



Photos: Kendrick Frazier

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An interview with J. Bronowski

Science News editor Kendrick Frazier and senior editor Robert J. Trotter interviewed Jacob Bronowski concerning his ideas on science and humanity as expressed in *"The Ascent of Man."* The interview took place in a Washington apartment where Bronowski was relaxing after a series of appearances in London and prior to a week of activities in Washington in connection with the American premiere of the programs at the Smithsonian Institution. Following are excerpts from that interview.

You said the word "science" was purposely not used in the title of the programs. Why?

It's just that the word "science" is associated in many people's minds with a great many preconceptions. It's rather like keeping the word "God" out of the title of anything. It's very hard to focus peoples' attention on what you're trying to say if you use very heavily loaded words.

What motivated you to take on such a project?

When the BBC came to talk to me about doing the programs I was very impressed. Science is by no means an easy subject to present on this scale without producing something which is just an alphabetically or historically arranged encyclopedia. And they were very clearly convinced that they needed something with a strong philosophical, what they called personal, view—the word "personal" is thought to be more respectable. So although it took me a long time to be persuaded because it was sure to be such a long, drawn-out project, I was attracted to it for two reasons. A, Once it was put to me, it seemed like a good idea, and B, It seemed clear that I would do the idea quite differently from anybody else, and it wasn't at all certain that anybody else would do it at all. It just

isn't very easy to think of any scientist or any knowledgeable person today who would be willing to traverse the whole field of the sciences, boldly blundering where experts would cautiously tread.

The programs are a sort of attempt to take a look at various successive cultures and turning-points in human history and say that from them you can see how step-by-step we have taken a richer and richer, more intertwined view of the realities of the natural world. And if the 20th century has got to do anything it will really have to base its whole outlook on what our place is in the world. It will have to have a biologically and psychologically well-based idea of how man came to be the creature that he is. That's a very revolutionary idea.

What philosophical purpose do the programs serve?

Many people will tell you that what has really moved the human race over 10,000 or 15,000 years of cultural evolution is a religious belief in the destiny of man or special place in creation. I have no doubt that such a sense of the special destiny of creation is very important to any civilized man. I'm sure it makes up the difference between human sensibility and nonhuman sensibility. I think that people need to feel that they are wanted, that they have a place in the world. They were put here for something which they would like to call a purpose, for which they would like to feel themselves fitting. Now, with the decline of religious feeling it has been very difficult to sustain this. If you are not going to subscribe to the view that a special destiny chose you, like the Jews do, or that a special creation made you, which most religions do, you must find some other thing that says human creatures are special. And that is what these programs are about. They are

called "The Ascent of Man" because they have shown that if you make an animal which biologically has the equipment of man then you have built in this new instrument of cultural evolution and you produce the creature that man is.

What feeling would you like those who see the programs to come away with?

The feeling that the most important thing about science is that it leads us progressively to an understanding of man's own place in the natural order of things. A feeling that once you understand that place, you do see man's achievement to be very remarkable and to be based on his biological equipment in quite a unique way, so that man is seen to be a unique creature. And a feeling that that gives you a sense of a special place in the creation which has all the power and persuasiveness of old religious beliefs or beliefs in destiny.

What about anti-science attitudes?

Five years ago when the BBC and I started talking, one of the things that most moved me was when I was told by the senior BBC producer in charge of science programs as a whole that this might not be a good time to do these programs because the young people are in general anti-science. Well, I said, that's the first really persuasive thing that anybody has said to me. In that case I regard it as a duty to speak out about what I think to be the true philosophy of science.

What do you say to those who would reject rational, logical thought?

I recall one student group to which I was talking about the behavior of the big primates like the gorillas and how it was different from human behavior and why that had a great deal to teach us about our place in the world. And I remember one student

saying, "I know the chimpanzee has his bag, and I have mine, what else are you telling me?" And I said, "Well, how do you know this?" and he said, "I know it, I know it, I know it right here in my gut." And I said, "Well, the last person who I remember telling us he knew it right there in his gut was Hitler, and incidentally he knew in his gut that you were a species of chimpanzee and not a species of man." (This happened to be a black student.) "Now the reason we fought Hitler was that we thought the human species had other organs of sensibility than the gut. We know because we've really taken pains to try to find out. When I tell you about the chimpanzee and about man, I may be wrong, but by God I've tried to be right, and that's more than could be said about you and Hitler." I must say that he and his fellow students were decently persuaded on this occasion.

What decisions shaped the special visual character of the programs?

You obviously start with a certain philosophical framework such as I have. The programs are bound to express that. With the best intention in the world you must be sure that the programs are visually interesting. Now that problem we solved almost from the word go, because having first been shown by the BBC some rough cuts of the early Kenneth Clark programs, it was clear that his were heavily favored by the fact that everything that he produced was an artifact which was beautiful in itself. So I made one fundamental point to my colleagues: If you are going to compete with those pictures you are never going to compete by showing giant atom smashing machines or chaps with test tubes or what have you. Science has one natural advantage over the world of art. That is that actually nature is more beautiful than any pictures that Kenneth Clark can show. So, by God, we're going to have a hell of a lot of gorgeous scenery. So that gave the programs a very special character from the word go. It made it clear from the outset that nearly all the shooting was going to be done outdoors. Well, that was unusual. If you were given 13 programs to make about science, you would not think that 95 percent of the shooting was going to be done out of doors.

How were the sites chosen?

We wanted to start program 3 with some American Indian civilization. The other chaps asked what are the good sites, and I said, well, there are two very good sites. One is at Mesa Verde and one is at the Canyon de Chelly. And I said, I've been to Mesa Verde, so we'll go to Canyon de Chelly. That

was a piece of personal philosophy: If we were going to do so much of chancing on the great monuments of the past, it would be a good idea to try to make them vivid to the viewer by the sense that he and I came on them together. So the programs are heavily weighted in favor of places that I've never been to before. I think the sense of discovery is very important.

Do you have scientific colleagues who think it beneath you to be doing TV programs for the public?

Yes, naturally, one has that all the time. As soon as you do anything that is not published in a small journal read only by a small number of people, you at once expose yourself to criticism that you aren't doing your work seriously. But I think it would be very childish to pay any attention to that. The question you have to ask yourself is whether you think what you're doing is worthwhile. In my case, I'm sure the answer is yes.

How do you feel about the different climates for TV in Britain and the United States?

Well, there's no doubt that England and BBC have a public which is much more willing to give attention to programs with an intellectual content than most countries. You have some very

good things. There is no doubt that American news, for instance, is much the best news anywhere in the world and very well presented. But there is this terrible feeling in American television circles that the only news is political news, the only topic that people should be interested in is politics. I have no doubt that this public will be built up. At any rate I'm not in the least pessimistic about it or worried about how long this is going to take. I'm quite sure that television in the long run will turn out to be as revolutionary as the printed book was. You've got yourself saddled with television authorities who consider that all the invention of printing did was make possible the printing of cartoon strips.

Is there anything you would change now that the whole project is finished?

I don't think so. I think that they have come out extraordinarily well, much better than I could have guessed. □

Although "The Ascent of Man" has not yet been scheduled on television in the United States, the films are available to the educational market. For further information write: Time-Life Films, Time-Life Bldg., New York, N.Y. 10020.

**Advice to youth
on 1974 Science Fairs:**

Winning a prize is more satisfying than not winning a prize.

Judges favor projects they can understand.

Well-planned photography may help them understand.

Now—not next spring—is the time to plan.

We offer helpful hints.
Write Dept. 841, Kodak,
Rochester, N.Y. 14650.



Any questions?

