



👨‍👩‍👧 Yuh Nung Jan
and Lily Jan saw an
obvious opportunity
in working together.

To most of us, “May I use your centrifuge?” hardly sounds like pillow talk.

But for scientists who share both marriage and laboratory—who live together, raise children together and work together—the language of love is often indistinguishable from the language of science. As one such scientist puts it, “My wife and I are so intimate professionally that we can discuss science in shorthand. It’s wonderful.” Another is more cryptic: “Science is the only bit of our marriage that has always worked 100 percent.”

The success of such couples isn’t just luck. In fact, scientists who manage to share both pillows and pipettes generally have certain traits in common: mutual respect for each other’s work; separate, carefully carved-out research niches; more or less equal status and a feeling of shared success. They also have uncommonly good marriages. Most think their spouse the smartest person they know and the person whose opinion matters most. Their mutual delight in the wonders of the lab deepens their relationship: Stalking elusive science with someone you love is serious fun.

Take Lily Y. Jan and Yuh Nung Jan, one of several collaborating couples within HHMI. The Jans, both HHMI investigators at the University of California, San Francisco, have shared a marriage since 1971 and a lab since 1979. Both study the nervous system of flies, searching for themes common to other organisms, and most of the time they simply alternate authorship prominence on their publications. Their theory is that when two people work together, the whole of their work is greater than the sum of the two separate parts. “Inevitably you fight, and then you figure out how to avoid fighting,” says Lily. “But if you truly care about a question, you want to find the right way. So you argue until you figure out how to make it work.”

But harmony—not argument—seems to dominate the Jans’ life. They met as physics students at the National Taiwan University in Taipei and married as graduate students in biology at the California Institute of Technology in Pasadena. Their first mentor, the late molecular biologist Max Delbrück, who won the 1969 Nobel Prize in Medicine, kept their work separate, urging them to tackle problems independently. Still, the pair loved talking science together, the way some people like arguing politics or philosophy. As Lily puts it, “We’re both curious about the questions the other is addressing. It’s just simple curiosity.”

In 1974, when the Jans had to choose partners in a neurobiology course, they chose each other, taking advantage of what seemed to them an obvious opportunity. In essence, they began sharing fruit flies the way other couples share china and silver. Nothing seemed more natural, says Yuh Nung. “In our case, working together works out very well.

She is very patient, and I’m a little the opposite. She is capable of focusing on one area and learning everything about it. I tend to come out with wild and crazy ideas, and occasionally there is a good one. So with our combination, we can turn some good ideas into useful work.”

As he speaks, Yuh Nung sits at his computer in a small office filled with piles of papers—papers written by postdoctoral fellows and graduate students, journal articles, graduate applications—and a painting of fruit flies done by his daughter, Emily, when she was in high school. (Down the hall, Lily’s office looks much the same.) Lily looks at him, nodding occasionally. She waits for a few seconds until she is certain he has finished speaking and then tackles the same question. Yuh Nung and Lily are calm, respectful and complementary to each other. It is easy to imagine them working together.

It’s also easy to see that the Jans are not joined at the hip. They have done what most successful collaborators do: They have each developed their own area of expertise. Yuh Nung focuses on the development of the nervous system, Lily on its function. “Then we each have some independence in the lab and in the community,” explains Lily. The arrangement is practical as well: Yuh Nung goes to meetings related to development and Lily to those about function, a division that proved especially valuable when their daughter, now 25, was small. It was during those years that teamwork mattered most. “We basically worked on raising our daughter and collaborating on projects,” says Lily, recalling that each evening Yuh Nung would walk her home so she could relieve her mother, who watched Emily (Max, their 17-year-old son was not yet born.). “Then he would go back and stay with the prep until 2 a.m. We had to work shifts on the same experiments.”

Even as the two talk about the tough times, when both kids and petri dishes needed tending, they seem unsurprised, almost unaware that they have accomplished what many spouses would find impossible. “It’s the only life we’ve had,” says Yuh Nung, shrugging.

The Jans’ collaboration was made easier by their simultaneous entry into science. Neither was more advanced than the other. Not all couples share that advantage, however. When HHMI investigator and cancer biologist Charles J. Sherr met Martine F. Roussel, he was running a laboratory at the National Institutes of Health (NIH) in Bethesda, Maryland. Roussel, six years his junior, was a Ph.D. student in cancer biology at Villejuif Hospital in Paris and later at the Pasteur Institute in Lille, France. The two maintained a long-distance relationship until 1980, when Roussel went to NIH as a Fogarty Scholar.

At first, Roussel and Sherr merged households but not beakers. “I refused to work with him for three years,” says Roussel. “My concern was

A MORE PERFECT UNION

By Dorothy Foltz-Gray

Scientists who have found partners in the lab dissect their relationships and find that good marriages make better science.

that I wouldn't get credit for what I did. But even though we were in two labs, we spent so much time thinking about science together. It was so clear that we were working together intellectually. So Chuck said, 'Do experiments with me. At least we will get something out of it.' And as soon as we started working together, our projects were successful."

Working together was one thing; building careers was another. What Roussel and Sherr understood about each other—that they were intellectual equals—wasn't as easy for outsiders to grasp, since one scientist was junior to the other and a woman to boot. In 1983, St. Jude Children's Research Hospital in Memphis, Tennessee, recruited Sherr to head its new department in tumor cell biology and added his new wife as a junior faculty member. "There weren't many women scientists then," says Sherr. "Every time she did something, they would say it was my work. There was an underlying prejudice because she was a woman."

Roussel agrees that her path was a rocky one. "I was an appendage. I was there because they wanted Chuck. I didn't like it, but there was not much I could do." Sherr was also his wife's department chair, which made decisions about promotions and raises tricky at best. "I was the worst paid," says Roussel, "and Chuck didn't want to promote me because he didn't want people to think he was favoring me." He's still her department chair, but now she reports to someone else.

As Sherr puts it, "I was her greatest supporter and her greatest obstacle. That ambiguity was always there. We've just handled it better than most people."



STEVE JONES

Martine Roussel has worked hard to step out of husband

Roussel faced other obstacles as well. She spoke little English when the pair met, and writing, whether in English or in French, was never her strong suit. While presentations about oncogenes were difficult in French, they were terrifying in English. As Roussel struggled to master these professional skills, she found that she would soon need to master a new skill, mothering. In 1985, she and Sherr had a son, Jonathan, and Roussel took three weeks of maternity leave—with unexpected results. Other scientists in the lab had taken over Roussel's experiments in her absence, so she was forced to develop projects independent of Sherr's. Soon she began to get her own funding, which, in turn, led to promotion and independent recognition.

Today, both Sherr and Roussel are full members (the equivalent of

MARRIAGE UNDER A MICROSCOPE

For a scientist married to another scientist, each sphere—work and home—inevitably affects, and sometimes instructs, the other. Below, some HHMI investigators and their spouses offer their observations:

Science Schooling Marriage

"You have to be rational in our profession, to see the other side of things. That carries over. I consider it a stroke of luck to have met a scientist."

— **Johann Deisenhofer**, married to **Kirsten Fischer Lindahl**, both HHMI investigators at the University of Texas Southwestern Medical Center

Competition

"We don't nickel and dime who did what."

— **Philippa Marrack**, married to **John W. Kappler**, both HHMI investigators, National Jewish Medical and Research Center, Denver

"People ask, 'How do you feel when she wins so many awards?' I say, 'I feel great.'" — **Thomas A. Steitz**, married to **Joan A. Steitz**, both HHMI investigators, Yale University

Collaboration

"If you collaborate with another scientist, on occasion, things can happen that poison the relationship. But Helen and I have a large basket of trust a priori that facilitates collaboration."

— **David Piwnica-Worms**, director of the Molecular Imaging Center, Washington University, St. Louis, married to **Helen M. Piwnica-Worms**, HHMI investigator, Washington University

Communication

"Every so often John and I have a fight, but the science trundles along." — **Philippa Marrack**

"The good news is that couples who work together are constantly communicating so issues can be worked out immediately. The bad news is that

there's opportunity for friction at almost any time."

— **Jonathan G. Seidman**, HHMI investigator, Harvard Medical School, married to **Christine E. Seidman**, HHMI investigator, Brigham and Women's Hospital and Harvard Medical School

Shared Identities

"People who don't know you have trouble separating you. They say, 'Who's the brains there?'" — **John W. Kappler**

"Someone always wants to know who did it. But science is not a solo act."

— **Christine E. Seidman**

Boundaries

"Our life is a seamless interface as we go back and forth from office to home. It all blends together as one big adventure." — **David Piwnica-Worms**

Attraction

"I don't think it was the biochemistry that drew me to her." — **Thomas A. Steitz**

full professors) at St. Jude's. Struggle is a verb they use in the past tense, although Roussel notes there is occasionally friction about who gets credit for what. "We have tough discussions. In science, you have to discuss every fact, and the facts have to be right, and so you apply this to your relationship as well. You learn how to speak up, to say what you think, even if it's not pleasant. But two strong people cannot be at the top simultaneously all the time. You have to give in at some point."

Sherr tells a revealing story. Roussel, a gardener, wanted a computerized watering system for their yard in East Memphis. Sherr balked at the expense, the inevitable complications. But Roussel persisted. Every day, says Sherr, she'd mention how nice a watering system would be. Finally, Sherr agreed to review some information, and Roussel called for quotes. Sherr grilled the contractors and settled on a system just high-tech enough to interest him. Suddenly he was a kid with a new toy, and she had a blossoming garden. With gardens or shared careers, "each person has to get something," says Roussel.

Not all married scientists choose to cultivate their garden together, or at least not the same patch. HHMI investigators Eric Wieschhaus and Trudi Schüpbach, both molecular biologists at Princeton University, have drawn firmer lines between their careers than either the Jans or Sherr and Roussel. Wieschhaus and Schüpbach met in Zurich in 1975, as Schüpbach was completing graduate work and Wieschhaus a post-doctoral fellowship. Initially, they published a few papers together, but when they arrived at Princeton in 1981, he as an assistant professor and she as a nontenured research biologist, they set out on different research paths. Wieschhaus studied embryo development in flies, and Schüpbach studied oogenesis, or what happens in mother flies as eggs form.

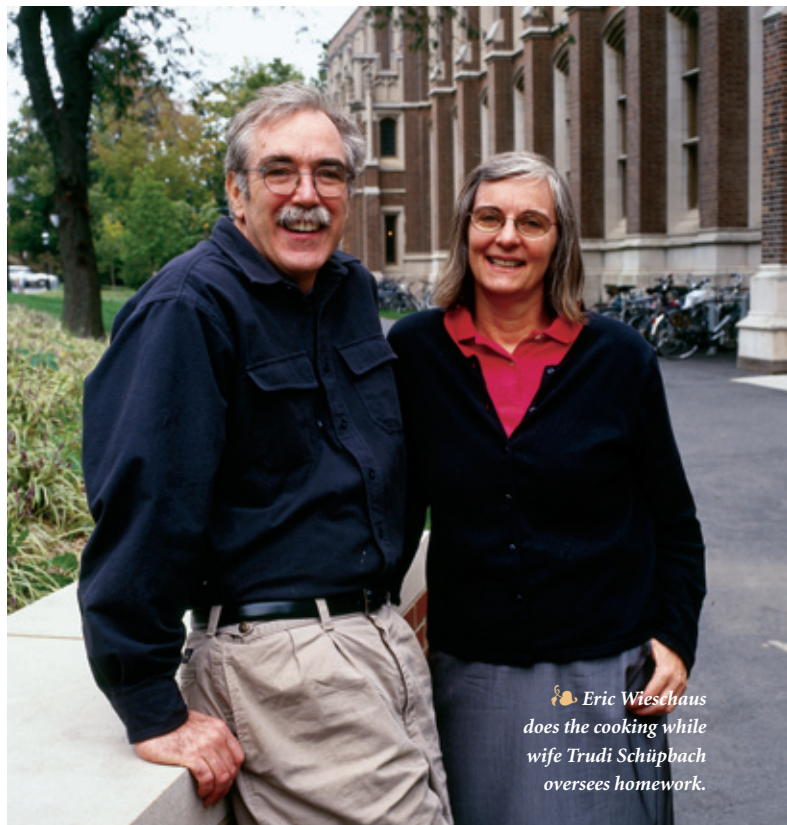
"The lines were pretty clear between our research programs early on," says Wieschhaus. "We had to keep them distinct initially, in part because she didn't have a professorship. It would not have been good for her to be seen as just another member of my group."

By the mid-1980s, Schüpbach had funding for her own laboratory, and, as their professional identities became more distinct, they began to tiptoe back together. Now Wieschhaus' lab is on the same floor as Schüpbach's; they hold joint lab meetings, and postdoctoral students float between the labs to exchange ideas and information. "We confer on each other's projects," says Schüpbach. "That's one of the pleasures of being in the same field. You can share little daily triumphs—like when something works or when someone finds something out. And you can share your depression when the experiments didn't work—for the fifth time."

When people have their own successes, they can gracefully share huge triumphs too, as Schüpbach did when Wieschhaus won the 1995 Nobel Prize in Physiology or Medicine. "I knew how important the work was, so it was really gratifying to see it honored in that way," says Schüpbach. "A lot of people working with flies were very happy. It validated the work we're doing. And I've never felt that I was toiling away, with no one noticing what I do. But I can imagine that if one were working very hard and no one was saying anything, it would be harder."

Both Schüpbach and Wieschhaus are quick to acknowledge their ambitions. Knowing what it takes to cross a scientific border helps them

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 Eric Wieschhaus does the cooking while wife Trudi Schüpbach oversees homework.

to accept each other's long hours in the lab and to share household tasks. Most days, Wieschhaus rides home from the lab on his bicycle, thinking about what he'll cook for dinner, while Schüpbach helps their 17-year-old daughter, Laura, with homework. Wieschhaus likes to cook, mostly because he knows the work will result in success—a prediction less certain in a lab.

When their three daughters (Ingrid, 27; Eleanor, 20 and Laura) were young, however, dreamy bike rides were a luxury. "There was a lot of pressure on our time trying to bring up the children, do the housework," says Schüpbach. "It was really important that both partners equally respected each other's work so that each one would take on these other responsibilities. I never felt that Eric saw his work as more important than mine. When our children were sick, for instance, we would check with each other about who was doing what and who could take off work. In science, in the middle of an experiment, you have to be there or lose a lot of work."

Being there, being supportive, being forthright—these themes surface again and again as couples dissect their collaborations. The point is, good marriages make better science. The 19th-century Spanish scientist Santiago Ramón y Cajal put it slightly differently. The perfect spouse for a scientist can be "the helium that propels him skyward," he wrote in his 1897 book *Advice for a Young Investigator*. "And if fame should smile, its brilliance will surround the two foreheads with a single halo." **H**