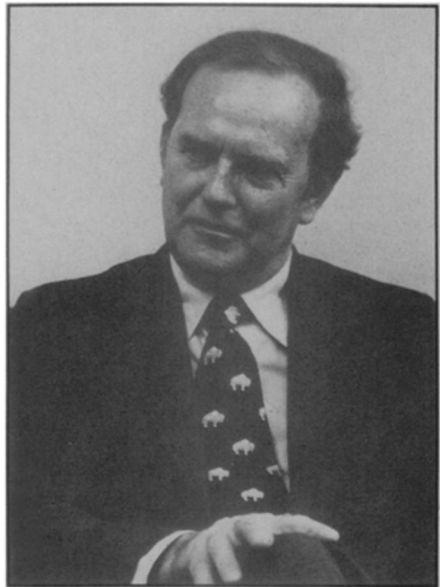


RUSSELL PETERSON: A CALL FOR NEW DIRECTIONS

"I believe that our people as a whole . . . in many ways are ahead of the leaders."

BY JOHN H. DOUGLAS



Peterson: Technology is a Midas Touch.

On Oct. 1, Russell W. Peterson resigned as chairman of the President's Council on Environmental Quality (CEQ) to become the first president of a recently formed citizens lobby called *New Directions*. In an interview with *SCIENCE NEWS*, he spoke candidly about how the government should change its approach to global problems and how his new group hopes to encourage those changes.

"Rus" Peterson simply doesn't come across as a revolutionary—even the soft-spoken, scholarly Republican kind. With sentences that slowly wind into paragraphs, loaded with statistics and conditional subtleties, he still talks like a scientist. A Ph.D. chemist, Peterson worked for 26 years at DuPont as researcher and science administrator. His establishment credentials are still in order: He was Republican governor of Delaware from 1969 to 1973 and chairman of CEQ under Nixon and Ford.

But he can also be a man of surprises. With the help of a good speech writer, he became one of the most articulate and provocative administration spokesmen on

matters of conservation and the environment. As others were forecasting technological salvation, he was calling technology "a modernized version of the Midas Touch," reminding audiences that "the king's euphoria lasted only until lunch—when he discovered that gold makes a hard sandwich." Although coming close to sarcasm in asking why the predicted "Greening of America" has been so slow to come, he has nevertheless attempted the "greening" of two administrations little heralded for their sympathy toward land use planning or aggressive conservationism.

"We have lost touch with our roots in the earth," he says. "We have forgotten that it is not gold that supports us, but the soil, the water and the air. In the larger, ancient economics of our ecosystem, 'cost' means more than dollars; every creature has its function and value, whether economics places a price tag on it or not." The words could have come straight out of Reich, Commoner or Nader—or more likely, Aldo Leopold.

Then came *New Directions*. Populist, environmentalist, civil libertarian, frankly humanistic—even revolutionary. The brainchild of anthropologist Margaret Mead, Notre Dame president Theodore Hesburg, publisher Norman Cousins, World Bank president Robert McNamara, and others, the new lobbying group modestly took as its goal the "seeking of global solutions to the problems of hunger, poverty, illiteracy, unemployment, ill-health, discrimination, population growth, scarcity of energy, waste of resources, environmental deterioration, war and the arms race . . ." and so forth, through the catalog of 1960s liberalism.

The man of surprises took the job. As he tells it, the matter was broached simply, over lunch with McNamara, followed by a few quick meetings with other organizers. The goal was to establish a broadly based citizens lobby, somewhat on the order of Common Cause. Close ties to other lobbying groups were envisioned, with *New Directions* acting to establish a coalition of like-minded groups. A few wealthy donors were expected to help the lobby get started, but its ultimate strength would come from a membership of several hundred thousand, who would contribute money and time.

Why does a man leave government, especially the Office of the President, to try to change policy from the outside?

"Because I have gone through an evolutionary process, leading me to appreciate the need for focusing on global problems, long-range problems, and on the interaction of variables. You might say I developed an appreciation for the holistic view of things."

But why not stay in the administration and continue to push there?

"Because I consider this opportunity with *New Directions* a greater one. . . . In fact, there are very few people who

have any long-range perspective, or global perspective, in the decision-making operation. This has always been true as far as I can see. It's true in the private sector, in industry. Most decision makers are myopic. Those who are elected for office see the day of election as a critical upcoming milestone. Right now it's only a month away. . . . And congressmen, who run every two years, they're always running for office. Their principal focus is on getting reelected, with few exceptions. . . .

"The immediate near-term is the prime concern of most decision makers, and I believe that our people as a whole are more concerned about the long-range and in many ways are ahead of the leaders."

Then how could the government be changed, say in the area of natural resources, to give it a more "holistic" view?

"I think that a reorganization of the government so as to emphasize the multiple use of our public lands would be very much in order . . . a [cabinet level] Department of Natural Resources, where the management was carefully selected. . . . I would take these different organizations dealing with public lands and maybe wipe out that particular structure. Instead of talking about a Bureau of Land Management, about a Fish and Wildlife Service, about the National Park Service, I would organize so that the public lands in general were managed for these many different uses."

And similarly for energy:

"Today we do not have an adequately effective, centralized energy planning and implementation institution. . . . I would want somebody in the cabinet who was responsible for all aspects of the energy problem. . . .

"I don't think the world has yet faced up to how serious the energy problem is. One of the most critical milestones in the history of man will come before the end of this century, when the world peaks out in the production of oil. . . . All of a sudden we come to a day of reckoning, when despite of all efforts to get more oil out, it's going to start going downhill. And over a period of a few decades it would average roughly a rate such that it would be cutting production in half every 14 years. So you can imagine mankind moving ahead in anticipation of the year 2000—doubling consumption every 14 years—but instead of doubling, it will be cut in half."

As the talk turns more toward technical details, Peterson warms to his subject; the scientist emerges from the bureaucrat. With increased gestures and an authoritative modulation in his voice replacing the previous monotone, Peterson is heatedly contradicting 30 years of government policy:

". . . especially if we went to the breeder reactor. This whole thing

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Since early summer Venus has been appearing low in the west just after sunset but hasn't been very conspicuous despite its brilliance. Until the end of August it set less than an hour after the sun. But now moving rapidly from the sun's direction it remains visible after the sky is dark. On Nov. 1, for middle latitudes in the United States, it sets about 1¾ hours after sunset. By month's end this will increase to more than 2½ hours.

Except for the moon, Venus will be the brightest object in the evening sky, so you'll find it easily as daylight fades. Even before it sets, if you look toward the east, Jupiter will be visible in Taurus with more than a third the brilliance of Venus.

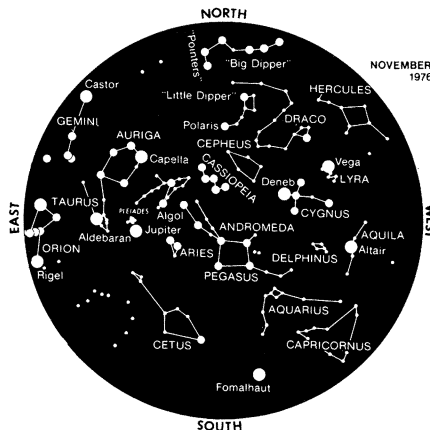
Jupiter is opposite the sun on Nov. 18, when it rises at sunset and sets at sunrise. It's the largest of the planets with a diameter of 88,700 miles, more than eleven times that of earth. It takes nearly twelve years to revolve around the sun, at an average distance of 483 million miles. With 318 times the earth's mass, it contains more material than all the other planets combined. However, the sun is more than a thousand times as massive.

With 13 known moons, Jupiter holds the planetary record, and no doubt there are more very faint ones, which haven't yet been discovered. The four brightest were the first astronomical discoveries with a telescope, when Galileo in Italy first saw them with his tiny instrument in 1610.

Using another small telescope, Simon Marius in Germany had actually seen them earlier but he didn't realize what they were until Galileo made his announcement. Marius then claimed their

NOVEMBER STARS

BY JAMES STOKLEY



To use star map hold over head with directions oriented as indicated.

Nov. 4	1:10 am EST	Algol at minimum brightness
6	10:00 am	Moon farthest
	6:15 pm	Full moon
7	4:00 am	Mercury behind sun
	8:00 pm	Moon south of Jupiter
14	10:00 am	Moon south of Saturn
	5:39 pm	Moon in last quarter
18	3:00 am	Jupiter opposite sun
20	8:00 pm	Moon nearest
21	10:11 am	New moon
24	8:00 am	Moon north of Venus
	8:00 pm	Mars behind sun
28	7:59 am	Moon in first quarter

discovery and named them Io, Europa, Ganymede and Callisto. These names are still used, although Galileo receives credit for their discovery.

Their diameters range from 1790 miles for Europa (the only one smaller than our moon) to 3120 miles for Ganymede, which is bigger than Mercury.

Edward E. Barnard, an American astronomer, found the next in 1892 from the Lick Observatory in California. Perhaps 125 miles in diameter it's much fainter than Galileo's four. Barnard didn't name it, so it was long known simply as Jupiter V. The same practice was followed as others were found. Eight more, all less than a 100 miles in diameter and so faint that only the largest telescopes can reveal them, have been discovered since then. Charles T. Kowal, at the Palomar Observatory in California, found the 13th on Sept. 14, 1974.

All the other satellites of the solar system (Saturn has 10, the second highest number) have proper names, usually given by their discoverers. Last year the International Astronomical Union decided that those of Jupiter should be named as well. The nearest to the planet (V) is now called Amalthea. Then, in order outward, come Io, Europa, Ganymede and Callisto, followed by XIII (Kowal's 1974 discovery), called Leda after its discoverer's suggestion. The rest are: Himalia (VI), Elara (VII), Lysithea (X), Ananke (XII), Carme (XI), Pasiphae (VIII) and Sinope (IX).

Leda seems to be the smallest, with a diameter of 6 miles or less. It's about 6.3 million miles from Jupiter. Amalthea's distance seems to be about 112,000 miles. □

. . . Peterson

frightens me very much, as it does people all over the world. To me it is a certainty that nuclear weapon proliferation will result from nuclear energy proliferation. People are pushing hard for nuclear energy proliferation and pretending—and believing, in some cases—that we can, by treaties, by inspections, by pledges, protect ourselves from the hazards of nuclear materials used as weapons by terrorists or by governments at war. I think that's naive. We kid ourselves that we can protect future generations, and thus go ahead expediting the very steps which will further nuclear proliferation. . . .

"I think the alternate choice is solar energy. Solar energy is nuclear energy, nuclear fusion, but it's a nuclear reactor properly located."

Although the chairmanship of CEQ placed Peterson outside the hierarchy of daily government operations, it did offer him a unique perspective from which to judge the need for society to take "new directions" in addressing global problems. He was vice chairman of the American delegations at the World Population Conference in Bucharest and the Habitat

Conference in Vancouver. He also apparently enjoyed traveling to developing countries, and talks knowledgeably about family planning in Bali or the workings of cow dung fermenters in India. Like others, he puts great importance on population control, but he is unusually optimistic:

"We're having great success. In some of the most critical areas of the world, the poorest of the poor *are* practicing family planning; they *are* limiting family size. . . . This runs in direct opposition to what many people have been stating . . . that you can't get people to practice family planning until they have had a marked improvement in economic status. It's just not true."

Again he emphasizes the need for a broad perspective, curbing population while slowing environmental deterioration while increasing food production. And although he says the United States has a generally good record on food aid, "at times we have used food as a weapon. . . . I'd like to do whatever I could do to get food out of that category." Most of all, people in developing countries need help "so that they can help themselves."

Appreciating history often requires a sense of irony. Certainly it is ironic that the goals, rhetoric and even some of the characters of the New Frontier are re-emerging, more than a decade later, under the banner of New Directions. Even more ironic is the selection of a Nixon appointee—an industrial scientist turned politician—to be the organization's visionary head. On the other hand, the times may call for just such a combination, one operating outside of, rather than within, the government. The goals may, in the words of one writer, be "grandiose," but Peterson's approach is not. He talks with heads of state, but takes time to listen to an illiterate farmer in Bangladesh:

"He showed me the pond that he just recently built. He had put in some tilapia fish as another source of food. The family was practicing family planning, and as far I could tell they were pretty happy. They talked positively about the future; they were doing things with their own hands and ability. I think that is typical of us human beings—that if we're moving forward toward some goal that we think is important, then that is our source of happiness. That's progressive movement." □