Two surveys of scientists and others associated with animal research "suggest that most animal researchers favor [Animal Welfare Act] regulation of mice, rats, and birds." Various ideas are offered about what might have caused the gully-like features recently found on Mars. The author of the 1973 book *Stability and Complexity in Model Ecosystems* clarifies a major point of his book that has been misinterpreted. And imagine beating Muhammed Ali in his prime in the boxing ring—the probability of that happening (and there is one) illustrates the role of "outrageous events" in calculating statistical significance.

Poll Shows Researchers Favor Lab Animal Protection

In the News of the Week article "Researchers fight plan to regulate mice, birds" (6 Oct., p. 23), David Malakoff portrays animal researchers as being "furious" with a decision by the U.S. Department of Agriculture to add mice, rats, and birds to the list of animals protected under the Animal Welfare Act (AWA). As seen in the accompanying table, however, a recent survey of Institutional Animal Care and Use Committee (IACUC) members reveals that most researchers actually favor AWA regulation of these species.

PERCENTAGE OF IACUC MEMBERS FAVORING AWA REGULATION OF SPECIFIC ANIMALS

Type of animal	IACUC members: Animal researchers (*N* = 287)	IACUC members: Other members (*N* = 199)
Primates	99.7	98.0
Dogs	98.6	96.5
Cats	98.3	96.5
Rats/mice	73.9	71.9
Pigeons	67.9	69.8

These data come from a survey we conducted of 565 members drawn from a random sample of 50 college and university IACUCs (*1*). IACUC members represent individuals with extensive experience implementing AWA regulations. Our respondents averaged 5.3 years of IACUC service, and more than 90% reported reviewing animal research protocols on a regular basis. Of the questionnaires sent out, we received 494 responses (an 87% return rate), including 486 responses to the following question: "The Animal Welfare Act is a federal law that governs the use of animals in research. Regardless of the species now covered under the Animal Welfare Act, which of the following animals should, in *your* opinion, receive AWA protection when used for research?"

A clear majority of animal researchers and other IACUC members favored AWA coverage for mice, rats, and birds. Even animal researchers in psychology, psychopharmacology, and behavioral neuroscience support AWA coverage of these animals, despite the fact that these disciplines would be among the most affected by AWA regulation of mice, rats, and birds. Of 158 self-identified animal researchers who responded to a 1994 national survey of psychologists, 73% favored AWA coverage for rats and mice and 72% favored coverage for pigeons (*1, 2*). Taken together, these results suggest that most animal researchers favor AWA regulation of mice, rats, and birds.

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Ideas About the Surface Runoff Features on Mars

In their report "Evidence of recent groundwater seepage and surface runoff on Mars" (30 June, p. 2330), Malin and Edgett propose that the seepage and flow of water may have occurred on Mars in the recent geologic past, on the basis of the observation of a large number of channel features on steep, poleward-facing slopes in the southern hemisphere. They acknowledge that this observation would be strongly contrary to other observational evidence that Mars is extremely dry and the regolith desiccated to considerable depth. Instead, another possibility is that we are seeing the consequences of volatile activity related to CO_2 permafrost and gas-supported grain flows. The regions of Mars where these features have been found are those where solid CO_2 is stable in the near-surface. Earth analogs for this class of flow would be the collapse of viscous lava domes from andesitic volcanoes such as Unzen (in Japan) and Soufriere (in West Indies), where the generation of fluidized clouds of rock and ash supported by volcanic gases are well documented. The morphology of these pyroclastic flows is essentially identical to that presented by Malin and Edgett. An arcuate alcove or amphitheater scar leads through ravined chutes to a leveed flow channel down the side of the volcano. The flow pattern, which may be braided as in the Mars examples, leads to a depositional fan with lobate geometry. Surprisingly large boulders can be transported in these gas-supported flows.

I emphasize that I am not invoking a volcanic origin for these flow features on Mars. Instead, I suggest that subsurface cryogenic liquid CO_2, and solid CO_2 permafrost become involved in small-scale collapse events in these steep terrains. As Tanaka points out in his Perspective "Fountains of youth" (*Science's* Compass, June 30, p. 2325), explosive expansion of CO_2 when it is decompressed is an ideal mechanism for generating a vapor-lubricated grain flow or a full-scale gas-supported density flow.

Malin and Edgett comment on the lack of older examples of these flows. However, as other authors have shown (*1, 2*), the martian outburst "flood" channels are themselves ideally explained by just such a mechanism working on a larger scale at a time when planetary warming of near-equatorial regions warmed thick CO_2 permafrost. The evidence for water on Mars, either recent or past, remains to be demonstrated.

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We suggest that dense, eutectic, valley-forming, intermediate-latitude (DEVIL) brine is the likely fluid that flowed out of escarpments at subfreezing temperatures on Mars as reported by Malin and Edgett. Any early ocean on Mars is likely to have had high initial salinity (*1*). Subsequent large-scale escape of water would have left behind dense brines that sink into the shallow subsurface and evolved chemically by reaction with basaltic rubble. Upon subsequent climatic freezing, crystallizat-