vestors paid $40 a share), but whether the decision to buy was influenced by the publicity is presumably known only to the investors, whose identities have not been divulged.

Much of the criticism of Ovshinsky's "style" comes from well-fed industrial and academic scientists who aren't struggling—as Ovshinsky is—to get a fledgling company established in a field dominated by giant corporations. "The scientific community ought to be taught a little charity," says Robert Adler, vice-president for research at Zenith Radio. "I've met Ovshinsky," he adds. "He's an absolutely first-class promoter and he must hold the world's record for name-dropping. He's used practices that someone working for a big company can afford to frown on. But how the hell are you going to finance something like this unless you're a bit of a promoter?" Many critics also talk as if Ovshinsky had somehow seduced his eminent scientific advisers into serving as unwitting promoters of both him and his company—but the scientists seem genuinely excited and many are far from naive.

The worth of Ovshinsy's scientific contributions is a subject of bitter dispute. Critics allege that Ovshinsky was not the first to discover the switching effect and that he therefore has no right to name it after himself. Actually, the priority question is extremely muddled, and it is not clear just who deserves credit for what. Mott, who has a thick file on amorphous semiconductors, says, "Anyone who claims priority is bound to be disputed." Bell Labs and Energy Conversion both hold patents for switching devices but there is disagreement as to which can claim the earliest filing date and as to what the patents cover. If the devices become commercially important, the courts may have to resolve the issue.

Regardless of who was first, Ovshinsky has clearly done more work on the devices than anyone else. Bell Labs, after some initial work in the early 1960's, concluded the devices had little potential and reduced its efforts—as did a number of other companies. But Ovshinsky continued to test thousands of amorphous materials in an effort to find the best combinations, and he seems to be the only one producing devices in a packaged form. "He has an exceedingly good idea of the chemistry involved—he's come up with materials that you can work with," says Feinleib, the young M.I.T. researcher who is joining Ovshinsky's staff. Morrel Cohen adds: "There are lots of questions about priority, but the real question is totality of contribution, and there Ovshinsky's contribution has been the greatest. He's generated the most excitement and he's got a large and vital organization devoting its energies to the work. If he hadn't done it, the others wouldn't be claiming priority."

Where will it all end? The people at Energy Conversion believe they are on the verge of success. They claim many of the reports of unreliability and instability were caused by mechanical packaging problems, which they have overcome, while others were caused by the fact that rival investigators didn't know how to make chemically stable devices. Energy Conversion has been turning out devices in a discrete package and in thin film form and is now incorporating the devices into actual products, including electrically alterable "read only" memories for computers, solid-state electroluminescent displays, and solid-state printers. "We're not just a device company," Ovshinsky says. "We're going flat out to make actual products." Cohen, who says he's "familiar with the problems that stand in the way of a practical technology," adds: "I don't see the need for any breakthrough ideas. I see a need for manpower, time, and money."

Still, there are major hurdles ahead. Even if the company's devices and products work, they may not be outstanding enough to supplant existing products; or they, in turn, may be outmoded by other new technologies before they get off the ground.

Whatever the technological outcome may be, the scientific fallout promises to be substantial. Already scores of physicists are struggling to understand how the switching effect works. There is considerable debate as to whether the phenomenon is primarily electrical or thermal in nature, and there are a number of competing models, none of them generally accepted. Solid-state physics has been gearing up for an assault on disordered systems for several years now, and Ovshinsky seems to have come along at just the right time to dramatize the field. And if his devices ever do catch on, the priority question and the other controversies may no longer seem important. As one eminent scientist observed: "Edison wasn't the first to invent the incandescent bulb but who remembers the guys who preceded him?"

—PHILIP M. BOFFEY

NEWS IN BRIEF

• **CALIFORNIA LIMITS DDT USE**: The Agriculture Department of California, a state which uses more pesticides than any other, has adopted regulations to restrict the use of insecticides DDT and DDD. The two pesticides have been banned for use in home gardening and households; their dust forms have been prohibited from agricultural use, and their liquid forms allowed in agricultural use only when no reasonable substitute can be found. The new ruling, which will take effect on 1 January 1970, is expected to reduce by one-third the use of DDT in the state of California.

• **HOUSE ANTIRIOT PROVISION**: The House on July 31 approved a mild 2-part campus antiriot amendment attached to an HEW appropriations bill. A provision similar to last year's rider would provide that federal aid be cut off to students engaged in serious college disruptions. A new provision would bar federal aid to institutions that fail to punish rioters. As was the case last year, no provision is made in the bill to enforce either measure; the House Appropriations Committee earlier failed to pass a provision that would have designated the Secretary of HEW to set institutional guidelines for enforcement.

• **UNIVERSITY OF TEXAS AT DALLAS**: The Texas State Legislature has transformed the Southwest Center for Advanced Studies (SCAS), a private research institute in Dallas, into a state-supported degree-granting campus of the University of Texas. The action will give Dallas a state-level institution and ease SCAS's financial worries (see *Science*, 13 December 1968). The legislature rejected an alternative proposal that would have made SCAS a part of the University of Texas, but would have allowed it to develop joint doctoral programs with other public and private institutions in the state as well. The state legislature has restricted the enrollment of SCAS to graduate students until 1975 as a concession to other institutions in the area, particularly to the University of Texas at Arlington, which feared competition from SCAS for students, funds, and influence. After 1975, SCAS will be allowed to admit students on the junior and senior level.