Linguistic Slips

Errors in Linguistic Performance. Slips of the Tongue, Ear, Pen, and Hand. Papers from a meeting, Vienna, 1977. VICTORIA A. FROMKIN, Ed. Academic Press, New York, 1980. x, 334 pp., illus. $26.50.

Although the term "Freudian slip" has become almost synonymous with "speech error," Freud was by no means the only person of his time to be interested in the significance of errors in speaking, listening, reading, and writing. His contemporary and compatriot, the Viennese philologist Rudolph Meringer published two compendious volumes on the subject, one in 1895 with Karl Mayer and the other in 1908. Meringer's work contained over 8000 carefully collected errors, which he subjected to rigorous linguistic analysis.

During this same epoch, Freud, whose early training was in neuroanatomy and who had published the volume *On Aphasia* in 1891, also turned his attention to speech errors, which he discussed in *The Psychopathology of Everyday Life*, published in 1901. Meringer and Freud had antithetical views on the genesis of speech errors: Meringer viewed them as a dysfunction of language processing and as evidence for linguistic theory, whereas Freud saw them as arising from the speaker's conflicting and suppressed intentions and as evidence for psychological theory.

The Freudian view has been better known in this century. There has, however, been a continuing search for insights into the structure of language and the way it is represented in the human brain as revealed by errors in linguistic performance. Victoria Fromkin, the editor of the present volume, has been the most prominent contemporary researcher in this area. She published a paper on "The non-anomalous nature of anomalous utterances" in *Language* in 1971 and included it, as well as 12 other previously published papers on speech errors, in an edited volume on the subject in 1973.

This book represents current work. It is the product of a working group on speech errors that met during the Twelfth International Congress of Linguists, held appropriately enough in Vienna. The 22 papers are for the most part published here for the first time, and the authors are a leading group of linguistic-error researchers from the Continent, the United Kingdom, and North America. One paper, on slips of the hand made by users of American Sign Language, appeared in somewhat shorter form in Klima and Bellugi's 1979 book on sign language.

The polarity that existed between Freud and Meringer is no longer a major conflict; it seems clear that both glitches in the linguistic system and psychic perturbations can contribute to the production of errors. Most of the papers are concerned with what errors can tell us about the kinds of units that are stored and the strategies that speakers employ when planning an utterance. For instance, Hotopf's chapter points out the semantic similarities between errors and targets and demonstrates that adjectives are more commonly misspoken than verbs. Other authors concentrate on the phonological similarities between errors and the intended words. It is a general finding that speech errors are almost always similar either in sound or in meaning to the targets; this shows something about the organization of the mental lexicon. Furthermore, the fact that errors are always the part of speech the speaker intended shows that entries are marked for the larger categories to which they belong, and the existence of errors in parts of words, single sounds or syllables, indicates that speakers store and retrieve sublexical components.

Other papers deal with historical perspectives, explanatory models of language processing, and errors in listening and writing. One of the most interesting is about another man who lent his name to speech errors of a particular type, the Reverend William H. Spooner, who was dean and warden of New College, Oxford, from 1903 to 1924. Spooner was famous for producing slips in which the sounds of an intended utterance are transposed. He is reputed, for instance, to have scolded a student: "You have hissed all my mystery lectures. I saw you fight a liar in the back quad. In fact, you have tasted the whole worm!" Neurologist J. M. Potter examines Spooner's attested errors, as well as his handwritten documents, and offers a diagnosis: Spooner was an albino and suffered from the visual and neurological impairments that can accompany this condition. In addition, he appeared to have been developmentally dyslexic. He was, however, an able scholar and administrator, and many of the more striking slips attributed to him are not attested and are more likely the product of creative student imaginations.

Freud's theory that suppressed intentions account for errors comes in for some interesting discussion and investigation. As Fromkin points out, one obvious phenomenon for which Freud fails to provide a convincing rationale is the production of non-words. It is easy to impute hidden meaning to the substitution of "battle-scared" for "battle-scarred," but it takes imagination to find psychic angst behind the production of "bart doard" instead of "dart board." Freud receives criticism from Ellis, who examines the errors cited in *The Psychopathology of Everyday Life* and notes that they are no different from the ones that other researchers explain in linguistic terms; that is, Freud's slips are either words that sound very much like the intended target, are close to it in meaning, or are perseverated from earlier parts of the conversation. Freud, moreover, seems to have been applying his own filter to the data, since he chose to analyze only those errors that interested him.

Support for the contention that the speaker's psychological state can affect the production of errors is provided by Motley, who demonstrates a laboratory technique for inducing spoonerisms: for instance, having subjects read silently a series of pairs like "irate wasp" and "angry insect" just before asking them to read aloud the pair "bad mug" affected their cognitive set, and they produced the spoonerism "mad bug" much more frequently than subjects who read a neutral list first. Motley also was able to show that male subjects who scored high on a sex-anxiety measure were more likely than low-anxiety individuals to read pairs like "bine foddy" as "fine body" when the experimenter was a seductive young woman, thus providing some laboratory evidence that inner conflict contributes to the production of slips.

The volume does not provide the final

answer to the riddle of speech errors, but rather perspectives on studying them. The range of languages that have been examined is quite limited, and there is certainly a need for more cross-cultural work, especially with non–Indo-European languages. The models that have been proposed are interesting, but, as elsewhere in psycholinguistic theory, it is difficult to tell where neurology ends and metaphor begins; for instance, if speakers' linguistic systems contain a "prearticulatory editor," what are its neuroanatomical correlates?

In bringing together these papers, preceded by her own integrative introduction, Fromkin has provided a historical context for the study of errors in linguistic performance, clear examples of how to do this research, and much of what is known on the subject. The book is of general interest and will be of great value to other researchers who wish to set forth on this slippery path.

JEAN BERKO GLEASON
Department of Psychology,
Boston University,
Boston, Massachusetts 02215

Climatology

The Urban Climate. HELMUT E. LANDSBERG. Academic Press, New York, 1981. x, 278 pp., illus. $29.50. International Geophysics Series, vol. 28.

Changes in local, regional, and global air quality as a result of urbanization and industrialization are well documented. Whether or not a change in air quality by itself constitutes a change in climate is debatable, but it is now beyond debate that fouled air interacts with urban-modified fluxes of radiant energy, heat, and moisture to produce changes in the values of standard climatic variables such as insolation, air temperature, and humidity. Urban effects on precipitation have proved to be much less easily established. Urban-related climatic changes have been well known to and described by climatologists since early in the last century but widely known in ecologically sensitized industrial societies only since about the time of Earth Day 1970.

From his vantage points as elder statesman in urban climatology and leader of the international programs on the subject sponsored by the United Nations through the World Meteorological Organization, Helmut Landsberg has given us *The Urban Climate*. His book is intended to provide an informed overview of the progress of the science out of the early descriptive phase, covered so well in Kratzer's *Das Stadtklima* (first edition 1937, second edition 1956), and into the period of vigorous assault on the problems of explanation, especially the past 15 years. The book is welcome because there has been no monographic treatment since Kratzer's. It is timely because it makes a creditable, but flawed, attempt at resolution of several central points of dogma and contention that have developed in the last decade. On that, more presently.

The book includes a brief historical review and state-of-the-art summary (chapter 1) followed by a treatment of technical foundations, including air pollution (chapters 2, 3, and 4). Research results concerning temperature and wind (chapters 5, 6, and 7) and atmospheric moisture and surface hydrology (chapters 8 and 9) are followed by brief chapters on impacts and applications (chapters 10 and 11). The balance among chapters seems excellent, as does the selection of materials cited as examples and referred to as pivotal. In particular, Landsberg lays out most cogently the several recent lines of approach in the major areas of research and sets forth, as he has so well in the past, an implicit reminder to American specialists that many valuable results have been produced elsewhere by workers using relatively simple observational and computational tools.

Many of the problems with the book stem from the author's attempt to address a diverse audience while not having clearly in mind which part of it he is addressing at each moment. For example, the boundary layer meteorologists included in the intended audience scarcely need to have the mathematical expression for the Richardson number set out, as Landsberg does, and the city planners and "human ecologists" he likewise includes are unlikely to understand it. The comment that at least 25 meters is needed between the center of a roadway and a residence for satisfactory noise control by "solid surfaces with planted strips" is probably without much utility for any in his intended audience and arguably not even climatological.

Perhaps the greatest problems with the book are the results of Landsberg's having cited quite cogently and correctly some of the pitfalls of field experimentation in a milieu (probably typical for geophysical research) in which proper control is difficult to obtain and then having accepted without apparent question results that are clearly questionable on these grounds. For his neophyte readers Landsberg has thus done a disservice. The essence of the difficulty consists of ignoring the fundamental points that a correlation between two variables does not establish one as the cause of the other and that a difference between means may be due more to noise than to signal. Much dogma, mostly concerning the difficult-to-establish urban effects on rainfall and electrical storms, has developed through repetition of research wherein these points have been ignored and citation of the results of such research. Landsberg has not contributed in his own research to the dogma, but he seems to have unknowingly accepted it while at the same time warning against it.

As a research review, with all its shortcomings, *The Urban Climate* is unlikely to be surpassed. As a textbook, which Landsberg to judge by his style sees as one of the functions of his offering, it leaves room for improvement. As either, at this moment it is the only game in town.

WILLIAM P. LOWRY
135 South Davis Street,
McMinnville, Oregon 97128

Principles of Conservation

Conservation and Evolution. O. H. FRANKEL and MICHAEL E. SOULÉ. Cambridge University Press, New York, 1981. viii, 328 pp., illus. Cloth, $49.50; paper, $17.95.

In Andean Peru, Quechua and Aymara Indians customarily grow 15 to 45 potato varieties in mixed gardens of remarkable heterogeneity. These land races, with probable introgression from noncultivated taxa, harbor extensive genetic variation and persist in the center of diversity for potatoes. Peruvian government agencies encourage local growers to plant monocultures of high-yielding and blight-resistant "improved" potato varieties, despite greater market value of the local forms and despite the growers' preferences for their flavor (T. Johns, personal communication). Production increases with the improved potatoes, but so does need for pesticides and fertilizers. Where modern agricultural introductions are successful, for example in north central Peru, many potato land races are no longer cultivated, and their genetic diversity has been severely reduced. Against a background of similar stories around the world, Frankel and Soulé draw from evolutionary biology to estab-