Social Signs

The Sociolinguistics of the Deaf Community. CEIL LUCAS, Ed. Academic Press, San Diego, CA, 1989. xiv, 307 pp., illus. $45.

In March of 1988 deaf students at Gallaudet University in Washington, D.C., captured the attention of the nation when they shut down their school in protest. They were outraged at the selection of a new president who was not deaf and who could not communicate with them in American Sign Language; the board of trustees of Gallaudet had chosen a hearing person who was unfamiliar with the deaf community, rather than one of the two deaf finalists for the position. After a turbulent week, the new president and the chair of the board of trustees resigned and I. King Jordan, one of the deaf candidates, was chosen as the first deaf president of Gallaudet, which was founded in 1864 to serve the needs of the deaf community.

The Sociolinguistics of the Deaf Community has been edited by a member of the Gallaudet linguistics faculty, and a number of her colleagues at Gallaudet and around the country have contributed to this insightful collection of studies. As Lucas notes in her introduction, "The protest provides. . .a point of departure for the volume. The major demand was for a deaf president. The issues underlying that demand are fundamentally sociolinguistic in nature." Sociolinguistics is the branch of linguistics that examines the ways in which language varies, depending on such factors as the role speakers are playing in a social setting, the people to whom their messages are addressed, the topic or nature of the message, and the medium or channel by which the message is conveyed. Variation is not dictated solely by the social situation, however: Individuals make linguistic choices in expressing themselves, just as they make sartorial choices in dressing themselves, and their choices reveal a great deal about their values and the groups with which they identify. In attempting to appoint a president who could not use or understand the primary language of the student body, the Gallaudet trustees revealed their lack of esteem for ASL; the students, with a new-found pride and group spirit, responded by insisting that their president also be a member of their culture.

The deaf community until a few years ago was a largely invisible part of the greater American society. By definition, deaf individuals have hearing impairments so severe that they cannot be helped to process spoken language, even with the use of hearing aids. A person who becomes deaf as an adult will, of course, have acquired spoken language—the current president of Gallaudet has such a history. But in the United States children growing up deaf and in contact with other deaf people usually acquire a visual-gestural means of communication, American Sign Language (ASL), as their native language.

Even though ASL has been used here for at least 170 years, the fact that it is unrelated to English but nonetheless a grammatically complete and expressive visual language was essentially unrecognized by linguists and by the general public before the 1960s, when a number of structural linguistic studies of ASL began to appear. These studies show, for instance, that even subtle distinctions such as the difference between "My sister is sick today" and "My sister tends to be sick" can be conveyed by the appropriate use of the hands in ASL.

Once the fundamental linguistic studies have been done on any language, questions about variations in the linguistic rules arise, and sociolinguistic studies ensue. *The Sociolinguistics of the Deaf Community* follows nicely on the purely linguistic work that has been done on ASL. It presents basically descriptive studies in sociolinguistics.

Some of the kinds of variation described in this intriguing volume include sign language forms found only in the black deaf community, gender differences in the use of sign, ASL as used in formal lectures, and the ways in which signers alter and often simplify ASL when in contact with English speakers.

The book contains papers on four themes: contact between ASL and other languages; language planning and educational policy for deaf children; attitudes toward language in the deaf community; and conversational and discourse features of ASL.

Variation in ASL that results from contact between signers and speakers of English is described in a chapter by Lucas and Valli. These authors point out that individuals who can use both ASL and spoken or written English are bilingual to varying degrees, depending on such factors as which language they learned first and whether or not they are deaf. Hearing children of deaf parents are typically bilingual, and deaf individuals whose first language is ASL are also usually bilingual as well, since they are inevitably exposed to the English that is all around them. When deaf signers use ASL in communicating with people who can hear they use a form of "contact signing" that has been called a pidgin language (Pidgin Signed English) by earlier observers. Lucas and Valli note, however, that a number of the features of this language are unique: The contact language may include a combination of ASL signs, finger spelling, English word order, and simultaneous mouthing of English words and making of signs that do not really parallel the mouthed words. The features of this contact sign language are different from those of a pidgin and rather unlike any other linguistic system we know.

The chapters on language policy provide evidence of the complex problems that face educators who want to provide deaf children with optimum instruction. A chapter by Ramsey notes that until recently the common ideal of an educated deaf person was someone orally educated and assimilated into mainstream culture. Now it is recognized that signing, rather than speech, is probably the appropriate medium of instruction for deaf children. In order to provide a traditional school education to deaf children using sign, a number of efforts have been made to create new languages that use manual signs but actually convey English meaning and grammar. One such system is SEE 2, which stands for Signing Exact English. This system apparently appeals to teachers and parents of deaf children, but it is not without its disadvantages for the children themselves, particularly since it stresses syntax at the expense of the other important parts of language and uses the written language as its standard, even though it is ostensibly meant for interpersonal communication as well as instruction. Forcing young deaf children to communicate in a language that is not indigenous to their culture may have adverse effects on their spontaneity and self-esteem.

Clearly the design of SEE 2 is based on attitudes held toward the deaf community and toward language itself. A pervasive belief has been that the most important goal for deaf children is to learn English, to be part of the larger speaking community. Research on attitudes is presented in a chapter by Kannapell, who surveys the attitudes that deaf college students have toward ASL and toward English. Given the implicit cultural messages that surround us all, it is not surprising that some deaf students, like the black children in Kenneth Clark's landmark study, have quite negative views of themselves and their language.

Educators do not appear to have consid-

ered that ASL itself is a rich expressive language that could be used as a medium of instruction, and there are no standard ways of assessing a deaf child's proficiency in ASL, as there are in English. Some of the complexity of this visual language is described in the final section of the book in papers on discourse features. A study by Zimmer of stylistic differences between ASL in a formal lecture and in informal situations reveals, among other differences, that in the lecture signs are made more slowly, cover a larger space, and are held onto longer. A chapter by Roy describes the special features used in an ASL lecture that observers found exciting and fascinating; the topic was mating rituals of the stickleback fish. Observations such as these leave little doubt about the potential of ASL as a language of instruction in an unprejudiced world.

Some of the studies that are reported in this collection are somewhat preliminary and suggestive rather than definitive in nature, but each of the chapters is clear, and a strong editorial hand is evident in the summaries and conclusions that are included.

Linguistic theory will ultimately have to incorporate data from ASL if it is to derive universal rules about the nature of human cognition and human communication. Studies of grammar are necessary but not sufficient; we also need to know how language is used in society. The scholars who have written *The Sociolinguistics of the Deaf Community* have provided an excellent starting point.

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Winter Absences

Where Have All the Birds Gone? Essays on the Biology and Conservation of Birds That Migrate to the American Tropics. JOHN TERBORGH. Princeton University Press, Princeton, NJ, 1989, xvi, 207 pp., illus. $45; paper, $14.95.

The title of this collection of 14 essays suggests an ornithological mystery. Many species of migratory birds, especially some of the 250 species that breed in the temperate zone of North America and winter in the Neotropics, are declining in numbers, but avian ecologists and conservationists have had difficulties pinpointing the causes of this troubling trend. Some investigators suspect that problems on the breeding range are responsible, whereas others blame problems on the wintering range. John Terborgh's far-flung field investigations have given him extensive personal experience with birds and their habitats in both the temperate zone and the tropics. His clear thinking about the threats to migratory birds combines the insights of a keen naturalist with the analytical skills of an ecologist. The resulting book makes for intriguing reading, much like Rachel Carson's *Silent Spring*, which also attracted general readers with the specter of a mysterious threat to songbirds.

Populations of forest-dwelling songbirds—such as warblers, vireos, thrushes, and flycatchers—are featured characters in Terborgh's essays. The breeding habitats of these birds have been subjected to complex changes over the past 350 years. Eastern North American forests were steadily reduced until reaching their nadir in about 1900. Throughout this period populations of most forest songbirds were, as Terborgh suggests, limited by the carrying capacity of their breeding habitat. Recently, forest cover in eastern North America has rebounded, but the regenerated forest is a fragmented one dominated by ecological edges, unlike the extensive unbroken forest in which these birds evolved. In this patchwork forest surrounded by developed lands, forest songbirds are experiencing severe reproductive problems. Their nests are preyed upon by a variety of increasingly abundant predators and parasitized by a burgeoning population of brown-headed cowbirds that lay their eggs in songbird nests, causing the hosts' eggs and young to perish. Today, populations of forest songbirds are declining while the area of their habitat is expanding. Is their inability to reoccupy the expanded forest due to inadequate reproduction or to new problems on wintering areas? Terborgh relies on his own experiences and a review of the literature through 1988 to provide answers.

Whereas forest cover in North America is expanding, in the Neotropics, where migrant forest songbirds spend half the year, forests are rapidly dwindling. Tropical deforestation receives much attention in Terborgh's book; he addresses the social and economic forces that drive deforestation and the ecological consequences, focusing on the impacts for migrants. Terborgh reviews our nascent knowledge of the ecology of migrants on their wintering range and draws several key conclusions. Most migrants are concentrated in geographically small areas just south of the temperate zone: Mexico, Central America, and the Caribbean. Some populations are compressed into winter ranges only 10 to 20 percent of the area of their breeding ranges. Most migrants are species-specific in their selection of forest habitats, and not all require primary forests; some do well in disturbed second-growth or even certain agricultural lands, such as coffee plantations. Terborgh's inescapable conclusion, however, is that, if present land-use trends in the Neotropics continue, more and more migrants will eventually become limited by the carrying capacity of their winter range. Some have already reached this point, and at least one, Bachman's warbler, may have become extinct because of loss of winter habitat.

Despite Terborgh's logical examination of the mysteries of declining migrants, the subject remains controversial. A 1989 symposium on the ecology and conservation of neotropical migrant landbirds failed to reach a clear consensus on either how or where populations are being limited. Much of the uncertainty is due to the paucity of crucial information on the ecology of most wintering migrants. Unfortunately, the most revealing data—on overwinter survival in various habitats—are also the most difficult to obtain. Nonetheless, Terborgh concludes his book with recommendations on what must be done to conserve migrants in both the temperate zone and the tropics. His solutions would preserve not only migratory songbirds but other important elements of biotic diversity as well.

Anyone who loves the vernal chorus of migratory songbirds and is concerned about these evocative creatures and the habitats on which they depend should read this book. The environmental problems Terborgh addresses will be as important in the 1990s as those that Rachel Carson alerted us to in the 1960s. The consequences of not heeding Terborgh's message may be spring forests as silent as those Carson once warned us about.

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Computational Physics

Frontiers in Numerical Relativity. CHARLES R. EVANS, LEE S. FINN, and DAVID W. HOBILL, Eds. Cambridge University Press, New York, 1989. xiv, 435 pp., illus. $54.50. From a workshop, Urbana-Champaign, IL, May 1988.

Numerical relativity—that is, computer simulation of relativistic gravitational fields and their sources—has become one of the most active areas of "classical" (non-quantum) relativity, and a remarkable number of contributors to this volume representing its development are people who have moved into this area after doing important analytic work in general relativity.

The workshop on which the book is based was conceived as a follow-up to a similar meeting at Drexel University two-and-a-half years earlier, which produced the excellent volume *Numerical Relativity and Dynamical*