

earth's a little-known chapter of Harvard history: the establishment of an Indian College, funded by idealistic missionaries (who aimed to expand the reach of their faith among Native Americans) and abetted by administrators (who hoped to milk the missionaries for funds during Harvard's leaner years; Brooks quotes then-president Charles Chauncey lamenting "the loud groans of the sinking college"). Harvard's 1650 charter specifies that the College's purpose was to provide for "the education of the English and Indian youth of this country, in knowledge and godliness." (Alas, with the escalation of hos-

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tilities between the Wampanoags and the English settlers in King Philip's War of 1675-76, this aspect of Harvard's founding mission all but disappeared.)

The Harvard of 1661 is as alien to Caleb, newly arrived in Cambridge, as it would doubtless be to recent graduates accustomed to luxurious dining halls and manicured athletic fields. Bethia vividly describes the down-at-the-heels institution: "I had heard that some had deemed

the college building too gorgeous for a wilderness. But the grace of its design cannot have been matched by skill in its construction, for its shingle roof sagged woefully in several places and the sills showed signs of well-advanced rot." The young scholars, only a handful per class, survive on carefully rationed meals, sometimes even paying their tuition with an all-too-rare side of beef. "I was laughing because everybody was up in arms about

O P E N B O O K

Honeybee House Hunting

Beekeepers have long observed, and lamented, the tendency of their hives to swarm in the late spring and early summer. When this happens, the majority of a colony's members—a crowd of some ten thousand worker bees—flies off with the old queen to produce a daughter colony, while the rest stays at home and rears a new queen to perpetuate the parental colony. The migrating bees settle on a tree branch in a beardlike cluster and then hang there together for several hours or a few days. During this time, these homeless insects

will do something truly amazing; they will hold a democratic debate to choose their new home.

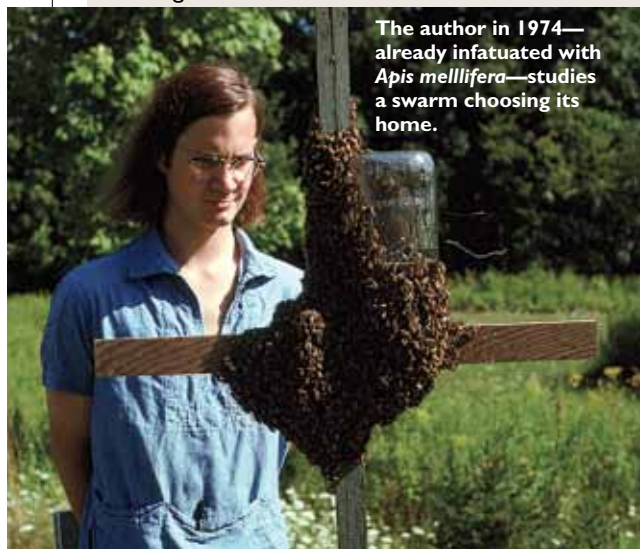
This book is about how honeybees conduct this democratic decision-making process. We will examine the way that several hundred of a swarm's oldest bees spring into action as nest-site scouts and begin exploring the countryside for dark crevices. We will see how these house hunters evaluate the potential dwelling places they find; advertise their discoveries to their fellow scouts with lively dances; debate vigorously to choose the

The more scientists study the social insects, the more they are amazed. Thomas D. Seeley, Ph.D. '78, professor and chair of neurobiology and behavior at Cornell, combines vocation and avocation, most recently in his delightful new book, *Honeybee Democracy* (Princeton, \$29.95). He has the confidence and good humor to include a photograph of himself in 1974, longer of hair and more casual of dress, studying a swarm of his favorite species. The author note on the book jacket advises that he is "a passionate beekeeper." His writing, beginning with this excerpt from the prologue, does his subjects honor.

consensus-seeking assembly is certainly important to behavioral biologists interested in how social animals make group decisions. I hope it will also prove important to neuroscientists studying the neural basis of decision making, for there are intriguing similarities between honeybee swarms and primate brains in the ways that they process information to make decisions.... One important lesson that we can glean from the bees...is that even in a group composed of friendly individuals with common interests, conflict can be a useful element in a decision-making process. That is, it often pays a group to *argue* things carefully through to find the best solution to a tough problem.

My second motive for writing this book is to share with beekeepers and general readers the pleasures I have experienced in investigating swarms of honeybees. I can thank these beautiful little creatures for many hours of the purest joy of discovery, interspersed among (to be sure) days and weeks of fruitless and sometimes discouraging work. To give a sense of the excitement and challenge of studying the bees, I will report numerous personal events, speculations, and thoughts about conducting scientific studies.

The author in 1974—already infatuated with *Apis mellifera*—studies a swarm choosing its home.



JOHN G. SEELEY