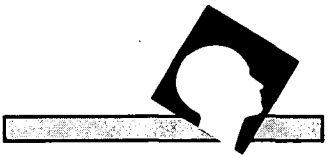
A Celebration of Isaac Asimov

A Man for the Universe

KENDRICK FRAZIER



Isaac Asimov's death on April 6 was a loss to the world. We here celebrate his life and works. Your editor begins with a personal overview. Interspersed, we present invited reminiscences from Arthur C. Clarke, Frederik Pohl, Harlan Ellison, L. Sprague de Camp, Carl Sagan, Stephen Jay Gould, Martin Gardner, Paul Kurtz, Donald Goldsmith, James Randi, and E. C. Krupp.

Isaac Asimov was the master science educator of our time, and perhaps of all time.

Fame came to him early for his science fiction. To me his *I, Robot* (a collection of related stories), not the more renowned *Foundation* series, was his most memorable fiction, just ahead of such works as *The Martian Way, The Stars, Like Dust,* and the *The Gods Themselves.*

But it was his science fact, particularly his science essays, that taught millions of people science. They turned me on to science as no science teacher ever did. In my freshman year in college I was a physics major, but I suffered a rude shock: the professors didn't make physics clear and interesting the way Asimov did. Suddenly it was a confusing hodgepodge of formulas and complex terms—not the orderly historical progression of people and related concepts that all science was with Asimov. Asimov had spoiled me! I hadn't expected this. For my interests, needs, and tastes, Asimov's approach was better, and to this day I still think the historical, cultural approach to teaching science has the most merit for many kinds of students.

Anyway I soon found myself a fledgling science writer rather than a would-be scientist. I took some comfort from the fact that Asimov, believing he'd probably not make a first-rate laboratory chemist, had taken the same path, except that he had a Ph.D. in chemistry. Sometime in those formative college years, about 1961, I wrote him. I asked if I should get

Drawing by Mark Hanover

a degree in science first before going into science journalism. I was astonished and joyous when I immediately got a card back signed "Isaac Asimov," saying yes, I should. I didn't take his advice.

But I did continue to read and learn from him. *The Intelligent Man's Guide to Science*, first published in 1960, was his systematic effort to cover all fields of the physical and biological sciences in one readable volume. It was exceedingly popular and became the model for writing about science for the "intelligent layman." Here his phenomenal breadth of knowledge, easy grasp of complex subject matter, and ability and determination to write directly, clearly, and simply for the nonscientist shone like a brilliant beacon. In three revised editions over nearly three decades, the book kept up with the rapid advance of science. Its title also evolved, regrettably losing the direct appeal to lay intelligence but thankfully dropping the unconscious sexist bias, and the current edition (all 940 pages) is titled simply *Asimov's New Guide to Science*.

His 941-page *Asimov's Biographical Encyclopedia of Science and Technology*, now in a second revised edition, sketches the lives and achievements of 1,510 great scientists from antiquity to modern times. It's not just highly readable—that's an Asimov trademark—but he arranged it chronologically, not alphabetically nor by subject, so that a careful reader can get a sense of the historical flow of ideas. Asimov believed that telling the history of science through the scientific contributions of the people who made it "stress[es] the fact that scientific knowledge is the painfully gathered product of thousands of wonderful, but fallible, human minds."

My favorite Asimov writings were his monthly science essays published in the *Magazine of Fantasy and Science Fiction*. They have appeared for 33 years. Only occasionally did I find the magazine itself, but about every 18 months a new collection of the essays was published as a Doubleday book, and I eagerly awaited each new one. The twenty-fifth book in this series, *Out of the Everywhere*, was published in April as a Pinnacle paperback. Just a few of the other ones: *Fact and Fancy* (the first), *The Left Hand of the Electron*, *The Stars in Their Courses*, *The Planet That Wasn't*, *Quasar*, *Quasar Burning Bright*, *X Stands for Unknown*, *Far As Human Eye Could See*, and *The Relativity of Wrong*. (The last book's title essay was published in the Fall 1989 SKEPTICAL INQUIRER, and his "Asimov's Corollary," about fringe-science, was published in our Spring 1979 issue; Isaac always cheerfully granted me permission to reprint any of these essays.)

To this day I'd recommend any of these books as one of the best ways for someone interested in science to begin to learn about it in some historical depth. His 1979 F&SF anthology, *The Road to Infinity*, contained his annotated listing of the first 244 of these essays.

I loved the way he started each essay with a personal anecdote. Here his wit and humor, his jokes about his ego and intellect, the esteem he accorded a desire to learn, his masterful put-downs of those who *willfully* demonstrated ignorance about science, his cheerful embrace of the values of reason and rationality, all came through in entertaining style. It was the "Good Doctor" in a quiet conversation with the "Gentle Reader." Then he'd cleverly segue to the subject matter at hand, whatever it might be, always beginning at the beginning, with a historical approach. He was an innate story teller, and a very orderly one. Unlike textbooks, here too he told of the people who

did science and the way the concepts developed and built upon one another over time. What a wonderful way to teach! And to be taught!

These essays were more than just expositions. Like good science fiction, they were filled with provocative ideas. An example is the title essay in *The Tragedy of the Moon.* The tragedy Asimov refers to is that early people, by seeing that the moon goes around the earth (as the sun, planets, and stars also *appear* to), were led by their senses to believe that we are the center of the universe, an anthropocentrism whose effects remain to this day. What if, he asked, Venus had had a moon of the same relative size? Such a moon could have been visible to the eye from the earth, and people would have had a clear example of another heavenly body besides the earth having something revolving around it. The history of human thought and culture might have been noticeably different. Balancing this "tragedy of the moon" is "The Triumph of the Moon." In this companion essay, Asimov considered how life itself may owe a seminal debt to the moon; shallow tide pools, whose ebbs and flows are caused mainly by lunar tides, may have served as the place of molecular self-assembly that resulted in the first life-forms on earth. Perhaps a large moon is necessary for life on a planet to take hold.

Asimov did not like to travel, and seldom did so, preferring instead to roam about the universe in his imagination, and not coincidentally to keep at the typewriter (and only much later the word processor) day and night. Nevertheless, he was an outgoing, ebullient man, with a razor wit and world-class sense of humor (yes, he wrote books of limericks and books about humor). The first time I ever saw him was at a science-fiction convention in Washington. There he

Arthur C. Clarke

Many years ago, when introducing Isaac Asimov to a Mensa Society meeting in London, I said, "Ladies and gentlemen, there is only one Isaac Asimov." Now there is no Isaac Asimov, and the world is a much poorer place.

Isaac must have been one of the greatest educators who ever lived, with his almost half a thousand books on virtually every aspect of science and culture. His country has lost him at its moment of direst need, for he was a powerful force against the evils that seem about to overwhelm it (and much of Western society). He stood for knowledge against superstition, tolerance against bigotry, kindness against cruelty—above all, peace against war. His was one of the most effective voices against the "New Age" nitwits and fundamentalist fanatics who may now be a greater menace than the paper bear of communism ever was.

Isaac's fiction was as important as his nonfiction, because it spread the same ideas on an even wider scale. He virtually invented the science of robotics—and named it before it was born. Without preaching, he showed that knowledge was better than ignorance and that there were other defenses against violence than violence itself.

Finally, and not least, he was great fun. He will be sorely missed by thousands of friends and millions of admirers.

and Harlan Ellison were going at it from opposite ends of a giant, standing-room-only ballroom in what I can only describe as an insult-hurling contest. The game was to see who could get the best of the other with the wittiest and most penetrating barbs. Harlan, who is very, very good at this, had here met his match. It was all great fun.

It was always amusing to witness the banter between Asimov and his good friend Arthur C. Clarke. They constantly teased each other in print over who was the better science-fiction writer and the better science-fact writer. Finally, they came to an equitable agreement. It was known as the Clarke-Asimov Treaty. As a result, Clarke's nonfiction book *Report on Planet Three* contained this dedication: "In accordance with the terms of the Clarke-Asimov Treaty, the second-best science writer dedicates this book to the second-best science-fiction writer.

Clarke introduced Asimov at a conference in 1974 as a four-typewriter threat, "the only man who can type separate books simultaneously with his two feet as well as his two hands." He calculated that Asimov to that point had been responsible for deforestation amounting to "5.7 times ten to the sixteenth micro-hectares. . . . All those beautiful trees, turned into Asimov books." Asimov responded that Clarke's introduction was the very worst kind—long and clever—and intentionally so. And he told his audience Clarke was the kind of man who, upon receiving a 75-page crank letter in an indecipherable hand-written scrawl on onion-skin paper purporting to explain the entire universe, would reply saying he couldn't give the theory the attention it deserved "but my friend Isaac Asimov is interested in just this sort of thing" and give Asimov's address. (This whole amusing exchange appears in Clarke's *The View from Serendip*, and my thanks to Arthur Clarke for reminding me of it.)

Clarke also thought our readers might enjoy this limerick that Asimov wrote on a paper napkin and gave to him (he still has it) at a science-fiction publisher's dinner in New York in 1977:

> Old Arthur C. Clarke of Sri Lanka
> Now sits in the sun sipping Sanka
> Enjoying his ease
> Excepting when he's
> Receiving pleased notes from his banker.

When CSICOP was founded by Paul Kurtz in 1976, Asimov was one of the original founding Fellows. Even with such luminaries as Martin Gardner, James Randi, Carl Sagan, and B. F. Skinner as Fellows as well, he was perhaps the most famous. I came on board the next year as editor and soon thereafter wrote Asimov asking him to be a SKEPTICAL INQUIRER consulting editor. He readily agreed. The next year I met him for the first time when he dropped in on a meeting of the CSICOP Executive Council in a midtown Manhattan hotel. For a man thought to have such a formidable ego, his first words to me were unexpected: "Oh, you're my editor!" This was a joke, of course, for no writer ever less needed an editor, much less me, but I have never forgotten that gentle kindness.

Asimov mostly listened that morning (another attribute one would have been led to believe was uncharacteristic). In chitchat afterward about creationism, he quickly caught a mortal flaw in a typical creationist argument against evolution. "The earth isn't a closed system!" he exclaimed with an exasperated laugh. "The sun provides energy from the outside. Nothing about evolution

Frederik Pohl

Isaac was part of my life for more than half a century. Sometimes we worked together. I was his literary agent for a while, now and then his editor. We did some writing together, too—a couple of short stories long ago, and then *Our Angry Earth* just last year—but most of my memories of Isaac are not of our professional relationship but of moments we shared. I remember huddling with him over a television set in a Boston hotel room when the first pictures of the surface of Mars were coming in, and the way he looked up at me indignantly and said, "Craters? How come neither of us thought of *craters* on Mars?" I remember a Caribbean cruise to watch the nighttime launch of Apollo 17, when I turned around just after lift-off and saw Isaac illuminated in that giant sunburst Saturn-5 rocket flare with Bob Heinlein and Ted Sturgeon beside him; I wished I had had the intelligence to take along a camera so I could photograph those faces shining in that wonderful light. And I remember the Futurian days, when all of us wanted so badly to get published. In those poverty-stricken Depression times Isaac was not only a friend, he was a valuable economic asset, because when the thirst struck and the bankroll was flat I could always walk across Prospect Park to where his parents had their candy store and get a free chocolate malted from his mother. Of course there are plenty of more substantial reasons to remember Isaac—all those books, all those wonderful accomplishments—but those are some of the ones that are my own.

Isaac knew he was dying, and calmly and courageously let us know it, too. But, even though I was forewarned, when CBS woke me that Monday morning with the word that he was gone it still hurt. There has never been anyone else like him, and I don't think there ever will be again.

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violates the laws of thermodynamics."

In 1983 Asimov put together a collection of essays for Prometheus Books titled *The Roving Mind.* The essays covered a wide variety of topics that included fringe science, technology, the future, and social issues involving science. His dedication read:

> To the good people of the
> Committee for the Scientific
> Investigation of Claims of the
> Paranormal,
> an island of sanity in a sea of
> nonsense

One of my disappointments is that CSICOP never held one of its big annual conferences in New York City so that we might have had Isaac as our keynote speaker—what an attraction that would have been!—and awarded him our "In Praise of Reason" Award. He richly deserved it.

When we celebrated the tenth anniversary of the SKEPTICAL INQUIRER in 1986, Asimov contributed an original essay. It was titled "The Perennial Fringe." While it granted the ready appeal of comforting pseudoscience ("a thumb to suck, a skirt to hold") in comparison with uncertain science, it ended with a ringing appeal

that, where matters of state and democracy are concerned, we never let the forces of unreason prevail. "We must fight any attempt on the part of the fringers and irrationalists to call to their side the force of the state. . . . That we must fight to the death" (See *SI*, Spring 1986, reprinted in the *SI* anthology *The Hundredth Monkey and Other Paradigms of the Paranormal*, Prometheus Books, 1991.)

Fifteen years ago, Asimov took time out from his other works to write his autobiography. He finished it on New Year's Eve, 1977; it and a coronary had cut into his productivity somewhat: in his annual end-of-year stocktakings he noted that in 1977 he had published only ten books (!), the fewest in seven years; and in 1978, seven. The autobiography turned out to be 640,000 words long, and his editor said it would have to be published in two volumes. He playfully protested that William Shirer's *Rise and Fall of the Third Reich* was 650,000 words long, "according to my careful word count, and *that*'s in one volume," but to no avail. The first volume (1920–1953) became *In Memory Yet Green;* the second (1954–1978), *In Joy Still Felt.* Drawing upon daily diaries he assiduously kept and strictly chronological (that sense of order again), it's as highly readable as all his other writings and is filled with information and delightful stories from his daily life.

Asimov ended the 806th and final page of *In Joy Still Felt* with the now-poignant words, "To Be Continued, Eventually." A few pages earlier he wrote: "It is my intention, if I live to the end of the century or thereabouts, to do a third and (I suppose) final volume to be called *The Scenes from a Life.* . . . However, the vicissitudes of life are uncertain, and I may not get the chance to do that third volume. . . ." *In Joy Still Felt*, published in 1980, was Asimov book number 215. It's astonishing to realize that in his final 12 years of life he would more than match that total output. By the time of his death, early in the morning on April 6, 1992, the number of Asimov books had long since passed 460 and was quickly rising toward 500. His was a prodigious and glorious body of work, and in combination of magnitude, substance, breadth, and diversity, it is likely never to be equaled.

Isaac Asimov would countenance no illusions about the finality of death. Yet through his works and in the lives of those he affected, he will live on, forever. He, perhaps more so than any other person in history, truly is a man of, and for, the universe.

"Science does not promise absolute truth, nor does it consider that such a thing necessarily exists. Science does not even promise that everything in the Universe is amenable to the scientific process."

—Isaac Asimov, Introduction to *'X' Stands for Unknown*

Harlan Ellison

Everything Isaac stood for, everything he tried to teach us, prevents me from eulogizing him by way of suggesting He Has Gone to a Better Place. I'd really like to; but he won't permit it.

In the 1984 collection of his science essays, *X Stands for Unknown,* Isaac wrote: "There seems to be a vague notion that something omniscient and omnipotent *must* exist. If it can be shown that scientists are not all-knowing and all-powerful, then that must be the proof that something else that *is* omniscient and omnipotent *does* exist. In other words: Since scientists can't synthesize sucrose, God exists.

"Well, God may exist; I won't argue the point here—"

And a year earlier, in *The Roving Mind,* he began an essay on "faith" titled "Don't You Believe?" like this:

"One of the curses of being a well-known science-fiction writer is that unsophisticated people assume you to be soft in the head. They come to you for refuge from a hard and skeptical world.

"Don't you believe in flying saucers? they ask me. Don't you believe in telepathy?—in ancient astronauts?—in the Bermuda Triangle?—in life after death?

"No, I reply. No, no, no, no, and again no."

How dare I, then, dishonor all that he was about, publicly and privately, in print and in person, for 54 years, by suggesting that at last Isaac will be able to get firsthand answers to the questions that drove him crazy throughout most of his life, from Darwin and Roentgen and Einstein and Galileo and Faraday and Tesla . . . just sitting around, shooting the breeze with the guys, as Archimedes mixes the drinks.

As it was for all of us who needed a question answered, who called Isaac at all hours of the day or night, who drowned him in requests for answers to conundrums, so it will now be for Isaac, chasing down Cervantes and Willy Shakespeare and Jesus, buttonholing them for the answers to the maybe six or seven things in the universe he didn't know. Such little fantasies might make it easier to live with his death, but it would only be balm for those of us who listened to Isaac for decades but reverted to superstition when the bullets whistled past our ears.

Gone is gone, and with the passing of Isaac, who loved us deeply enough to chivvy us toward smartness with a relentless passion, the universe has shrunk more than a little. He is gone and, as I write these words less than twelve hours later, there is no more crying left in me. Those of us who were so dear to his heart, well, we've known for many months he wouldn't be with us much longer; and we've had time to wring ourselves out. And yet there is no end to the sense of helplessness and loss.

Isaac was as much a part of the journals that decry paralogical thinking as paper and ink; and though gone, he remains with us. As he remains with the uncounted thousands of young people who read his essays and stories and went into careers of scientific inquiry, who understood the physical universe because he made it graspable, who became better able to handle their lives because he refused to allow them to accept dogma and bigotry and mendacity in place of common sense and logic.

For all of you who mourn him in your own way, the most I have to offer is this one last anecdote of how he viewed himself and his imminent passage:

His wife, Dr. Janet Jeppson, was with him at the end, of course, and his daughter, Robyn. Janet told me, the day before he died, that toward the end Isaac had trouble speaking, could only manage a word or two from time to time. He would say *I love you* to Janet, and he would smile. But every once in a while he would murmur, "I want . . ." and never finish the sentence. "I want. . . ."

And Janet would try to perceive what he needed, and she would say, "A drink of water?" or "Something to eat?" And Isaac would look dismayed, annoyed, chagrined that he couldn't put the sentence together; and after a moment he would let it slide, and forget he had spoken. Until the time came on the Sunday before he went back into the hospital for the last visit, when he managed to say, very clearly . . .

"I want . . . I want . . . Isaac Asimov."

And Janet told him he *was* Isaac Asimov, that he had *always* been Isaac Asimov. But he looked troubled. That wasn't what he meant. Then Janet remembered that Isaac had told her, some time ago, before he began to slip into abstraction and silence, that if there ever came a time when he didn't know who he was, if there came a time when his mind was not sharp, that he wanted to be let go to sleep quietly, that extraordinary measures should not be taken.

And Janet understood that he was saying that he wanted to *be* Isaac Asimov again.

Then, in that final week before 2:30 A.M. New York time on Monday, April 6, he was holding Janet's hand, and he looked up at her and said, very clearly, the last he would ever say, "I *am* Isaac Asimov."

Yes, he was. Yes, indeed, he was.

"Science is a *process*. It is a way of thinking, a manner of approaching and of possibly resolving problems, a route by which one can produce order and sense out of disorganized and chaotic observations. Through it we achieve useful conclusions and results that are compelling and upon which there is a tendency to agree."

—Isaac Asimov, Introduction to
'X' Stands for Unknown

L. Sprague de Camp

I first met Isaac Asimov on May 7, 1939, at the Queens Science Fiction League. When introduced, Isaac stood up and said: "Now you see the world's worst science-fiction writer!"

For years he made such wildly self-deprecating remarks. Willy Ley and I once chided him about it, whereupon he said: "But if I don't, people will think I'm conceited!"

Willy and I told him that he could avoid such a fate by simply not talking about himself. The advice had little visible effect, since the 19-year-old Isaac was an irrepressible extrovert, voluble, impulsive, and expansive.

Over the next two years, I ran into Isaac at science-fiction gatherings. On June 28, 1941, he came to Catherine's and my apartment on Riverside Drive for dinner. In his first autobiographical volume, *In Memory Yet Green,* Isaac wrote: "It was the first time I had ever been asked to visit the home of an established science-fiction writer. It was a matter of great excitement for me." Later he told someone that the reason he had such a soft spot for the de Camps was that we were the first gentiles to treat him as a social equal.

On a later dinner visit, I offered Isaac a highball. Just a little one, he said; so I poured him an ounce of rye whiskey and added a mixer. Isaac drank the dose but soon became oddly flushed and mottled. He politely took his leave but did not dare go home in what he thought was a tipsy state. He rode the subway from one end of the line to the other, making three round trips before returning home. Actually he was not intoxicated; he later learned that he had an allergy to alcohol, which kept him a virtual teetotaler all his life.

The war news was discouraging at that time. Hitler had suddenly attacked the Soviet Union along the border established when the two powers had partitioned Poland in 1939. For a month, the Nazis made huge gains and took millions of Russian prisoners. Isaac remarked that, the ways things were going, he could look forward only to an early death. Asked why, he said: "Because I'm a Jew."

Actually he was not an observant and had no supernatural beliefs; but Nazis made no such distinction.

Since Isaac became much more productive and widely read than I, the honor of that first dinner's entertainment should go to him rather than to the de Camps.

In December 1941 came Pearl Harbor. Robert Heinlein had kept in touch with an Annapolis classmate, A. B. Scoles (then a lieutenant commander), who had been appointed director of the Materials Laboratory of the Naval Air Experimental Station of the Philadelphia Naval Base. Aware of Robert Heinlein's writing career, Scoles thought: Why not get a few of these fellows with technical backgrounds, who have been writing glibly about death rays and space ships, to go to work here and show what they can do?

So Heinlein went to work at the Materials Laboratory as a civilian engineer (the Navy refused to put him back in uniform because of his medical history), and I joined him when when I finished my naval training as a lieutenant, USNR. Scoles also persuaded Isaac, then a graduate student at Columbia, to come to Philadelphia as a civilian chemist.

For three and a half years, Heinlein,

Asimov, and I navigated desks and fought the war with flashing slide rules. Soon after the war, the now-defunct *Philadelphia Record* ran a feature article headed "Stranger Than Fiction." The piece derisively narrated how the Navy had hired three "mad scientists" (that is, science-fiction writers) to invent super-weapons, none of which worked. There was practically not a word of truth in the article. Asimov's name was misspelled; I was wrongly identified as a University of California graduate and an "expert aerodynamicist," and so on. Asimov and I wrote angry letters, but it took a threatening call from a lawyer to make the paper backtrack.

Actually, we three were assigned to separate sections and did not work together; and there was little or no mad-scientist element in our work. I tested things like hydraulic valves for Naval aircraft, trim-tab controls, and windshield de-icers. Asimov performed the chemical jobs assigned to him. Heinlein's work was so secret that I still do not know what he did.

Our contacts thereafter were episodic: meetings at conventions; Catherine's and my occasional visits to Boston; and intermittent correspondence. In 1950, while we were living in Wallingford, Pennsylvania, Isaac visited us when he came from New York for a meeting of the American Chemical Society. I was struggling with the plot of my novel *The Glory That Was*. I appealed to Isaac, who made some sound suggestions. Since the story has been reprinted several times, including a recent new edition, the book proved a fair success, for which Isaac merits part of the credit.

Years later, when Isaac had moved back to New York, I got him into the Trap Door Spiders, the all-male eating, drinking, and arguing society formed by Fletcher Pratt in 1944. Isaac remained the club's most distinguished ornament down to his death.

I considered Isaac Asimov one of my oldest, closest, and most beloved friends, although geographical separation kept us from seeing each other much more often than the monthly meetings of the Trap Door Spiders. This friendship endured despite differences of background, age, and temperament. In his youth, Isaac was noisy, brash, impulsive, and intensely emotional. As he explains in his autobiography, he could not resist the urge to show off, express opinions, make jokes, and "crack wise," even when he knew such acts to be contraproductive. I was more reserved, solitary, and introverted, although I forced myself to learn to do active things like riding and sailing. Isaac became more and more involved in his writing to the exclusion of all else. I have traveled the world; he disliked travel, avoided airplanes, and in recent decades refused to stir far from his typewriter.

My lifelong friendship with Isaac is one of my most precious memories. Of all the people I have known, I rate Isaac as the most intelligent. Added to this brilliance of mind was *character*, his utter, transparent integrity, which compelled him to do what he thought right, even at his own sacrifice. If, a century hence, someone writes about the two of us, I shall be honored to be briefly mentioned as "a friend of Isaac Asimov."

Carl Sagan

Isaac Asimov was one of the great explainers of the age. Like T. H. Huxley, he was motivated by profoundly democratic impulses to communicate science to the public. "Science is too important," he said, paraphrasing Clemenceau, "to be left to the scientists." It will never be known how many practicing scientists today, in how many countries, owe their initial inspiration to a book, article, or short story by Isaac Asimov—nor how many ordinary citizens are sympathetic to the scientific enterprise from the same cause. For example, Marvin Minsky of MIT, one of the pioneers of artificial intelligence, was brought to his subject by Asimov's robot stories (initially conceived to illustrate human/robot partnerships and to counter the prevailing notion, going back to *Frankenstein,* of robots as necessarily malign). At a time when science fiction was mainly devoted to action and adventure, Asimov introduced puzzle-solving schemes that taught science and thinking along the way.

A number of his phrases and ideas have insinuated themselves into the culture of science—for example, his spare description of the solar system as "four planets plus debris" and his notion of one day carrying icebergs from the rings of Saturn to the arid wastelands of Mars. He wrote many science books for young people, and as editor of his own science-fiction magazine he made efforts to encourage young writers.

His output was prodigious, approaching 500 volumes, always in his characteristic straightforward, plain-speaking syntax. Part of the reason his *Foundation* series on the decline of a galactic empire worked so well is that it was based on a close reading of Gibbon's *Decline and Fall of the Roman Empire:* A principal theme was the effort to keep science alive as the Dark Ages rolled in.

Asimov spoke out in favor of science and reason and against pseudoscience and superstition. He was not afraid to criticize the U.S. government and was deeply committed to stabilizing world population growth.

The microscopic probe he described in his novel *Fantastic Voyage*—which could enter the human bloodstream and repair tissue damage—was, sadly, not yet available at the time of his death. As someone born in grinding poverty, and with a lifelong passion to write and explain, Asimov by his own standards led a successful and happy life. In one of his last books he wrote: "My life has just about run its course and I don't really expect to live much longer." However, he went on, his love for his wife, the psychiatrist Janet Jeppson, and hers for him, sustained him. "It's been a good life, and I am satisfied with it. So please don't worry about me."

I don't. Instead, I worry about the rest of us, with no Isaac Asimov around to inspire the young to learning and to science.

Stephen Jay Gould

My first contact with Isaac Asimov was daunting. I picked up the phone one day, and a voice bellowed: "Gould, this is Isaac Asimov. I hate you."

"Oh," I replied with astonishing lack of originality, "why so?"

"I hate you because you write so well," he said.

So I replied, "And if I had written 400 books instead of 10, I wouldn't be paying such rapt attention to stylistic nuances either."

We both laughed and became good friends. Isaac was the best (and most copious) there has ever been—ever throughout history—in the presentation of science. Only Galileo and Huxley (maybe Medawar in our generation) matched his clarity, his verve, his dedication, and, above all, his moral sense of the rightness and power of knowledge.

Martin Gardner

Knowing Isaac Asimov was one of my life's great benedictions. I can vividly recall our first meeting. Isaac had been reading my *Scientific American* columns, and he wanted to know what sort of formal training I had in mathematics. When I told him I had none, that I merely read what the real mathematicians were saying and then tried to dish it out in entertaining ways, he slapped his forehead. "You mean," he exclaimed, "that you are working the same racket I am?"

Isaac liked to pretend he was an egotist, but when he talked about his obviously high intelligence it was always in such amusing ways that it annoyed no one. When Isaac was about to be given an anesthetic before an operation, recalled Andy Rooney in a fine tribute to his "lovable" and "unlikely" friend, he said to the doctor, "I hope you understand this is not an average brain you're about to put to sleep." He even had a business card that said under his name, "Natural Resource." Unlike the truly conceited, Isaac never indulged in false modesty.

No modern writer has done more, or is likely to do more, to introduce people of all ages to the wonders of science and to combat the scientific illiteracy that increases every year. It has seeped into Congress. It even invaded the White House when it was occupied by the Reagans. Something is radically wrong with a nation willing to issue a stamp honoring the forgettable hound dog and drug addict Elvis Presley. Let us hope that someday our post office will have enough sense to devote a commemorative stamp to Isaac Asimov, an authentic national treasure.

Paul Kurtz

Isaac Asimov affected all who knew him. This was not only because of his writing virtuosity, which he accomplished with elegance and ease, but because of the incisive mind and brilliant wit that he displayed in personal encounters.

My first contact with Isaac was about 20 years ago when I asked him to join the humanist movement. Later, when we founded CSICOP (in 1976), I asked him if he would join our efforts, and his response was immediate and affirmative. He remained a strong supporter of the SKEPTICAL INQUIRER and invariably responded generously to our financial appeals. He and I did a joint radio call-in interview show in New York City several years ago, and he was extremely forthright in his skepticism. I was amused by his comment that, when he spun out his tales of science fiction, which sometimes included things like ESP, he "never imagined people would *believe* that crap."

Isaac was a strong atheist. He gladly endorsed the Secular Humanist Declaration, which I drafted in 1980. Later he was elected a Humanist Laureate of the Academy of Humanism. When I visited him in his apartment to interview him for an article in 1982, he said that, although all too many skeptical atheists stay in the closet because they think their views are not socially respectable, he was going to express his own religious skepticism forcefully. Thus he made clear that he did not believe in God or the immortality of the soul, and that he thought that the Bible was full of contradictions and factual errors.

I was pleased that Prometheus Books was able to publish five books by Isaac. All the manuscripts arrived in near-perfect form, needing very little editing. He was not only a master of the language, but a fierce defender of reason and science.

I wish that Isaac had been able to participate in a national CSICOP conference; but, as is well known, he was fearful of flying. We were planning to build a CSICOP conference around him in New York City and regret that he died before we could. The skeptical movement has lost a powerful spokesman.

Donald Goldsmith

My acquaintance with Isaac Asimov arose from the 1974 AAAS symposium on Immanuel Velikovsky, which I helped to organize. Isaac then contributed the foreword to *Scientists Confront Velikovsky,* the book that grew out of that symposium, which I edited. During the final stages of preparing the manscripts for publication, as I awaited Isaac's comments on my editing, he suffered a heart attack. Any other writer would have let so small a matter as this foreword—in a book edited by an unknown—quite naturally wait for his recovery, but Isaac sent me a handwritten note stating, "I have annoyed everyone by having a coronary and being committed to a hospital. Under the circumstances, I'll go along with any changes you wish made." Only Isaac Asimov could combine such generosity and organization with an ability to work on ten projects at once. We shall not see his like again.

James Randi

I was once long ago invited to a meeting of the Trap Door Spiders, an informal group of science-fiction and mystery writers in the New York area who gathered regularly for an evening of fine food and drink, always at the home of a member. It was the custom that one visiting guest was permitted to attend, with the strict requirement that he had to, on that occasion, provide the others with a good reason for his continued existence. (The all-male Spiders held these affairs in the absence of their wives.) Apparently I was able to make an adequate case for being permitted to live on, and thus I first met Isaac Asimov, in the company of John Dickson Carr, George O. Smith, Lester Del Rey, Frederik Pohl, and other literary luminaries.

Isaac's formidable sideburns seldom stopped moving as he competed with others in improving their mutual knowledge of the world. He was, I quickly discovered, an authority on everything.

As I've always said about Isaac, he had an enormously developed ego, but he had every right to it. Although his name is now well known around the world, I was informed by my editor friend Clayton Rawson that there was a period in the early days when Isaac suffered the indignity of having his name incorrectly spelled. At the time that he was submitting his first stories to editors in New York, Rawson and his colleague Lester Del Rey played a joke on him by mailing him an edited version of one of his short stories with the author's name as "Asaac Isimoff." Isaac in those days had the reputation of not spending his money needlessly, but this affront brought about a rare person-to-person long-distance phone call from the alarmed author to Rawson's New York office, much to the amusement of all—except possibly the author himself.

Aware of this classic situation, I found myself one evening appearing on an early New York television program along with a number of other people, among them Isaac. Fiend that I am, I changed his name on the dressing-room list to Asaac Isimoff, and removed mine. Seated at the mirror prettying up for my appearance, I soon heard a mighty roar echoing about the stairways of the studio. "There's a damn magician on this show somewhere, and I want his heart!" bellowed the itinerant genius as he confronted this impertinence. I barely survived his wrath.

Perhaps Isaac Asimov established some sort of record for leaving his thoughts behind him, in the multitude of books, essays, stories, and manuscripts that he created. Every subject from the Sun to the Bible came under his examination and was the better for it. His interaction with my life certainly served me well, and I remember him as a delightful, brilliant, and kindly man who never refused me a favor and who added to my enjoyment of, and dedication to, science.

The man never believed in survival after death or in any of the metaphysical claptrap with which he was regularly confronted by the nut fringe. Paradoxically, he had a lifelong fear of flying in an airplane yet wrote of heroes who traveled at light-speed-plus. But, for all we know, dear Isaac may now be out there among the planets and stars, characteristically chasing after some particularly interesting comet as the possible subject for his next book. If the galaxies have secrets, they may now prepare to surrender them to his scrutiny.

E. C. Krupp

I never got to meet Isaac Asimov. I know him from his books. There is a line of 22 mass-market paperbacks under his byline parading on one of the shelves in my office at Griffith Observatory. (Of course, that does not count the science fiction I have at home.) That is a small fraction of his total output, but 22 titles by one author is a respectable showing on any shelf. I am particularly fond of *The Stars in Their Courses.* It contains classic Asimov—"Worlds in Confusion." In it, Isaac discussed the physical implications of Velikovsky's pseudo-scientific ideas. Asimov's essay is a showpiece of popular science. Clarity, humor, logic, and anecdote—they are all there in spades. Some of his lines continue to lighten my heart:

> There is no belief, however foolish, that will not gather its faithful adherents who will defend it to the death.
>
> Gentle Reader, place all myths and legends of the human race at my disposal; give me leave to choose those which I want to use and allow me to make changes where necessary, and I will undertake to prove anything you wish proven.
>
> If I must choose between Immanuel Velikovsky and Cecil B. de Mille, give me de Mille, and quickly.

Thanks, Isaac, I, too, prefer de Mille.

"Do you suppose the general public supported Darwin and waxed enthusiastic about him and made him rich and renowned and denounced the establishment for persecuting him? You know they didn't. What support Darwin did get was from scientists. (The support any rational scientific heretic gets is from scientists, though usually from only a minority of them at first.)"

—Isaac Asimov, "Asimov's Corollary," from *Quasar, Quasar Burning Bright* (1978) and SKEPTICAL INQUIRER (Spring 1979)

Isaac Asimov on . . .

"I am not a prophet by trade: I merely write science fiction. However, . . . in May 1939, when I was but nineteen years old, I wrote a story I called 'Robbie.' It was about a robot of the year 1998. . . . It was clearly an electronic computer, but I had not bothered to foresee miniaturization. . . . (I never thought to call these brains 'computers' till the real thing came along.) I spoke, therefore, of 'positronic brains,' mentioning them first in a story called 'Reason,' which I wrote in November 1940. . . . I brought into existence a research establishment that designed positronic brains (computers, that is) and, in a story named 'Runaround,' written in October 1941, I named the science 'robotics.' Apparently, I was the first person in history to use that word, though I was not aware of that. I thought the word existed. It exists *now*, of course, and my often-repeated 'Three Laws of Robotics,' first explicitly stated in 'Runaround,' may well have helped bring the word into actual use."

—"I Am a Signpost,"
The Roving Mind
(pp. 331-332)

". . . One can appreciate and take pleasure in the achievements of science even though he does not himself have a bent for creative work in science. . . . Initiation into the magnificent world of science brings great esthetic satisfaction, inspiration to youth, fulfillment of the desire to know, and a deeper appreciation of the wonderful potentialities and achievements of the human mind."

—"What Is Science?"
Asimov's New Guide to Science (p. 15)

"My business and my *passion* (even in my fiction writing) is to explain. Partly it is the missionary instinct that makes me yearn to make my readers see and understand the universe as I see and understand it, so that they may enjoy it as I do. Partly, also, I do it because the effort to put things on paper clearly enough to make the reader understand, makes it possible for *me* to understand, too."

—Title essay of
The Left Hand of the Electron (p. 28)

ust About Everything

"Inspect every piece of pseudoscience and you will find a security blanket, a thumb to suck, a skirt to hold. What have we to offer in exchange? Uncertainty! Insecurity!"

—"The Perennial Fringe," SKEPTICAL INQUIRER, Spring 1986

"The typical exoheretic is so unaware of the intimate structure of science, of the methods and philosophy of science, of the very language of science, that his views are virtually unintelligible from the scientific standpoint. As a consequence, he is generally ignored by scientists. . . . In frustration, the exoheretic is very likely to appeal over the heads of the scientists to the general public. . . . The appeal to the public is, of course, valueless from the scientific viewpoint. The findings of science cannot be canceled or reversed by majority vote, or by the highest legislative or executive fiat."

—Foreword to *Scientists Confront Velikovsky*, edited by Donald Goldsmith

"With creationism in the saddle, American science will wither, and we will raise a generation of ignoramuses who will not be equipped to run the industry of tomorrow, much less to generate the new advances of the days after tomorrow."

—"The Army of the Night," *The Roving Mind* (p. 15)

"Do we simply shrug and say that the fringers will always be with us and we might just as well ignore them and simply go about our business? No, of course not. There is always the new generation coming up. Every child . . . is a possible new field in which rationality can be made to grow. We must therefore present the view of reason, not out of hope of reconstructing the deserts of ruined minds that have been rusted shut, which is all but impossible—but to educate and train new and fertile minds."

—"The Perennial Fringe," SKEPTICAL INQUIRER, Spring 1986