reduce pollutant emissions causing acid deposition. In this context, Abelson's position is both unconvincing and puzzling.

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References

1. G. Abrahamsen, *SNSF Proc. Int. Conf. Eco. Impact Acid Precip.* (1980), p. 58.
2. *U.S.–Canada Memorandum of Intent on Transboundary Air Pollution, Report of Working Group 1* (U.S. Department of State and Department of External Affairs, Canada, 1983).
3. *U.S.–Canada Memorandum of Intent on Transboundary Air Pollution, Report of Working Group 2, Modelling Subgroup Report* (U.S. Department of State and Department of External Affairs, Canada, 1982); J. N. Galloway, D. M. Whelpdale, G. T. Wolff, *Atmos. Environ.* **18**, 2595 (1985); *Visibility and Other Air Quality Benefits of Sulfur Dioxide Emissions Control in the Eastern United States* (Environmental Protection Agency, Washington, D.C., 1984); K. A. Rahn and D. H. Lowenthal, *Science*, in press; D. W. Hanson and S. A. Norton, *Int. Symp. Hydrometeorology Am. Water Res. Assoc.* (1982), p. 25; Panel on Processes of Lake Acidification, National Research Council, *Acid Deposition: Processes of Lake Acidification* (National Academy Press, Washington, D.C., 1984); D. F. Charles, *Ecology*, in press; *Verh. Internat. Verhein. Limnol.* **22**, 559 (1984).
4. J. M. Waldman *et al.*, *Science* **218**, 677 (1982).
5. J. M. Waldman, J. W. Munger, D. J. Jacob, M. R. Hoffman, in preparation.
6. G. M. Lovett, W. A. Reiners, R. K. Olson, *Science* **218**, 1303 (1982).
7. N. A. Camarota, J. A. Kadlecek, S. E. McLaren, V. A. Mohnen, *1983 Winter Cloud Study* (Whiteface Mountain Field Station, Atmospheric Sciences Research Center, State University of New York, Albany, 1983).
8. A. H. Johnson, in testimony before the U.S. Senate, Committee on Environment and Public Works, Washington, D.C., 7 February 1984.
9. National Research Council, *Acid Deposition: Atmospheric Processes in Eastern North America* (National Academy Press, Washington, D.C., 1983); R. F. Wright and J. N. Galloway, in preparation; R. F. Wright, *Predicting Acidification of North American Lakes* (Norwegian Institute for Water Research, Oslo, 1983).
10. National Research Council, *Atmospheric-Biosphere Interactions: Toward a Better Understanding of the Consequences of Fossil Fuel Combustion* (National Academy Press, Washington, D.C., 1981).
11. *Report of the Acid Rain Peer Review Panel* (Office of Science and Technology Policy, Washington, D.C., 1984).

Fuel-Efficient Automobiles

In their article "Technological trends in automobiles" (10 Aug., p. 587), E. J. Horton and W. D. Compton of the Ford Motor Company describe various ongoing technical developments in the auto industry and the possible configuration and fuel efficiency of an "average" new car sold in the late 1990's. The car described by Horton and Compton is quite similar to the medium-sized car projected for the year 2000 by the Office of Technology Assessment (OTA) in 1982 (*1*).

However, as Horton and Compton point out and OTA emphasized in its report, the actual fuel efficiencies achieved by automakers will depend on the demand for efficient cars. Vehicles like the ones described by Horton and Compton and by OTA will not emerge full-blown from the drawing board into mass production. Rather, numerous incremental changes will be introduced into the assembly lines; and automobiles will evolve toward these vehicles, provided each change helps automakers to sell cars (*2*).

In 1981, each of the big three U.S. automakers estimated that their corporate average fuel economy (CAFE, or sales-weighted fuel economy as measured by the Environmental Protection Agency) would reach or exceed 30 miles per gallon (mpg) by 1985 (*3*), which would have been well above the 27.5 mpg CAFE mandated for 1985 by the Energy Policy and Conservation Act of 1975. Since then, however, demand for fuel efficiency in new cars has weakened. And for the sales period from 1 January 1984 to 31 July 1984, only 5 of the 20 best-selling, domestic automobiles had models (specific sets of options) with fuel economies of 27 mpg or more (*4*).

Some of the weakening in demand for fuel efficiency may be attributable to the 30 percent drop in real gasoline prices (corrected for inflation) since their peak in 1981, although real gasoline prices are still 25 percent higher and real crude oil prices 55 percent higher than in 1978 (*5*). While recovery from the recent economic recession and the inevitable drop in U.S. crude oil production (*6*) are likely to increase the pressures on world oil prices, no one can say when or how rapidly oil prices will go up. And if the demand for fuel-efficient automobiles remains slack through a good part of the 1980's, it seems likely that the very fuel-efficient automobile described by Horton and Compton and by OTA may not appear until well into the 21st century.

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References and Notes

1. Office of Technology Assessment, *Increased Automobile Fuel Efficiency and Synthetic Fuels: Alternatives for Reducing Oil Imports* (Government Printing Office, Washington, D.C., 1982), p. 124, table 23.
2. J. A. Alic, L. L. Jenney, T. E. Bull, "Future automobile fuel economy: Technology and the marketplace" (Paper 830983, Society of Automotive Engineers, Warrendale, Pa., 1983).
3. *Ward's Automot. Rep.*, 23 March 1981, p. 90.
4. *1984 EPA Mileage Guide* (Environmental Protection Agency, Washington, D.C., 1984); *Automot. News*, 13 August 1984, p. 44.
5. *Monthly Energy Review* [DOE/EIA-0035 (84/09), Department of Energy/Energy Information Agency, September 1984], pp. 93, 96, 117.
6. Office of Technology Assessment, *World Petroleum Availability 1980-2000* (Government Printing Office, Washington, D.C., 1980).

Horton and Compton state that the "horsepower needed to propel a vehicle against aerodynamic drag is given as C_dAV^3." That is incorrect. At best, the *power* (in fundamental units) is given by $\frac{1}{2}\rho\ C_dAV^3$, where ρ is the air density in slugs per cubic feet and the other parameters are given in square feet and feet per second.

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Erratum: In equation 6 of the Research Article "Effects of age on dopamine and seratonin receptors measured by positron tomography in the living human brain" by D. F. Wong *et al.* (21 Dec., p. 1393), $C_p(t)$ in the denominator of the last term should have been $A_{cb}(t)$. This does not affect the rest of the derivation. In the caption of figure 1, the first word, "Decrease," should have been "Change." The data in parts A and B of figure 3 should have been regraphed on common axes to facilitate comparison. A corrected figure 3 is shown below.