agency's budget—than in preserving the country's timberlands. Indeed, "the world's largest socialized road building company," as Baden calls the Service, has laid down some 340,000 miles of roads, often tearing away soil-holding vegetation from high, mountainous regions in the process.

Supported by U.S. taxpayers, federal agencies have also not learned how to operate economically. Last year, the U.S. Forest Service cut timber from the fragile backcountry of the northern Rockies; when the Service sold the timber, it recovered only five percent of its expenses. The Bureau of Land Management has cleared some three million acres of piñon and juniper trees in the Southwestern United States. To keep ranchers happy, it sells grazing rights for one-tenth to one-fifth of the market price.

Unlike federal officials, the nation's landowning ranchers and timbermen, Baden says, have shown that they take good care of ranges and woodlands. Because such entrepreneurs value their assets, natural resources, Baden believes, are better off in private hands.

The Seed War

"Seeds of Struggle: The Geopolitics of Genetic Resources" by Jack Kloppenburg and Daniel Kleinman, in *Technology Review* (Feb.-Mar. 1987), Massachusetts Institute of Technology, 77 Massachusetts Ave., Cambridge, Mass. 02138.

When Columbus returned to Spain in 1493, he brought not only news of a New World but also maize (corn) seeds. Columbus's venture sparked a continuing global hunt for useful agricultural plants. During the early 1900s, an era botanists call "the golden age of plant hunting," the U.S. Department of Agriculture sponsored 50 search operations worldwide.

The ingredient that breeders use to grow foreign species or to cross-breed for new varieties is "germplasm," the genetic component of plants. By long-standing convention, germplasm has been viewed as the "common heritage" of all nations. Yet only a few nations possess this vital resource in significant quantity; the last glaciation of the Northern Hemisphere (20–25,000 years ago) concentrated most terrestrial plant species in what is now termed the Third World.

During the past two centuries, industrial nations have created billion-dollar seed industries—soybeans, barley, wheat—by selling "elite" commercial germplasm (typically high yield, uniform quality) bred from the developing nations' "primitive" germplasm. Now, Third World members of the U.N. Food and Agricultural Organization (FAO) want firms in the United States and Europe either to make "elite" germplasm available free of charge, or else compensate them for their genetic raw material. In the scuffle, all parties are rushing to patent their germplasm, and a few nations (including Ethiopia) are refusing to export it.

The "seed war" could have severe consequences, warn Kloppenburg and Kleinman, a professor of rural sociology at the University of Wisconsin and a graduate assistant, respectively. Industrial nations must have continuing access to the thousands of "landraces" (primitive native varieties), bred by peasant farmers over millennia, to combat pests, diseases, and

environmental fluctuations that damage crops.

This need was demonstrated by America's 1970 "corn blight": 90 percent of the U.S. corn varieties carried the same disease-prone gene. Since then, a landrace of barley from Turkey that resists yellow dwarf disease has saved U.S. farmers $150 million a year. A new, more digestible soybean variety from Korean germplasm may save them $100 to $500 million a year in heat-processing costs.

The authors propose a compromise to end the seed war: Create a global network of gene banks (where germplasm is stored in a climate-controlled atmosphere) and a "gene fund" to be managed by the FAO. Western nations would contribute according to, say, the size of their seed industries. The money could be spent to conserve global plant resources and train Third World breeders to produce commercial germplasm, too.

The "common heritage" notion is no longer politically workable, say the authors. Western nations must recognize that fact—or return to a native diet of sunflowers, Jerusalem artichokes, cranberries, raspberries, chestnuts, oats, and rye.

ARTS & LETTERS

Johnson's Vision

"Samuel Johnson and the Art of Observation" by Ian Donaldson, in *ELH* (Winter 1986), The Johns Hopkins Univ. Press, Journals Publishing Div., 701 West 40th St., Ste. 275, Baltimore, Md. 21211.

Samuel Johnson (1709–84), the renowned English essayist, lexicographer, poet, and conversationalist, often scoffed at his countrymen's consuming love for foreign travel and exploration. Mere observation had "very little of intellectual" in it, he complained; scholarship and inward reflection were better paths to knowledge.

Not surprisingly, his own writing skimped on eyewitness detail. One reader of *A Journey to the Western Isles of Scotland* suggested angrily that Dr. Johnson must have "passed the Bridge of Don with [his] eyes shut." More sympathetic critics surmised that Johnson's poor eyesight, rather than somnambulance, marred his descriptive powers. (As a child, Johnson recalled crossing the road to school on his hands and knees; in later life, he often burned his wig reading too close to his candle.)

Certainly, "Blinking Sam" (as the Romantics called him) had his blind spots, concedes Donaldson, a professor at the Australian National University. Johnson failed entirely to appreciate painting, for example; he felt it could "illustrate" but not "inform."

But to fault him for insensitivity to the world around him misses the point. "The business of a poet," explains Johnson's alter ego in the novella *Rasselas*, is to examine "general properties and large appearances" rather than "the streaks of the tulip." By assuming a philosophical perspective, Johnson made a virtue of necessity.

Sickly and uncoordinated, Johnson professed a distaste for travel that