers needed perspective and affirmation of what science is:

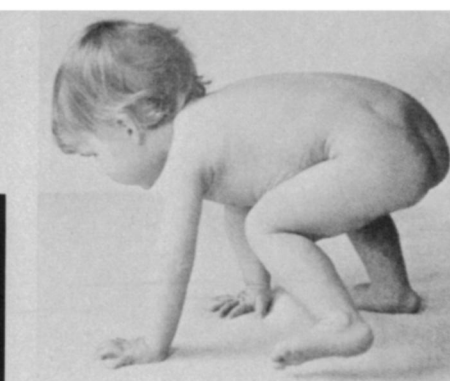
"There cannot be a philosophy, there cannot even be a decent science, without humanity. . . ."

". . . What physics has now done is to show that . . . there is no absolute knowledge. All information is imperfect. We have to treat it with humility."

"Science is a very human form of knowledge. We are always at the brink of the known, we always feel forward



The creation of man, the development of agriculture, a baby's first steps.



for what is to be hoped. Every judgment in science stands on the edge of error, and is personal."

Bronowski believes such things need to be understood. "I think the programs are right for this kind of moment. They say what needs to be said."

Bronowski is proud of the series. Last week in Washington someone asked him how he felt, now that the project is completed. He paused, thought for a long time, then smiled broadly and said: "Well, I'm terribly pleased with myself."

That same candor, that same enthusiasm—applied to the intellectual content of "The Ascent of Man"—characterizes the entire series.

Like Kenneth Clark's "Civilisation" and Alistair Cooke's "America," "The Ascent of Man" series is termed "a personal view." Sometimes the personal aspects tell us something about Bronowski, and how one scientist came to a turning point in his life: He holds the famous Taung skull of an Australopithecine baby and recalls how in 1950 he had been asked to do a piece of mathematics on the shape and size of the child's teeth so that they might be discriminated from the teeth of apes. It worked pretty well. "It transmitted to me a sense of excitement which I remember at this instant. I, at over 40, having spent a lifetime in doing abstract mathematics about the shapes of things, suddenly saw my knowledge

reach back 2 million years and shine a searchlight into the history of man. That was phenomenal. And from that moment I was totally committed to thinking about what makes man what he is."

Other times the personal view is a moral one: Perhaps the most powerful scene shows him standing ankle-deep in a pond at Auschwitz:

"It is said that science will dehumanize people and turn them into numbers. That is false, tragically false. Look for yourself. This is the concentration camp and crematorium at Auschwitz. *This* is where people were turned into numbers. Into this pond were flushed the ashes of some 4 million people. And that was not done by gas. It was done by *arrogance*. It was done by *dogma*. It was done by *ignorance*.

"I owe it as a scientist . . . I owe it as a human being to the many members of my family who died at Auschwitz, to stand here by the pond as a survivor and witness. We have to cure ourselves of the itch for absolute knowledge and power. We have to close the distance between the push-button order and the human act." He reaches into mud and ashes, and concludes: "We have to touch people."

"The Ascent of Man" film series, Bronowski hopes, will touch people. From the evidence and the reactions so far, there is little doubt that it will. □

Bronowski in the mud at Auschwitz: "You have to touch people."



Illustrations: Courtesy J. Bronowski and the BBC