(*6*, p. 54). These external factors, which still have not been studied by intertidal modelers, are the very processes that larval ecologists and zooplankton ecologists have been trying to quantify for years. Although the logistical problems of working with microscopic larval stages in the field have often limited investigations to methods with less power of inference than might be desired, the large body of literature produced in these studies deserves to be credited. Jonathan Roughgarden and his colleagues, like fellow ecologists Joseph Connell and Anthony Underwood, are making important contributions, not only with data, but by directing the attention of intertidal experimentalists to the plankton. Nevertheless, the trendy new field of "supply-side ecology" seems more than anything else to be a novel way of introducing existing ideas to an audience that has been slow to acknowledge them in the past.

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U.S. Management and Productivity

M. N. Baily appears to miss the point of the argument that he presents under the heading of "Management failures" (Articles, 24 Oct., p. 443). The issue is not whether "both old-style and new-style managers made their share of mistakes." Of course they both did. Baily states that the predominant management attitude taught M.B.A. graduates in the 1970s was "to achieve quick results before they move on to the next industry" (the product is irrelevant—only the bottom line counts). On the whole, corporate managers made few mistakes as they assiduously followed this philosophy to its logical conclusion.

But when management lacks commitment to product or to quality, it transmits that attitude to its employees. If the only corporate priority is to maximize current profit with the least investment, can (indeed, should) labor's attitude be any different? Both groups are behaving "rationally" within their perception of optimum strategy in a free-market economy. Given the monomaniac preoccupation with short-term results, the plateau in productivity is not surprising.

Unfortunately, economists and society are only now beginning to realize who the hindmost turned out to be, and that the devil has indeed taken them. The Pogo principle has struck again.

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Baily's review of trends in U.S. productivity growth leads him to endorse the counterintuitive idea that technological innovation has been declining in the U.S. economy in recent years. This seems a strange argument, as the development of the computer on a chip in the early 1970s has led to extraordinary innovations in both products and production processes.

Perhaps the problem is that the data Baily draws on have been inadequately sensitive to the economic impacts of computerization. He does not report, for example, that those who compile the data on gross national product (GNP)—from which his figures are drawn—did not have, until quite recently, a price index for computers. Since their prices have been falling sharply, the lack of a price index led to a significant understatement of GNP growth. When government economists introduced a price index for computers at the end of 1985, they found that GNP in 1984, measured in 1972 dollars, was $100 billion higher than previously thought (*1*, pp. 16–17). This increased the annual growth rate of total GNP from 2.7% to 3.6%. (To be sure, when the statisticians shifted to 1982 prices, this $100 billion gain disappeared almost completely. This extraordinary sensitivity of the data to a technical change such as a shift in the base year, however, is simply another indication of the problems in the existing measurement techniques.) Moreover, there are many other electronics-based products for which adequate price indexes have been lacking or where existing techniques confuse technologically generated price declines with reductions in output.

At the same time, there are many sectors of the economy in which increased use of computers is not reflected in increased output because of other measurement problems (*2*). For government, banking, health care, retail trade, and other sectors, there are only indirect measures for changes in constant dollar output. This means that any computer-based productivity advances in these sectors are unlikely to show up in the GNP data.

In short, the existing accounting scheme has cumulative defects. The contributions of electronics to increased productivity are measured adequately neither at the point of production nor in many of the industries in which the technologies are actually used. Before we wring our hands about lack of technological innovation in the United States, we would do well to make some innovations in the 40-year-old accounting schemes used to measure output and productivity.

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Response: Block states that the idea of declining innovation in the 1970s is counterintuitive, given the innovations in computer technology that took place. He also states that the contributions of the computer to productivity are not being picked up in the industries that use them. I agree with both points and, indeed, made them in my article. My agreement is qualified by a skepticism about the actual contributions computers are making to productivity.

I am familiar with the problem of the government's price index for computers. I did not discuss it in my article because index number theory and practice are somewhat arcane for the general reader, and this problem turned out to make little difference when the numbers were revised. When the old (1972 base) index numbers were used, output was understated because the decline in computer prices was not captured. Offsetting this, however, was the fact that, by retaining the 1972 base year too long, the contribution of computers and other fast-growing industries to overall productivity growth was dramatically overstated. This is because a base-weighted index overstates the output share of products whose relative prices are falling. Improvements in the computer price index and the shift to a 1982 base year were both long overdue. However, when the changes were finally made the revised output data continued to show a dramatic productivity slowdown.

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Erratum: In Eliot Marshall's article "End game for the N Reactor?" (News & Comment, 2 Jan., p. 17), the environmental group demanding an impact statement on the plant's restart is the Natural Resources Defense Council. The present manager of the N Reactor is UNC Nuclear Industries, Inc., not Rockwell International, which runs the PUREX plant at the same site. Both companies will be replaced by Westinghouse this year.