



In December, Randy Schekman (left), a member of the Geisel Board of Overseers, received the Nobel Prize for Physiology or Medicine.

## GREETINGS FROM STOCKHOLM

BY HALI WICKNER

**S**TOCKHOLM, SWEDEN, AT ITS COLDEST AND DARKEST WAS NOT ON OUR TRAVEL RADAR. But when our close friend Randy Schekman, a biochemist at the University of California, Berkeley, and a member of the Board of Overseers at the Geisel School of Medicine, won a 2013 Nobel Prize for Physiology or Medicine, our December plans changed.

Schekman and my husband, Bill Wickner, a Geisel professor of biochemistry, are best friends and longtime colleagues who bonded more than four decades ago in the Stanford lab of Nobel laureate Arthur Kornberg when Bill was a postdoctoral fellow and Schekman a graduate student. Forty years later, the friendship, and the conversation about science, continue.

The predawn call Schekman received on October 7 was not entirely a surprise, he admitted, but what followed was beyond expectations. “It’s been overwhelming: emotionally, physically, intellectually,” he said when we found time to talk in Stockholm. From the early morning onslaught of media at his house that first day to a White House visit and finally to Stockholm, the frenzy has been virtually nonstop. Most touching, he noted, have been the congratulatory messages that have clogged his phones and email, especially those from long ago contacts, such as the fiancé of his sister, who died in 1969, and his high school biology teacher. Since October he has been busier than ever and surviving on less than five hours of sleep a night, “because my days are filled and so exciting I don’t want to miss a minute.”

Schekman invited Bill and me to join him in Stockholm for the celebrations surrounding the Nobel Prize awards. Nobel week is carefully orchestrated for the laureates,

spouses, and entourage of guests, down to the dress code for each event.

Bill and I encountered the power of that precise planning even before we left Boston, when the airline refused to check us in because our passports expired within three months. Missing the celebration was unthinkable. It was after 9:00 p.m. in Stockholm, but a nail-biting hour after we called the Nobel Foundation office there, the Swedish consulate in New York faxed the airline a letter asking it to facilitate our departure “as guests of the Nobel Week festivities,” stating that Sweden had no three-month requirement for U.S. passports. The airline agent was impressed; we were relieved.

Stockholm was aglow for the season, and the Grand Hotel, where laureates and guests stayed, was magical, a gracious headquarters for event tickets, schedules, and information. The hotel’s ample breakfast buffet proved a congenial gathering place for families, friends, and colleagues to meet and mingle before embarking on their day’s activities.

Like groupies, the Schekman entourage—which included his wife, their two adult children, and his 86-year-old father, among other relatives and friends—boarded buses to and from the lectures, receptions, a Royal Stockholm Philharmonic Orchestra concert, and other guest events. Each laureate and spouse had a personal attendant and

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driver for the week, which was packed with press conferences, a palace dinner, local visits, and talks.

Schekman shared the prize with James Rothman of Yale and Thomas Südhof of Stanford for their discoveries that, said the Nobel Foundation, “solved the mystery of how the cell organizes its transport system.” They each delivered a lecture on their research at the Karolinska Institute. Schekman’s pioneering work identified the genes that constitute the machinery for proteins made in the cell to reach their destination. The findings proved relevant for hormone secretion and neurotransmission, and useful for understanding and treating diabetes, as well as neurological and immunological diseases.

The real reward, said Schekman, is “the thrill of discovery; to see data that is meaningful and revealing; the thrill of thinking of novel ways to test an idea, then executing it experimentally—for me that’s the most exciting thing about being a scholar.” He will apply his prize money to establish the Esther and Wendy Schekman Chair in Basic Cancer Biology at Berkeley, honoring his mother and sister, who both died of cancer.

Schekman used baker’s yeast to screen for genes involved in the cell transit apparatus, although at the time it wasn’t clear whether the findings would apply to human cells. He and graduate student Peter Novick, also in Stockholm along with his wife and fellow lab alumna, had a stunning insight. They postulated that any mutation which blocked the secretory pathway would prevent cells from increasing in size, and as these cells continued to synthesize DNA, RNA, and proteins, they would grow much denser, jammed with molecules that couldn’t travel. “This brilliant selection of secretion mutants in yeast gave science, in the space of just one year, the entire set of proteins which catalyze the formation and movement of proteins between the myriad subcellular compartments,” as Bill explained. “A realm of inquiry which had relied strictly on microscopy suddenly became amenable to molecular approaches.”

These landmark results were published in 1979. “Randy didn’t give us projects, he gave us dreams,” Novick said. He and his wife were the first of several Schekman lab marriages—testament to the compatibility of a laboratory where enthusiastic students and postdocs worked around the clock, Novick said, so that was where they met people.

Fellow Berkeley biochemist and friend Robert Tjian, president of the Howard Hughes Medical Institute, also a guest in Stockholm, lauded Schekman’s knack for inspiring good science. “You could tell he was going to be a great scientist, prize or no prize. From the start, he attracted the right kinds of people because he didn’t tell them what to work on, but told them to think big.”

“We were a group of young Turks, hired within a couple of years of each other,” Tjian recalled, “and he was a great person to grow up with as a faculty member. We had the same philosophy—to chase really important problems—and we were in an environment where nobody was going to tell us not to do it, even though it was extremely risky. The key thing [is] not to lose track of the pure joy of doing discovery science,” said Tjian, who also hosted a luncheon in Stockholm for the Schekman group.

December 10, the anniversary of Alfred Nobel’s death, is Nobel Day, with the formal award ceremony and banquet. After receiving a diploma and medal from the King of Sweden, each Nobel

having rehearsed the royal protocol, bowed three times—first to the king, next to the Nobel Foundation chair, then to the audience as it applauded.

The banquet that followed at Stockholm City Hall was elaborate and elegant. More than 1,200 guests—men in tails (with obligatory patent leather shoes for the laureates), women in long gowns—filed in to find their places according to a detailed table and seat map. As trumpets blared, the king and queen and their honored guests descended a grand staircase to the center table. After opening toasts, hundreds of servers orchestrated the succession of courses, interspersed with a singing performance that transformed the hall, and capped by a dazzling parade of desserts borne aloft by the servers.

Schekman, chosen to speak on behalf of his fellow physiology or medicine laureates, thanked the foundation for recognizing basic science and “the value of curiosity-driven inquiry, unfettered by top-down management of goals and methods.” Then banquet guests proceeded upstairs to a gilded ballroom for dancing.

Looking ahead, Schekman says he will use the bully pulpit of the prize to advocate for issues important to him, particularly public education and basic research. But the pulpit took on a life of its own when an editorial he authored in the December 9 issue of the *Guardian* lambasting “the tyranny of luxury journals”



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ignited a wave of discussion among editors and scientists. The prestigious science journals *Nature*, *Cell*, and *Science* distort science, he claimed, with their selectivity and preference for fashionable research to boost their brand and influence, and he called for a boycott on publishing in them.

Schekman is editor of *eLife*, a free online journal supported by the HHMI, the Wellcome Trust, and the Max Planck Society. “It’s different, risky, and there’s no guarantee that we’ll succeed,” said HHMI’s Tjian, “but he knows it’s the right thing to do. The model needs changing, and this is going against the grain. I think he relishes the challenge and loves this social side of science.”

Now Schekman is eager to get back to his lab, where, he says, exciting new projects are underway. The distractions may continue, but perhaps he can look forward to some sound nights of sleep.

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