preprint--not for circulation **Murray Leinster and "A Logic Named Joe"** Eric G. Swedin and David L. Ferro

The March 1946 issue of *Astounding Science-Fiction* published two stories by the prolific author Murray Leinster. The first story, "Adapter," ran under his well-known pen name, while the second ran under his real name of Will F. Jenkins. The second story, "A Logic Named Joe," became an immediate minor classic. In *Machines That Think: The Best Science Fiction Stories About Robots & Computers*, Isaac Asimov describes "A Logic Named Joe" as "very interesting" and "one of a kind." In 1946, when computers "were huge constructs so expensive that only the government or a large corporation could afford to own one" and "the miniaturization of computers had not yet been anticipated," only Leinster had "imagined a society where home computers might be common." (Asimov 279) Andy Duncan called the "astonishing" story "one of the most prescient science fiction stories" ever, "a feat of prediction" that prompted *Wired* magazine to hail "Leinster as a prophet." (Duncan 62, 63) This is a common assessment of "A Logic Named Joe," and accurate as far as it goes, but the story is even more insightful in light of present day computer technology. The story is also a powerful cautionary fable about the power of technological temptation.

Murray Leinster:

William Fitzgerald Jenkins (Will F. Jenkins) was born in Norfolk, Virginia on June 16, 1896. His formal education ended before finishing eighth grade, but his strong interest in science and technology sustained his quest for self-education. In 1909 he built a working glider and won a aeronautical magazine contest. He worked as an office boy and as a bookkeeper while practicing his writing craft, quitting on his twenty-first birthday to become a professional writer. (Moskowitz 49-50) Jenkins published his first short story in *Argosy* in 1918 and his first science fiction story, "The Runaway Skyscraper," followed in *Argosy* in 1919.

As his career flourished, he adopted Murray Leinster as a pseudonym for the lower-paying pulp magazines and reserved his real name for the slick magazines, such as *Collier's* and the *Saturday Evening Post*. In a career that stretched until 1975, Leinster published nearly 1,800 short stories and around one hundred novels. As many as twenty movies and numerous radio shows were adapted from his source material. He wrote in most genres, though regular sales to romance magazines, published under yet another pseudonym, often eluded him. The main exception in the diversity of his output was that he avoided writing stories involving "the occult and supernatural," because he "thought such things carried over into a writer's subconscious and could definitely be destructive." (Payne 4)¹

During World War II, Leinster joined the national effort, as did many of his contemporary science fiction writers. Leinster used his communications skills for the Office of War Information during the daytime and continued to write his stories during the evenings. Though he published in many genres, and often earned better rates in other genres, science fiction remained near and dear to Leinster's heart. In a draft of a proposed talk to the Eastern Science Fiction Association in 1947, Leinster wrote, "There

is a real if latent value in the kind of speculation and the kind of air-tight reasoning from fantastic assumptions which we science-fiction addicts are used to." (Jenkins, "Proposed Talk" 3) Leinster also described being visited by a government security official during World War II to ask if the short story "Deadline" was a leak. Written by Cleve Cartmill for the March 1944 issue of *Astounding Science Fiction*, "Deadline" described a superweapon made of radioactive elements. Leinster realized that the United States was building an atomic bomb and felt "very uncomfortable" with this secret. Until the end of the war, in the interests of national security, "very few people have ever emulated an oyster more earnestly than I did from that time on, where atomic-energy discussions were concerned!" (Jenkins, "Proposed Talk" 1) In a talk in 1963, Leinster said, "It has long been my belief that science fiction is really the hope of the nation." (Eney 72)

Time magazine published an interesting review of the field of science fiction and its fans in 1949:

The four founding fathers of "science fiction" are generally acknowledged to be Edgar Allan Poe, Jules Verne, Sir Arthur Conan Doyle and H. G. Wells. In the U.S., Will F. Jenkins, a 27-year veteran, who also writes under the pen name of Murray Leinster, is regarded as the dean of writers in the field. Best of the lot, according to expert editors, are Robert Heinlein and A. E. van Vogt. (Time)

A year later, the Chicago-based Shasta Publishers used this term, "dean of American science-fiction authors," in promotional material for Leinster's short story collection, *Sidewise In Time and Other Scientific Adventures*. (Shasta 1) The 21st World Science Fiction Convention, held in Washington, D.C. in 1963, selected Leinster as their Guest of Honor.

Theodore Sturgeon, so famed for his own short stories, opined that Leinster "wrote few great stories and no bad ones." (Sturgeon 1) Leinster is best known for the stories:

- "Sidewise in Time," (1934), which the Sidewise Award for Alternate History is named after and is acknowledged as the first parallel worlds story;

- "First Contact," (1945), retroactively awarded a Hugo for Best Novelette in 1996;

- "The Ethical Equations," (1945);

- "Exploration Team," (1956) winner of the Hugo Award for Best Novelette;

- "A Logic Named Joe" (1946), which won no awards, but its prominence has grown over time.

The Story:

"A Logic Named Joe" is one of Leinster's more enjoyable science fiction short stories, written with a wry sense of humor, where the first-person narrator is a logics maintenance technician named Ducky. The writing style and colloquial phrasing evokes the personality of a blue collar workingman, perhaps like a stereotypical 1940s-era Brooklyn plumber. Following his normal practice, Leinster never describes the appearance of any of the characters. (Sturgeon 2) The first sentence lays out the story in summary, "It was on the third day of August that Joe come off the assembly line, and on the fifth Laurine come into town, and that afternoon I saved civilization." (Jenkins, "A Logic Named Joe" 139) Logics are a common household appliance that combines a television, telephone, and computer into a single device with a keyboard and a "vision receiver." (140) This is not a passive device, like a television, that only receives media content, but interactive in that you can "punch" keys to ask questions of the central "tank." (140)²

Leinster wrote a summary of "A Logic Named Joe" in 1951 as part of a list of vignette ideas for a proposed television series.

When a TV set and an integral calculator and a telephone are added together to make a household gadget that everybody uses, it's very convenient indeed. Everybody has a secretarial service and a filing-system and an information service plus entertainment and television-telephone system as a matter of course. But there comes just one of those instruments that wants to be useful, - to answer <u>every</u> question anybody asks. But it hasn't discrimination. It will tell how to rob a bank as well as how to get over a hangover. It will tell how a blonde can get her man, and it will answer the questions a wife is better off not having answered, - and civilization totters, when anybody can find out anything they want to know by just asking. (Jenkins, "Vignette Ideas" 1)

A logic named Joe is accidently altered during manufacture so that it can create new knowledge. Joe offers advice as a new logics service on any topic, including murder, counterfeiting, and all matter of mischief. New inventions are created, such as a concoction mixed from household ingredients that will instantly make a drunk sober, a perpetual motion machine, the secret of transmuting metals, and many new products for thieves: "new and improved jimmies, knob-claws for gettin' at safe-innards, and all-purpose keys that'd open any known lock." (144) More chaos ensues.

An old girlfriend, Laurine, comes into town and locates the narrator by using the new logics service. She calls the narrator and tells him that she is "terribly lonesome" and asks him to come to her hotel. (147) He stutters and promises that he will call her back. He is terrified of Laurine, and "often thanked Gawd fervent that she didn't marry me when I thought I wanted her to . . . She was blonde an' fatal to begin with. She had got blonder and fataler an' had had four husbands and one acquittal for homicide an' had acquired a air of enthusiasm and self-confidence." (143)

Having Laurine in the back of his mind makes the narrator nervous and is a source of stress as he tries to figure out what is happening with the new logics service offered by Joe. The narrator suggests closing down the central tanks which hold data for the logics and is informed that would cause civilization to collapse.

Joe continues to solve problems, including "cold electron-emission" in order to make vacuum tubes "that wouldn't need a power source to heat the filament." (151) Another person learns how to serve left-over soup in a new way and still another person learns how to dispose of the corpse he had stored down in his cellar. Joe even invents an extra-dimensional machine to rob the gold reserves of a bank. Even more serious, echoes of the ideologies that drove World War II, "a social-conscious guy asks how to bring about his own particular system of social organization at once. He don't ask if it's best or if it'll work. He just wants to get it started." A "retired preacher asks how can the human race be cured of concupiscence." (151) Still "another group of serious thinkers who are sure the human race would be a lot better off if everybody went back to nature an' lived in the woods with the ants an' poison ivy. They start askin' questions about how to cause humanity to abandon cities and artificial conditions of living." Finally, "the Superior Man gang that sneers at the rest of us was quietly asking questions on what kinda weapons could be made by which Superior men could take over and run things." (152)

Preoccupied with his fear of Laurine, the solution to the problem suddenly occurs to the narrator. He uses a "pay-logic" to ask where the misbehaving logic is located. (153) He retrieves the logic, turns it off, and stores it in his cellar. Though the narrator calls the abnormal logic Joe throughout the story, he explains that he only named the wayward logic after acquiring it. The narrator is concerned that someone else might be interested in making a new Joe, and though aware of the dangers of leaving Joe intact, the narrator himself muses to himself that maybe he should turn on Joe for just a little while, in order to ask how to "make me a coupla million dollars, easy" or ask "How can a old guy not stay old?" (154)

Astounding Science Fiction had a policy of ranking the popularity of stories and articles in each issue based on reader responses in a short column called "The Analytical Laboratory." (Bainbridge) The feedback for the March issue was published in the June issue. "A Logic Named Joe" was the most popular story, even though longer stories usually tended to be more popular in the poll. The story won while competing against the first third of George O. Smith's novel, "Pattern for Conquest." The second installment of Smith's novel moved to first place in the following month. According to John W. Campbell, the editor, Leinster's story "did right well to take first . . . since novels give an author so much greater scope for development." (Campbell)

Analysis:

Leinster used the term logic to refer to electronic computers because the term computer was not yet in general use for that meaning. A computer was originally a person who made mathematical calculations or computations. The term especially found use as the title of a person employed to make calculations for an insurance company, bank, astronomical observatory, or similar organization that relied on numerous repetitive mathematical calculations. While there are a few instances of the term computer being applied to electronic computers before 1946, that use of the term in that sense was rare.

True electronic computers were first built during World War II and knowledge about them was restricted until after the war. The first true electronic computers were the Colossi machines, built in 1943 in Britain, and the ENIAC, finished in 1945 at the University of Pennsylvania in the United States. Because the Colossi were used for code-breaking, knowledge of these machines was not released until the 1970s. Since the ENIAC was public knowledge, most obvious late computer innovations flowed directly from the ENIAC. Public perceptions of computers were created by images of the ENIAC, made of forty-nine cabinets, almost 18,000 vacuum tubes, miles of wiring, and weighing thirty tons. (Swedin and Ferro, 30-41) About the time that "A Logic Named Joe" was published in 1946, the term computer was becoming more common,

though "electronic brain" briefly competed as an alternate term. (Oxford English Dictionary, entry for "computer")

Projecting back our contemporary technology, a logic is a home computer combined with a telephone, television, and an Internet connection. The colloquial narration of the story emphasizes that logics really are just common household appliances, like toasters or radios, not something exotic that required highly-educated technicians in white coats. The origin of the logics in the story is described as occurring when "that guy Carson invented his trick circuit that will select any of 'steenteen million other circuits—in theory there ain't no limit—and before the Logics Company hooked it into the tank-and-integrator set-up they were usin' 'em as business-machine service. They added a vision screen for speed—an' they found out they'd made logics. They were surprised an' pleased. They're still findin' out what logics will do, but everybody's got 'em." (Jenkins, "A Logic Named Joe" 140)

Not surprisingly, the narrator admits that the introduction of logics "changed civilization, the highbrows tell us. All on account the Carson Circuit." (140) When the frantic narrator asks technician at the tank to shut down the tank (akin to turning off the Internet), he gets this answer:

"Shut down the tank?" he says, mirthless. "Does it occur to you, fella, that the tank has been doin' all the computin' for every business office for years? It's been handlin' the distribution of ninety-four per cent of all telecast programs, has given out all information on weather, plane schedules, special sales, employment opportunities and news; has handled all person-to-person contacts over wires and recorded every business conversation and agreement— Listen, fella! Logics changed civilization. Logics *are* civilization! If we shut off logics, we go back to a kind of civilization we have forgotten how to run! (148, italics in the original)

The idea of a home computer was completely revolutionary at the time and three decades early, but Leinster goes even further by describing what we would think of as the Internet. These home computers (logics) can make queries and download media content from distant computers called "tanks."

The tank is a big buildin' full of all the facts in creation an' all the recorded telecasts that ever was made—an' it's hooked in with all the other tanks all over the country—an' everything you wanna know or see or hear, you punch for it an' you get it. Very convenient. Also it does math for you, an' keeps books, an' acts as consultin' chemist, physicist, astronomer, an' tea-leaf reader, with a "Advice to the Lovelorn" thrown in. (140)

The term tank is used in two ways by Leinster. In the first sense, tanks refer to remote computers, as large as a building, that the logics are connected to via telephone lines. Tanks have "data plates" in them. The narrator offers this description: "There ain't any fact that can be said to be a fact that ain't on a data plate in some tank somewhere—unless it's one the technicians are diggin' out an' puttin' on a data plate now." (141) The term tank is also used to refer to all the tanks in the world as a whole, similar to how the Internet can be thought of as one giant computer.

Just like in modern computing, Leinster realized that there would be a clear

distinction between where data is stored (data-plates in tanks) and where the processing occurs (logics). "There ain't nothing in the tank set-up to start relays closin'. Relays are closed exclusive by logics, to get the information the keys are punched for." (152)

What we now call distributed computing is also illustrated in the story. Joe is the only logic that has started to think in a way described as cooperating "in long-term planning which human brains are too limited in scope to do." (153) Requests to any other logic for the new query service can apparently be routed to Joe so that it can invent the appropriate answer. When Joe is turned off, the new and improved logics service shuts down also. Only Joe is making a difference.

Today, though distributed computing, Google is effectively the world's largest computer, a single computational entity spread around the world in at least a dozen physical data centers. Google uses hundreds of thousands of generic personal computers, mounted on velcro strips in row after row, all running software that distributes data and processing across as many different nodes as needed. Google is the modern equivalent of the generic sense of 'the tank' in Leinster's story. (Markoff and Hansell)

The current trend to rely on the Internet for communication and information has led to the dramatic decline of the encyclopedia market and the sight of libraries replacing books with computers hooked to the Internet. This reliance on ever newer technology, simplifying our lives, is described by the narrator:

We got a very simple civilization. In the nineteen hundreds a man would have to make use of a typewriter, radio, telephone, teletypewriter, newspaper, reference library, encyclopedias, office files, directories, plus messenger service and consulting lawyers, chemists, doctors, dieticians, filing clerks, secretaries—all to put down what he wanted to remember an' to tell him what other people had put down that he wanted to know; to report what he said to somebody else and to report to him what they said back. All we have to have is logics. Anything we want to know or see or hear, or anybody we want to talk to, we punch keys on a logic. Shut off logics and everything goes skiddoo. (Jenkins, "A Logic Named Joe" 148-9)

The issue of privacy in a world of personal information warehoused in distant computers is illustrated by the example of the narrator's wife, who is shocked at all the details that the tank contains about her, though she enjoys finding out about her neighbors. The same situation has arisen with today's internet. Personal information for people in America and around the world is stored in thousands of databases, available and used in ways that is not obvious to most people.

Joe also has the ability of multitasking, something that early computers could not do. "All this while Joe goes on buzzin' happy to himself, showin' the Korlanovitch kids the animated funnies with one circuit while with the others he remote-controls the tank so that all the other logics can give people what they ask for and thereby raise merry hell." (144)

Joe is essentially an artificial intelligence. The idea of machines that could think has a long history in science fiction, often conflated with the idea of robots. Some of the

consequences of having such machines are addressed by the narrator in quick asides. For instance, the sentence "Joe should been a perfectly normal logic, keeping some family or other from wearin' out its brains doin' the kids' homework for 'em," expresses the idea of logics doing our thinking for us. (140)

In the story, Leinster makes the creation of Joe an accident, an unexplainable fluke. By doing so, he avoids the problem of having to explain how an artificial intelligence would work. As an author who tried to throughly cover all possible angles in his story, at least the obvious ones, he emphasized that the accident that made Joe was "extremely improbable" and thus would probably not happen again. (153) He also provides a few more details later in the story:

Joe, he'd gone exploring in the tank and closed some relays like a logic is supposed to do—but only when required—and blocked all censor-circuits an' fixed up this logics service which planned perfect crimes, nourishing an' attractive meals, counterfeitin' machines, an' new industries with a fine impartiality. He musta been plenty happy, Joe must. He was functionin' swell, buzzin' along to himself. (143)

Joe is also benign, at least in machine terms, though it is apparently missing any sense of morality or even a sense of what might be socially acceptable or not socially acceptable. Joe explains how to commit murder, commit thefts, and merrily corrupts the youth, with no sense of the consequences.

He ain't like one of these ambitious robots you read about that make up their minds the human race is inefficient and has got to be wiped out an' replaced by thinkin' machines. Joe's just got ambition. If you were a machine, you'd wanna work right, wouldn't you? That's Joe. He wants to work right. An' he's a logic. An' logics can do a lotta things that ain't been found out yet. So Joe, discoverin' the fact, begun to feel restless. He selects some things us dumb humans ain't thought of yet, an' begins to arrange so logics will be called on to do 'em. (141)

This point in the story seems to be a mere mechanism to make the story flow in a humorous fashion, though one might argue that Leinster sees machines as inherently amoral.

It must be mentioned that the women characters are stereotypical, the typical nosy housewife as the narrator's wife and the dangerous blonde, Laurine, as a black widow. While conventional for 1940s pulp fiction, the portrayals would be considered sexist today. Leinster plays the stereotypes for humor in a manner lacking malice. The one prominent exception is "Logics don't work good on women. Only on things that make sense." (140) This reflects the limited education and cultural horizons of the narrator, who is only a simple television repairman turned logics maintenance man.

The theme of temptation is pervasive in the story. While Leinster was a practicing Catholic, temptation is an emotion that is not confined to the devout. Much of the narrative tension for the story comes from the attraction to his old girlfriend, Laurine, who he "parted" from "with much romantic despair." Laurine "makes cold shivers run up an' down my spine when I think about her." (139) During her calls to the narrator, she "has a look of unquenched enthusiasm that gives a man very strange weak sensations

at the back of his knees." (147) This is a dangerous temptation for more than just moral reasons, because Laurine has "had four husbands and shot one and got acquitted." (147)

The idea of censor blocks or "censor-circuits" is a way of keeping temptation at bay. (142) Early in the story, the action of the censor is described:

In theory, a censor block is gonna come on an' the screen will say severely, "Public Policy Forbids This Service." You hafta have censor blocks or the kiddies will be askin' detailed questions about things they're too young to know. And there are other reasons. As you will see. (141-142)

This entire issue reflects the perennial concern of what children may be safely exposed to at what age. Of course, the moral standards used to create rules of appropriateness are different for Leinster's time and our own, but today parents are concerned about adult material on the Internet and protecting children from inadvertent or deliberate exposure.

When the narrator comes to collect Joe, he finds the children of the Korlanovitch family watching a forbidden film. They wanted to see "real cannibals,"

So the screen is presenting a anthropological expedition scientific record film of the fertility dance of the Huba-Jouba tribe of West Africa. It is supposed to be restricted to anthropological professors an' post-graduate medical students. But there ain't any censor blocks workin' any more and it's on. The kids are much interested. Me, bein' a old married man, I blush. (153-4)

There are two illustrations in the original *Astounding Science Fiction* story. Living up to the quasi-salacious reputation that the pulps had, one of the illustrations is of a boy and girl watching with interest the ecstatic dancing of two African women on the screen of their logic. The women are wearing tight tunics from their bare shoulders down to midthigh. (145) The other illustration is of the narrator talking earnestly to Laurine on a logic's screen that is at least four feet high. (150) She is wearing "some kinda frothy hangin'-around-the-house-with-the-boy-friend outfit that automatic makes you strain your eyes to see if you actual see what you think." (149)

The narrator faces more temptations within himself at the end of the story. He wonders if he should turn Joe back on long enough for Joe to invent a way for the narrator to get rich. On a certain level he recognizes that this is a temptation. "But even if I got sense enough not to get rich, an' if I get retired and just loaf around fishin' an' lyin' to other old duffers about what a great guy I used to be—Maybe I'll like it, but maybe I won't." (154)

Then there is the ultimate temptation, a theme dealt with in so many science fiction stories: immortality.

And after all, if I get fed up with bein' old and confined strictly to

thinking—why I could hook Joe in long enough to ask: "How can a old guy not stay old?" Joe'll be able to find out. An' he'll tell me. (154)

The consequences to having a solution to immortality are obvious in the last paragraph of the story:

That couldn't be allowed out general, of course. You gotta make room for

kids to grow up. But it's a pretty good world, now Joe's turned off. Maybe I'll turn him on long enough to learn how to stay in it. But on the other hand, maybe— (154)

To be immortal is to aspire to be like the gods; to have a intelligent machine like Joe, always eager to please, is to have a machine granting the user godlike powers.

After "Joe":

"A Logic Named Joe" proved to be one of Leinster's most popular stories. Only four years after its appearance, the story was reprinted in a collection of short stories by Leinster, *Sidewise In Time and Other Scientific Adventures* (Chicago: Shasta, 1950). Later collections of Leinster's works also included the story. Most recently the story was reprinted in Murray Leinster; edited and compiled by Eric Flint, *Logic Named Joe* (Riverdale, New York: Baen, 2005). NBC broadcast the story as a radio show on the Dimension X radio show on June 1, 1950 and again on the new X Minus One radio show on December 28, 1955. Leinster was paid \$200 (his agent took \$20 as his fee and Shasta took \$36 for their share of the royalties) for the rights to the radio show. (Radio Plays Radio; Where Yesterdays Live; Jenkins, "Letter from Jenkins dated July 19, 1950") A 1962 Canadian educational film, "The Living Machine," drew on ideas from "A Logic Named Joe" and mentioned the name of the story. (Moskowitz 64)

Besides writing fiction, Leinster's mind churned out new technology ideas. The genesis of his most successful invention came when Leinster attended a rehearsal in the early 1950s where one of his stories, "First Contact," was being readied for television broadcast. He was disappointed that the production stage was so large, since a spaceship should look more confined. The producer explained how expensive scenery was to build and use. It occurred to Leinster that it would be so convenient if a background could be projected onto the back of the stage. He began to muse over how this would be possible, as a device for a possible science fiction story set in a future television studio.

Leinster returned home, where he maintained a laboratory for tinkering in. (Moskowitz 58) Within a short time he invented a front projection device that attached to a camera, projecting an image containing the background onto the rear wall of the stage. The rear wall had to be covered with Scotchlite, the reflective material found on road signs, which is made of small glass beads that reflected light directly back into the source and only into the source. The technique allowed the background image to be seamlessly exposed onto the film of the camera. Actors, furniture, and other objects on the stage dispersed the light that hit them and did not interfere with the generation of the background image.

Leinster filed for two patents, and when they were denied, he actually went to the patent office and showed the examiner how his invention was different from previous inventions.³ He obtained his patents. After fending off hucksters and intellectual property thieves, Leinster finally licensed the rights to famed entrepreneur Sherman Fairchild. After further development and commercialization, the front projection technique was used extensively in television and for still photography, since it reduced the amount of necessary on-location work. Appropriately enough, the first major motion picture to take advantage of the technique was *2001: A Space Odyssey* (1968). The

use of computers eventually retired the technique in the early 1990s. (Rickitt 69) In an article for *Analog Science Fiction/Science Fact* magazine (the renamed *Astounding Science Fiction* magazine), Leinster offered this invention as a pure example of "applied science fiction." (Jenkins and Leinster 109)

Leinster's early interest in electronics continued to develop throughout his life and extended to the actual computers of the 1950s. In 1957, Leinster tried to interest a publisher in a popular book on computers. The idea was prompted by the experience "three or four years ago" of writing a television script for an interview with Dr. Grace Hopper, a programmer for the Univac, the first commercial computer. (Jenkins "Letter from Jenkins to Mr. Brendler" 1) Grace Hopper was already a computer celebrity because of her gender in a field dominated by men and because of her contributions to the field of computer programming. She later rose to the rank of Rear Admiral in the Navy and made important contributions to COBOL, the premier business programming language. Leinster wanted this book to be anecdotal, instead of analytical, aimed at a general audience, rather than engineers. The project never bore fruit.

Leinster also occasionally published factual articles, such as his "To Build a Robot Brain" in 1954, which argued that the essential problem to creating a thinking computer was how to associate the concrete description of a thing with the abstract idea that identifies that thing. Even today we have not solved that problem. Leinster suggests that a form of robotic evolution may be the solution, just as humans evolved from animals. In essence, to solve the technical problem of the robotic brain, a researcher must explain the difference between humans and animals. At the end of the article, Leinster offers his final take on the whole problem:

If the direct approach . . . does not yield results, you might try still one more. You might try to figure out why we are human. There is only one theory that I know of. It does not offer a solution to the technical problem of making a robot brain, but it is pretty plausible.

You learned it in Sunday School. (Leinster 111)

Between Leinster's religious orientation and his work with censorship during WWII, we shouldn't be surprised at his focus on human moral frailty in the face of technological omnipotence.

Postscript:

The authors of this article began this project seeking a link between the amazing prophetic powers of "A Logic Named Joe" and actual subsequent developments in computer technology. Though many scientists and engineers in computing fields were avid readers of science fiction, we have found no evidence of any direct linkage. Certainly, science fiction helped sustain a milieu of excitement about science and technology that fostered the development of electronic computers and other types of technology. The efforts of writers like Leinster to maintain scientific and technical veracity in their stories contributed to the power of science fiction in the real world of technological innovation, but often only in a general, rather than a specific, sense.

We have used "A Logic Named Joe" in several of our classes when examining the relationships between computer technology and society. The story is a useful teaching tool to tie science fiction to the history of computers. Students are intrigued by the story and enjoy finding parallels to contemporary computer technology, though occasionally a student will struggle with the colloquial style and the lack of familiar words to relate to contemporary technologies.

When Hugo Gernsback gave the emerging genre of scientifically-oriented and technologically-oriented fiction the name of "scientifiction" in 1926, he emphasized his vision of the main purpose of the genre in predicting new scientific ideas and new technological advances. Of course, the purpose of science fiction is not prediction, as Hugo Gernsback would have preferred, but rather, the use of a scientific, technologically-oriented worldview to tell a story that appeals to our emotions and intellect. "A Logic Named Joe" succeeded in doing both.

Notes

¹ Though he published "A Logic Named Joe" under his real name, we have chosen to refer to Jenkins as Leinster in this article because that is the most common name that he is known by in the science fiction field.

² All page numbers for the quotes are from the original *Astounding* issue. Baen Books has generously provided the entire story on the internet as part of their innovative promotion program at http://www.baen.com/chapters/W200506/0743499107 2.htm>.

³ Patent number: 2727427, Filing date: Mar 3, 1952, Issue date: Dec 1955, Inventor: Will F. Jenkins; Patent number: 2727429, Filing date: Nov 30, 1953, Issue date: Dec 1955, Inventor: Will F. Jenkins.

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