LETTERS

"...I believe I was one of the last National Park Service persons to see George Wright and Roger Toll. I was Assistant Director in charge of the Branch of Lands for the Service and was with them in the Big Bend country and my plans were to go with them in the car. However, when we got to Alpine I received a wire to return to Washington. So I took the first train back and they started west. I did not know of their accident until I arrived in Washington two days later. About three weeks afterward I received a package containing my hat I had left in the car.

Sincerely,

Conrad L. Wirth"

COMMENTARY

Appropos of our "computer issue" (FORUM, Spring 1982) is the latest news from the *Bell Systems Technical Journal.* An article in the May-June 1982 issue by T. A. Fulton and L. N. Dunkleberger reports successful fabrication and operation of a data processing chip that uses something called a "Josephson junction" as the operative element in computer circuitry. The Jj consists of two metal layers separated by a very thin insulating strip which, when chilled to the point where the metals become superconducting, results in a relationship between current and voltage that has a number of singular characteristics. These properties permit the Jj to be used in the same ways that transistors are used in computer circuitry.

At the temperature of liquid helium (4 kelvins) Jj circuitry uses less power, works faster, and generates far less heat than silicon circuitry. SCIENCE NEWS, a publication of the Science Service, Inc., 1719 N St., NW, Washington, DC 20036, suggests that Silicon Valley may have to be renamed Josephson Junction, if the Jj revolution fulfills its promise. The Bell Labs announcement claims that a Jj computer the size of a baseball could process the same amount of information as a room-sized silicon computer, and do it faster.

Earlier technical difficulties revolved around fabrication of the junctions, refrigeration, and connection of the superconducting circuitry to the outside world, which is at room temperature. These difficulties now have been at least partially resolved in the form of a parallel multiplier, intended for use in processing color television images. It functions in a vessel of liquid helium the size of an umbrella stand and can talk to silicon circuitry at room temperature. Bell claims that Jj technology has only begun to take off, and that the next step is smaller, faster chips for a host of other applications.

Jean Matthews