



# BILL MOYERS' WORLD OF IDEAS

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**Isaac Asimov - Part I**

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## Isaac Asimov - Part I

**BILL MOYERS:** *[on camera]* Good evening, I'm Bill Moyers. There's something so clean, so compelling, so definite about the coming year 2000 that everyone, it seems, is indulging in a little millennial enthusiasm. But consider this: that same year in the Byzantine calendar will be called 7507, and in the Jewish in the Jewish calendar, 5759. The Chinese will be marking the year 4698. And it will be the year 1418 in the Mohammedan calendar. Those calculations come from a man who is famous for thinking globally, and rationally. Tonight he tells us why we all must follow suit if we want to survive, and why we can't wait for the year 2000 A.D. to start. Join me for a conversation with Isaac Asimov.

*[voice-over]* Isaac Asimov. Whatever you've read, you've probably read something of his. Science fiction, of course — his Foundation series is a classic — science fact, chemistry, astronomy, physics, biology. Children's books. History. Math. One scientist calls him "the greatest explainer of the age." The American Humanist Association has named Dr. Asimov the Humanist of the Year. And some religious folk have considered him the incarnation of the devil.

In the Great Hall of Cooper Union in New York City, where Americans have been debating ideas since the days of Abraham Lincoln, I asked Dr. Asimov about his faith in the power of human reason.

*[Interviewing:]* Are you an enemy of religion?

**ISAAC ASIMOV:** No, I'm not. I feel that, as it seems to me any civilized humane person should feel that every religion has the right to his own beliefs and his own securities and his own likings. What I'm against is attempting to place a person's belief system onto the nation or the world generally. You know, we object because we say constantly that the Soviet Union is trying to dominate the world, communize the world. Well, you know, the United States, I hope, is trying to democratize the world. But I certainly would be very much against trying to Christianize the world, or to Islamize it, or to Judaize it, or anything of the sort. And my objection to fundamentalism is not that they are fundamentalists but that essentially they want me to be a fundamentalist, too.

Now, I can imagine they object. They say, "I believe that evolution is true, and I want everyone to believe that evolution is true." But I don't want everyone to believe that evolution is true. I want them to study what we say about evolution and decide for themselves. Now, they say they want to teach creationism on an equal basis. But they can't. It's not a science. You can create creationism in the churches, in the courses on religion. I mean, they would be horrified if I would suggest that in the churches they teach secular humanism as an alternate way of looking at the universe, or that they teach evolution as an alternate way of considering how life may have started.

In the church they teach only what they believe. And rightly so, I suppose. But on the other hand, in schools, in science courses, we've got to teach what scientists think is the way the universe works.

**MOYERS:** But, of course, this is what frightens many, many believers. They see science as uncertain, always tentative, always subject to revisionism. They see science as a complex, chilling, and enormous universe, ruled by chance and impersonal laws. They see science as dangerous.

**ASIMOV:** That is really the glory of science. That science is tentative, that it is not certain, that it is subject to change. What is really, in my way of thinking, disgraceful is to have a set of beliefs that you think is absolute and has been so from the start, and can't change. Where you simply won't listen to evidence. You say, "If the evidence agrees with me, it's not necessary. If it doesn't agree with me, it's false."

This is the legendary remark of Omar when they captured Alexandria and asked what to do with the library. He said, if the books agree with the Koran, they are not necessary and may be burned. If they disagree with the Koran, they are pernicious and

must be burned.

Well, there are still these Omar-like thinkers, who think that all of knowledge will fit into one book called the Bible, and refuse to allow that there is even the conceivability of an error in there. That, to my way of thinking, is much more dangerous than a system of knowledge which is tentative and uncertain.

**MOYERS:** Do you see any room for reconciling the two world views, the religious, the Biblical view, the universe as God's drama, constantly interrupted and rewritten by divine intervention, and the universe as scientists hold it, always having to be subjected to the test of observation and experimentation? Is there any room for reconciling?

**ASIMOV:** Well, there is if people are reasonable about this. There are many scientists who are honestly religious. You can rattle off the names of them. Milliken was a truly religious man, Morley, of the Michelson and Morley experiment, was truly religious. There are hundreds of others who did great scientific work, good scientific work, and at the same time were religious.

But they did not mix their religion and science. In other words, they did not presume that if something they didn't understand took place in science they could dismiss it by saying, "Well, that's what God wants." Or at this point a miracle took place. No, no. They know that science is strictly a construct of the human mind working according to the laws of nature. And that religion is something that lies outside and may embrace science.

On the one hand, you know, if there were some need to arise evidence, scientific, confirmable evidence that God exists, then we'd have no choice, scientists would have no choice but to accept that fact. On the other hand, the fundamentalists don't admit the possibility of evidence, let us say, that would show that evolution exists, because any evidence you present, they will deny if it conflicts with the word of God, as they think it to be. So that the chances of compromise are only on one side. And therefore I doubt that it will take place.

**MOYERS:** If God is dead, everything is permitted. That's what scares them.

**ASIMOV:** Well, on the contrary. They assume that human beings have no feeling about what is right and wrong. Is the only reason you are virtuous because that's your ticket to heaven? Is the only reason you don't beat your children to death, because you don't want to go to hell? It seems to me that it's insulting to human beings to imply that only a system of rewards and punishments can keep you a decent human being. Isn't it conceivable a person wants to be a decent human being because that way he feels better? Because that way the world is better?

I would like to think—I don't believe that I'm ever going to heaven or hell. I think that when I die there will be nothingness. That's what I firmly believe. That does not mean that I have the impulse to go out and rob and steal and rape and everything else, because I don't fear punishment. For one thing, I fear worldly punishment. And for a second thing, I fear the punishment of my own conscience. I have a conscience. It doesn't depend on religion. And I think it's so with other people, too.

Besides, even in societies in which religion is very powerful, there's no shortage of crime and sin and misery and terrible things happening, despite heaven and hell. I mean, I imagine if you go down death row, bunch of murderers maybe are waiting for execution, ask them if they believe in God. They'll tell you yes.

**MOYERS:** Is there a morality in science?

**ASIMOV:** Oh, absolutely. There is a morality in science that is further advanced than anywhere else. If you can find a person in science—and it happens, scientists are only human—who has faked his results, who has lied as far as his findings are concerned, who is trying to steal the work of another, who has done something scientists consider unethical, his scientific reputation is ruined, his scientific life is over, there is no forgiveness.

**MOYERS:** Because the morality is?

**ASIMOV:** The morality is you report to the truth. And you do your best to disprove your own findings. And you do not utilize someone else's findings and report them as your own. In any other branch of human endeavor, in politics, in economics, in law, in

almost anything, people can commit crimes and still be heroes. Somehow, to my way of thinking, to my way of thinking, for instance, Col. North has done terrible things. Yet he's a hero and a patriot to some people.

And this goes in almost every field. Only science is excepted. You make a misstep in science and you're through, really through.

**MOYERS:** You love the field, don't you? You love science?

**ASIMOV:** Oh, I'm very fond of it. I think that it's amazing how many saints there have been among scientists.

I'll give you an example. In 1900, DeVries studied mutations. He found a patch of evening primrose of different types, and he studied how they inherited their characteristics. And he worked out the laws of genetics. Two other guys worked out the laws of genetics at the same time, a guy called Charles Carriuse, who was a German—DeVries was a Dutchman—and Eric Von Chermak, who was an Austrian. All three worked out the laws of genetics in 1900. All three looked through the literature, having done so just to see what had been done before. All three discovered that in 1867 Gregor Mendel had worked out the laws of genetics, and people hadn't paid any attention then. All three reported their findings as confirmation of what Mendel had found. Not one of the three attempted to say that it was original with him, once he discovered Mendel. And that's the sort of thing you just don't find outside of science.

**MOYERS:** Reporting to the truth.

**ASIMOV:** You know what it meant? It meant that two of them, Carriuse and Chermak, lived in obscurity, and DeVries is known because he also was the first to work out the theory of mutations. But as far as the discovering genetics is concerned, Mendel gets all the credit. And they knew at the time that this would happen, but they did it.

**MOYERS:** It is the truth that excites you. So what is the value of science fiction, for which you are justifiably universally known?

**ASIMOV:** Well, okay, let's look at literature as a whole. Fiction. Just any kind of fiction. I think that serious fiction, fiction where the writer feels he's accomplishing something besides simply amusing people—but there's nothing wrong with simply amusing people—but if he thinks that he's doing something besides simply amusing people, what he's doing is holding up a mirror to the human species. Making it possible for you to understand people better because you've read the novel, or story, maybe making it possible for you to understand yourself better. This is an important thing.

Now, science fiction uses a different, a different method for doing this. It works up an artificial society, one which doesn't exist, one which may possibly exist in the future, but not necessarily. And it portrays events against the background of this society. Well, it's amusing, it's interesting. But in the hope that this will give a new way of looking at people, and looking at yourself, that you will see yourself seen against the strange society in ways you couldn't possibly see yourself, seen against the present society.

I don't claim that I succeed in this. It seems to me that to do this properly takes a great man, you know. Takes a guy on the level of, well at least half of Shakespeare. And I don't come up there. But I try, and who knows, maybe once in a while I succeed a little bit, but I try. And that's why I write science fiction, because it's a way of writing fiction in a different style, and enables me to make points I can't make otherwise.

**MOYERS:** Someone said that one great advantage of science fiction is to introduce the reader to the idea of change. Of changes that may well be inevitable, but which are not conceivable to the reader.

**ASIMOV:** Well, I've said that myself at different times. The fact is that society is always changing, but the rate of change has been accelerating all through history. For a variety of reasons. One thing, change is cumulative. The very changes you make make it easier to make further changes.

It was only with the coming of the industrial revolution that the rate of change became fast enough to be visible in a single lifetime. So that people are suddenly aware that not only were things changing, but they would continue to change after they died. And that was when science fiction came into being, as opposed to fantasy and

adventure tales. Because people knew that they would die before they could see the changes, to what happened in the next century. So it'd be nice to imagine what they might be. And other people decided to make money that way.

Well, as time goes on, the rate of change still continues to accelerate, it becomes more and more important to adjust what you do today with the fact of change in the future. It's ridiculous to make your plans now on the assumption that things will continue as they are now. You'll have to assume that if something you're doing is going to reach fruition in ten years, that in those ten years changes may take place, and perhaps what you're doing will have no meaning then.

So that nowadays, futurism has become an important part of thinking in business, in economics, in politics, in military affairs. At any rate, science fiction is important because it fights the natural notion that people would have that somehow there's something about things the way they are right now which are permanent.

**MOYERS:** Use your imagination, which you do so often, in this way. If the next President asks you to draft his inaugural address, and said, "Dr. Asimov, make sure I say the one thing you think I must convince the American people that they should pay attention to." What would it be?

**ASIMOV:** Well, it would be this: That all the problems that we face now, that are really important for the life and death, are global problems. That they affect all of us alike. The ozone layer, if it disappears, disappears for all of us. Pollution in the ocean, in the atmosphere, in the ground water, is for all of us. The only way we can ameliorate these problems, solve them, prevent them from destroying us, is again a global solution. We can't expect that anything the United States alone does is going to affect the situation the world over. There's got to be cooperation among the nations of the world. International cooperation is absolutely essential, and if we can achieve that in the face of a danger deadlier than has ever faced humanity before, why one of the disadvantages we'll have is that automatically we will probably start spending less money on war and preparations for war, which will in turn be a beneficial cycle. Because we'll have more money for solving these problems we must solve.

**MOYERS:** What about, though, the one subject you've written so much about, the population explosion, you know, the fact that right now the population of the globe is over four billion. You've said that if it—

**ASIMOV:** It's over five billion.

**MOYERS:** Over five billion, yes. You've said if it continues at its 2% growth rate a year, it will be what in another—

**ASIMOV:** Well, actually, it's down to 1.6%, but with a higher population it's the same amount in actual numbers, 80 million a year. So that, oh, by the year 2000, it's going to be perhaps 6.5 billion.

**MOYERS:** That's just 12 years from now.

**ASIMOV:** Yes, it's going up very fast.

**MOYERS:** How many people do you think the earth is able to sustain?

**ASIMOV:** I don't think it's able to sustain the five billion in the long run. So that, I mean, right now, most of the world is living under appalling conditions. And we can't possibly improve the conditions of everyone. We can't raise the entire world to the average standard of living in the United States, because I don't think we have the resources and the ability to distribute well enough for that. We have condemned, right now as it is, most of the world to a miserable starvation-level of existence. And it will just get worse as the population continues to go up.

**MOYERS:** But you just can't say to a woman, "Don't have children."

**ASIMOV:** Well, you know, it's not so much that. It's so many people are saying, "Have children." There is such a pro-natalist attitude in the world. We celebrate Mother's Day so enthusiastically, we say, "May all your troubles be little ones," we celebrate additional children. I feel sometimes that if we'd only stop pushing for children, that somehow there'd be fewer of them.

**MOYERS:** Why did you say that the price of survival is the equality of women?

**ASIMOV:** Because if women have full ability to enter into all facets of the human

condition, if they can enter business, if they can enter religion, science, government, on an equal basis with men, they will be so busy that they won't feel it is necessary to have a great many children. As long as you have women under conditions where they don't feel any sense of value, no self-worth except as mothers, except as baby factories, they'll have a lot of children. Because that's the only way they can prove they're worth something.

In general, if you look through the world, the lower the status of women, the higher the birth rate. And the higher the birth rate, the lower the status of women. So then if you could somehow raise the status of women, I am certain the birth rate will fall drastically through the choice of the women themselves.

**MOYERS:** What do you see happening to the idea of dignity to human species if this population growth continues at its present rate?

**ASIMOV:** It's going to destroy it all. I use what I call my bathroom metaphor. If two people live in an apartment, and there are two bathrooms, then both have what I call freedom of the bathroom, go to the bathroom any time you want, and stay as long as you want to for whatever you need. And this to my way is ideal. And everyone believes in the freedom of the bathroom. It should be right there in the Constitution. But if you have 20 people in the apartment and two bathrooms, no matter how much every person believes in freedom of the bathroom, there is no such thing. You have to set up, you have to set up times for each person, you have to bang at the door, aren't you through yet, and so on.

And in the same way, democracy cannot survive overpopulation. Human dignity cannot survive it. Convenience and decency cannot survive it. As you put more and more people onto the world, the value of life not only declines, but it disappears. It doesn't matter if someone dies.

**MOYERS:** Of course so many people say the United States is bringing its population under control. And we're going to have a stable population, we're not even reproducing ourselves. And what the rest of the world does we can't control.

**ASIMOV:** The population of the United States is still going up. The only time it went up really slowly was during the Great Depression when there were no laws sort of lowering the birth rate. There was just an economic depression, which made people think twice before they had children.

But the United States is doing something else, which is absolutely refusing to help other nations control population. So that our feeling is somehow that it's enough for us to somehow make sure that the United States is in good shape, and what other nations do is their business. It's not their business, it's our business, too.

**MOYERS:** In other words, we can't exist as a stable economy when around us is turmoil, chaos?

**ASIMOV:** Absolutely not. Right now in many nations they're just destroying the rain forests because they need the firewood, they need the space for farms.

**MOYERS:** Why should I care about that?

**ASIMOV:** Because without the rain forests, we're going to have deserts instead. The food supply will dwindle. As a matter of fact, there's even the possibility that we're going to lose all kinds of valuable substances we know nothing about. Those rain forests have an incredible number of species of plants and animals that we know very little about. Some of them may produce chemicals of great importance pharmacologically, and medically. Some of the plants might if properly cultivated be new food sources. And in addition to that, nothing produces the oxygen of the atmosphere with the same intensity that a forest does. Anything that substitutes for it will be producing less oxygen. We're going to be destroying our atmosphere, too.

**MOYERS:** You're how old now?

**ASIMOV:** Sixty-eight.

**MOYERS:** You've lived through a lot of this century. Have you ever seen human beings think with the perspective you're calling on them to think now?

**ASIMOV:** Well, it's perhaps not important that every human being thinks so. How about the leaders thinking so? How about the opinion-makers thinking so? Ordinary people

might follow them. If we didn't have leaders who are thinking in exactly the opposite way; if we didn't have people who are shouting hatred and suspicion of foreigners, if we didn't have people who are shouting that it's more important to be unfriendly than to be friendly; if we didn't have people shouting somehow that people inside the country who don't look exactly the way the rest of us look, that something's wrong with them. Again, again, it's almost not necessary for us to do good. It's only necessary for us to stop doing evil, for goodness sakes.

**MOYERS:** [voice-over] From the Great Hall at Cooper Union in New York City, this has been a conversation with Isaac Asimov. I'm Bill Moyers.

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