

PARALLEL PATHS

Peace Corps helped twins launch science careers

by Eric F. Frazier

Identical twins Daniel Kim-Shapiro and David Shapiro-Ilan have more in common than matching DNA. Both 49-year olds are high-level research scientists. Both credit Peace Corps volunteer service 25 years ago with helping to launch their professional careers, and both are still making a difference in people's lives through advanced research and education.

Dany, as the older (by five minutes) brother is known to friends and colleagues, taught physics at a teachers college in Zaire, now the Democratic Republic of Congo, from 1984 to 1986. Today, he is a physics professor at Wake Forest University in Winston-Salem, N.C., where his hemoglobin research focuses on curing sickle cell disease and making stored blood safer.

"There is no doubt that Peace Corps helped me develop my career and was a great asset when looking for a professor job," Dany says.



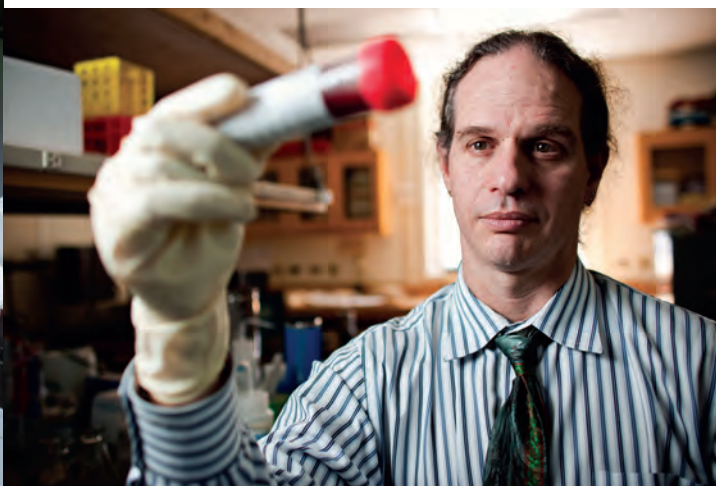
David served as an agricultural volunteer in Niger from 1985 to 1987. Today, he is a research entomologist with the U.S. Department of Agriculture's Southeastern Fruit and Tree Nut Laboratory in Byron, Ga. He focuses on controlling crop pests using natural enemies like nematodes, tiny worm-like parasites, instead of chemical pesticides.

"I was already interested in a scientific career oriented toward improving agriculture by decreasing chemical inputs to the environment," David says. "Peace Corps was kind of a 'testing ground' to see if I really wanted to go in that direction. In the end, Peace Corps definitely reinforced my career aspirations."

From childhood, the twins shared an interest in nature and science. Born and raised in New York City, they spent weekends at their grandparents' country home, where their grandfather encouraged them to collect and study insects and amphibians. The mischievous youngsters performed "household experiments" like starting fires with rubbing alcohol and dissecting things for a peek inside. They enjoyed switching places and fooling schoolteachers.

As they grew older, they followed separate but strikingly similar paths, like the mysterious entangled subatomic particles that quantum physicists have observed behaving in unison, no matter how far apart. Both brothers qualified for honors science programs but at different high schools. Both headed west for top colleges but in different states. After earning undergraduate degrees in physics and biology, both volunteered for Peace Corps and went to Africa but to different countries.

Following Peace Corps, they earned masters and doctorate degrees at four



Top: David (left) and Dany Shapiro at the age of 10.

Far Left: David Shapiro-Ilan at work in his USDA-Agricultural Research Service lab.

Left: Daniel Kim-Shapiro examines a blood sample in his Wake Forest lab.

Peggy Greb/USDA-ARS

Ken Bennett/Wake Forest University



David Shapiro stands outside his home in Bazaga, and Dany Shapiro fishes in the Kwilu River.

different universities and completed post-doctoral fellowships in 1996—David as a Fulbright Scholar in Israel, while Dany was a National Institutes of Health Fellow in California. Each married and attached his spouse's surname to his own, but one added it before and the other after. Each has fathered only boys. One has three; the other has two.

After more than a decade working in separate fields, David asked Dany to apply his physics expertise to a study of how electromagnetism influences the movement of nematodes in soil, and in 2009, they published a paper together in a scientific journal.

They speak about their Peace Corps days as if it were yesterday. Experiencing dramatically different cultures and helping people with acute material needs produced indelible memories.

David was the first Peace Corps volunteer to serve in Bazaga, a village of about 200 families, near the southwestern border with Nigeria. When he arrived, he found the mud house where he was to live full of stored grain. "I think they didn't believe I was coming," he says. David acclimated himself to life without electricity or running water and led projects digging wells and planting trees for firewood and to slow desertification. "The best part was how rewarding the job felt," David says. "The people there were

extremely happy to have me there and grateful for the things we were doing." Subsequent Volunteers told him his village became a model for others.

Dany envisioned himself in similar rural conditions but went instead to Kikwit, a regional capital and commercial center with a population then of about 250,000 people. Still, the city had just one paved road and mostly mud houses. He had expected to teach high school physics but was assigned to one of Zaire's few teachers colleges and taught from the same college textbook that he had just used. "I learned it so much better," he says. "By the time I got to grad school, I really understood it." Lecturing 18 hours each week gave him a level of preparation that he rarely sees in applicants for professorships today.

Their jobs give Dany and David opportunities to recruit for Peace Corps. Dany displays posters in his office and helps the North Carolina Peace Corps Association at campus events. David's USDA lab hosts numerous college interns, and he encourages them to consider volunteering. For budding scientists, the twins' experiences appear to prove a simple hypothesis: Peace Corps service produces lasting value for volunteers and the people they help.

Eric F. Frazier lives and writes in Kernersville, North Carolina.

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