Opinion

The 1998 Simon Newcomb Award

Patrick Hayes and Kenneth Ford

Simon Newcomb was a distinguished astronomer and computer who "proved" that heavier-than-air flight was impossible. His proofs are ingenious, cleverly argued, quite convincing to many of his contemporaries, and utterly wrong.

The Simon Newcomb Award is given annually for the silliest published argument attacking AI. Our subject may be unique in the virulence and frequency with which it is attacked, both in the popular media and among the cultured intelligentsia. Recent articles have argued that the very idea of AI reflects a cancer in the heart of our culture and have proven (yet again) that it is impossible. While many of these attacks are cited widely, most of them are ridiculous to anyone with an appropriate technical education.

The following arguments were nominated, often several times, for the 1998 Simon Newcomb Award:

- Sir John Eccles for the "Mysterious Loom Theory."
- Jaron Lanier for the "Rainstorm Argument."
- Neil Postman for the "Metaphor Gone Mad" Criticism.
- Keith Sutherland for the "Symptom-of-Modernism" Criticism.
- Lotfi Zadeh for the "Parking Challenge" Criticism.

Many of these are worthy candidates, but after much deliberation, the Award Committee has selected the "Rainstorm Argument" as the silliest argument directly attacking AI. Thus, the Simon Newcomb award this year goes to Jaron Lanier.

Lanier, who coined the term "virtual reality," is much feted as a renaissance man for his amazing scope of accomplishment, which ranges from musical composition and performance through fashion design to virtual art. He is an essayist whose views can be found in such magazines as *Harpers* and *Wired;* he is also, according to his web page, "available for public speaking." He is widely regarded as a computer visionary, advises the captains of industry, and vises the captains of industry, and has been compared to Mozart.

Lanier has written several articles attacking the intellectual folly of AI, its corrupting moral influence on society, and the dishonest ways of its proponents. This, like the rest of our quotations here, is taken from [1], but similar articles can be found on Lanier's home page:

"… machine decision making is running our household finances to a scary degree. …Most of us have decided to change our habits so as to appeal to these machines [that calculate our credit ratings.] Our demonstrated willingness to accommodate machines in this way is ample reason to adopt a standing bias against the idea of AI. …Artificial Intelligence has been one of the most heavily funded and least bountiful areas of scientific inquiry in the second half of the twentieth century. It keeps on failing and bouncing back with a different name, only to be overfunded once again. …The lemminglike funding charge is always led by the defense establishment. AI…lets strategists imagine less gruesome warfare and avoid personal responsibility at the same time. …The AI fantasy causes people to change more than computers do: therefore, it impedes the progress of computers. …A new form of mysterious essence is being proposed for the benefit of machines. "
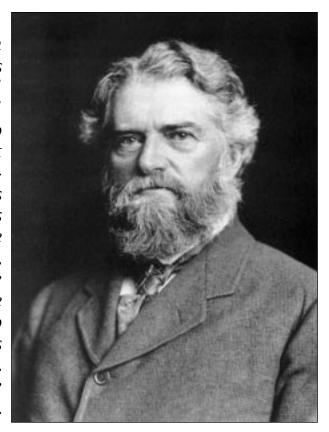
All of this ill-informed pseudo-political ranting is remarkably silly, but none of it can really be said to constitute an argument. Fortunately, however, Lanier also gives us the rainstorm argument in order to prove

that AI is impossible, thereby qualifying for an Award (the rules stipulate that only arguments, not mere denunciations, be eligible). His argument (also called the meteor-shower argument, the dimples of gummy bears argument, and the everything is a computer argument) is in many ways reminiscent of John Searle's classical performance which won him one of the first Awards, the wall-is-word-processor argument. Lanier, however, has produced a variation on this theme which takes it to new heights of silliness.

Lanier states his argument in terms of consciousness rather than intelligence, but he also declares that he means these to "blur together" for the purposes of his discussion. He does so because, he says "machine intelligence" itself claims that "consciousness emerges from intelligence." Unfortunately he gives no citations for this remarkable assertion. (We invite anyone who finds one to nominate the author for a future Award.)

The first part of the argument is clearly inspired by Searle's magnificent reductio, though performed in a very different style. Recall that Searle's argument amounts to the claim that any sufficiently complex physical system—the atoms in a wall, say—has within it a pattern which could be the encoding of a given piece of software—a word-processor, for instance—and hence that software has no real, objective, natural existence. (Bill Gates' worst nightmare: his entire empire is based on a mass illusion! Hmm. Perhaps there's something to this stuff after all...) Lanier follows a similar strategy. He begins with the proposition that he aims to reduce to nonsense, that a program might duplicate human thought, specifically, "your consciousness":

> "Now your consciousness exists as a series of numbers in a computer; that is all a computer program is, after all. Let us go a little further ... suppose you have a marvelous new sensor that can read the positions of every raindrop in a storm. Gather these raindrop positions as a list of numbers and pretend that

those numbers are a computer program. Now, start searching through all the possible computers that could exist ... until you find one that treats the raindrop patterns as a program exactly equivalent to your brain."

At this point an obvious objection arises: what if you don't find it? Lanier reassures us immediately in his next sentence:

> "Yes, it can be done..." [Since the list is R.E. and the brain's description is finite.]

There's a technical slip here: the search can be done, indeed, but it is not guaranteed to succeed. (Maybe raindrop patterns have the wrong fractal dimension, or something.) This immediately scotches the argument; but we will avoid pedantry, as the really silly part comes later. Lanier continues:

> "Is the rainstorm, then, conscious? Is it conscious by being specifically you, because it implements you?"

Obviously one is supposed to think not. Lanier then makes the move which wins him this year's Award:

> "You say the rainstorm is not really doing computation—it is just sitting there as a passive program—and so it does not count? Fine, then we'll measure a larger rainstorm and search for a new computer that treats a larger collection of raindrops as implementing both the computer we found before that runs your brain as well as your brain in raindrops. Now the raindrops are doing the computing."

At this point the argument has drifted into virtual space. Lanier is saying that the numbers gotten by measuring a sufficiently large rainstorm might be a description not just of a program, but of an actual computer (plus its program.) However, these numbers could also be a description of, say, the pattern of rivets in the Eiffel tower, or a snail's route from Azerbaijan to Morocco, or a

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transcription of "Hamlet" into Polish. In fact, they might be a description of almost anything. Nothing particular follows about the things they might be a description of. If someone finds a description of the Eiffel tower in a rainstorm they may qualify for an entry in the *Guinness Book of Records,* but the tower itself wouldn't be altered by this feat of lexicometerological creativity. Similarly, if someone reinterpreted the raindrops to describe a tower than had never been built, that wouldn't magically create a new tower: civil engineers would have to actually build the thing. Computers also need to be actually built in order to exist.

This style of reductio argument is pretty silly when applied to software, but at least one can see how a philosopher might make the mistake of thinking that software was identical to text. Lanier, however, seems quite unable to distinguish reality from virtual reality: he argues that because one can find a description of a machine in a meteor shower, that therefore the shower implements the machine. This is like confusing a circuit diagram with a circuit.

In choosing Jaron Lanier for this year's award, the judges were also influenced by his writing style. In general, Lanier's prose has a loose, surreal quality, providing a refreshing contrast to the persnickety scholarship and fussy technical detail found in the writings of such previous recipients as Professor John Searle and Sir Roger Penrose. He attacks the "culture" of AI by citing weird views held by its "proponents", without naming or citing them. He writes in a style suggesting a commanding grasp of the overall AI scene, but he never refers to actual AI work. His prose gives one an impression that he is engaged in a huge public debate with these AI proponents. Some of them, for example, like fish, "do take the bait and choose to believe in myriad consciousness everywhere," while some "seize on some specific stage [in his argument]. ...But the chosen stage varies widely from proponent to proponent..." This failure to agree must be significant: "We should take the variation among responses from AI proponents as the meaningful product of my flight of fancy." We are left with a vivid image of a confused swarm of proponents retreating in confusion from the lone figure of Lanier. Unfortunately, his home page gives us no hint of where to find any record of these debates.

For all these reasons, therefore, we are pleased to present this year's Newcomb Award to the noted musician, virtual reality pioneer, essayist, artist, fashion designer, pundit, visionary and public speaker, Jaron Lanier.

The Simon Newcomb Award Committee wishes to thank all those who have expressed encouragement and support and especially those who made nominations for this year's award.

Submission Requirements

Nominations are welcomed for the next Simon Newcomb Award. Please send nominations by e-mail to phayes@ai.uwf.edu and kford@ai.uwf.edu. Since the Award is to be given for a particular argument, nominations should give a brief description of the argument, a reference to its place of publication, and the name and affiliation of the nominee. Permission of the nominee is not required.

An argument can win an Award only once, so repetitions of previous award-winning arguments are not acceptable unless they display some new significant variation on the original theme. If it is necessary to explain why the argument is silly, it may not be silly enough. The best arguments are those that a graduate student in computer science might find hilarious. And finally, silly arguments within AI are not eligible for the award, only attacks on AI. Obviously, it would not be practical to give an award for every silly argument in AI.

Bibliography

Lanier, Jaron, 1998. "Mindless Thought Experiments: A Critique of Machine Intelligence." In *Towards a Science of Consciousness II,* ed. Hameroff, Kasniak, and Scott. Cambridge, Mass.: The MIT Press.