

Cosmic Clue to Bard's Identity

In a new entry to the enduring controversy over who exactly wrote Shakespeare's plays, a researcher has come up with circumstantial evidence—based on astronomical references in the plays—that favor the leading alternative candidate, Edward De Vere, 17th Earl of Oxford. The provocative analysis, however, won't quell a debate likely to continue to the last syllable of recorded time.

In a paper posted to the Los Alamos National Lab preprint site, Eric Altschuler, a physicist-turned-medical student at the University of California, San Diego, has tallied references to the stars and planets in the plays and compared them with contemporaneous astronomical events. He has found no reference to events after 1604, the year Oxford—a poet and patron of the arts—died at age 54. Shakespeare of Stratford,



The so-called Ashbourne portrait of Shakespeare is claimed by some to be an altered portrait of the Earl of Oxford.

14 years younger, died in 1616.

There is abundant evidence in the plays that the author was au courant with astronomical theories. Examples cited include a description in *Hamlet* of a bright star on a November night that could refer to a "new" star (now called supernova SN1572A) that ap-

peared in November 1572. The star was described by Danish astronomer Tycho Brahe, in whose portrait a coat of arms bears the names "Rosenkrans" and "Guldenstern." And in *Troilus and Cressida*, there are two passages indicating Shakespeare's awareness of geomagnetism, proposed in a 1600 book by William Gilbert.

In contrast, the plays contain no mention of major findings made by Galileo with his new telescope and described in a 1610 book—such as sunspots, features on the moon, and moons around Jupiter. There are 40 references to the sun, 15 to the moon, and 10 to Jupiter in the later plays, writes Altschuler, but none betrays awareness of these develop-

ments. "There are many possible explanations why Shakespeare did not write about any of these topics," he writes.

"[H]owever, the most parsimonious is that the Bard was not alive" at the time and that the late plays are incorrectly dated.

Another Shakespeare sleuth, political scientist Ward Elliott of Claremont McKenna College in California, says he's skeptical. "This evidence belongs in the category of 'could be [Oxford]' evidence." Elliott's own research on word usage, he says, shows the Bard "couldn't be" Oxford because the style of the Earl's known dated poetry is incompatible with the plays that, if he were "Shakespeare," would have to have been written around the same time.

California, Ivy League Are Tops in Physical Sciences

East and West Coast universities captured the top slots for "highest impact" research in the physical sciences, according to rankings in the November/December issue of *ScienceWatch*. The Institute for Scientific Information in Philadelphia ranks institutions based on "relative citation impact," calculated by taking the average number of citations per paper for a university over 5 years and comparing it to the world average in the same field.

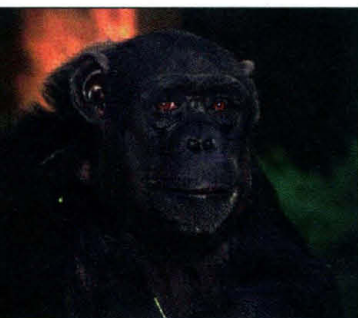
Physics	Chemistry	Geosciences	Astrophysics	Materials Science
1 UC Santa Barbara	Harvard	Columbia	Princeton	UC Santa Barbara
2 Univ. of Chicago	Caltech	Harvard	UC Santa Cruz	Caltech
3 Harvard	UC Santa Barbara	Univ. of Wash., Seattle	UC Berkeley	Northwestern

New Zealanders Fight for Apes' Rights

A group of scientists, ethicists, and lawyers in New Zealand is aiming to make the country the first to legally endow great apes with some of the protections hitherto reserved for humans.

"There's now a mountain of evidence that the great apes are as intelligent as young human children," says biologist David Penny of New Zealand's Massey University. He and 28 others last month submitted a proposal to Parliament that would amend the country's animal welfare act, now under review, to recognize the rights of gorillas, chimps, and orangutans not to be killed or experimented on without the permission of "hominid welfare guardians" modeled along the lines of those for human minors.

The proposal, which Parliament is expected to hold hearings on before the end of the year, comes from the New Zealand arm of the Great Apes Project, an apes' rights movement championed by animal rights philosopher Peter Singer and primatologist Jane



Almost human?

Goodall. The activists classify apes as "hominids" based on the latest genetic evidence. Moreover, they claim "the cognitive skills

of all hominid species ... represent a quantum leap from the cognitive abilities of other primates."

Many scientists are sympathetic to the initiative. "Giving more humanlike rights to great apes is long-overdue recognition of our close cognitive parallels," says Harvard anthropologist Richard Wrangham. Others see the Great Apes Project largely as PR for the antivivisection crowd. "I am a bit confused by the attempt to safeguard these animals by providing 'rights' to them," which ordinarily also imply responsibilities, says Thomas Insel, director of Emory University's Yerkes Regional Primate Research Center in Atlanta. What is really needed, he says, are sanctuaries to provide "long-term care in a stable social environment."

Changes in the New Zealand law would be largely symbolic in any case, as the country's only apes are in zoos.