

## Obituary

### Terrance M. Nearey, 1946–2021

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**Terrance M. (Terry) Nearey**, professor emeritus of linguistics at the University of Alberta, Edmonton, Alberta, Canada, and Fellow of the Acoustical Society of America (ASA),

passed away on December 18, 2021, at the age of 75.

Terry was born in Neptune, New Jersey, in 1946. He completed his BA in linguistics at the University of Wisconsin, Madison. Following two years of graduate studies at Columbia University, New York, New York, he obtained his doctorate in linguistics at the University of Connecticut, Storrs, in 1977. His dissertation, supervised by Philip Lieberman, examined the acoustic and articulatory properties of vowels, the problem of talker variability (different talkers may produce a given vowel with different articulatory and acoustic properties) and the associated problem of invariance (isolating acoustic properties that allow listeners to distinguish between different vowel categories). In this work, he formulated versions of the *uniform scaling hypothesis*, the idea that most of the variation in formant frequencies across talkers (e.g., between adults and children) can be described using a single multiplicative scale factor. The modeling framework developed to test this theory served as a starting point for much of his later work and influenced many other speech researchers.

In 1983, drawing on evidence from several sources, Terry proposed that vowel-inherent spectral change (VISC) plays an important role in the perception of North American English vowels. Perceptual experiments and statistical modeling demonstrated that listeners attend to changes in spectral properties over time in vowel perception. In his later work, Terry formulated statistical models of formant trajectories in consonant-vowel-consonant sequences, examining how VISC interacts with (and can be distinguished from) the effects of coarticulation introduced by adjacent consonants.

Terry went on to formulate a unique perspective on the relationship between the acoustical, articulatory, and

perceptual properties of speech. Difficulties identifying unique, invariant acoustical properties, as required by “strong acoustical” theories of speech perception, led researchers to consider “strong gestural” theories; the answer might lie in a better understanding of the process of articulation or in the motor commands that initiate articulatory movements. Noting problems with both these frameworks, Terry proposed a “double-weak” theory that suggests that the links between phonological categories and their acoustic and articulatory correlates are indirect or “weak,” a consequence of the tradeoffs inherent in speech communication. He noted that perceptual mechanisms do not necessarily match our physical models of speech and that the nervous system often solves problems in indirect ways, which he described as “cheap tricks.”

Terry was an active member of the ASA throughout his career. He served as associate editor for the speech communication section of *The Journal of the Acoustical Society of America* from 1991 to 1994 and chair of the technical committee from 1995 to 1998. He was a thoughtful and creative person and a source of inspiration to his students and colleagues. He had a wide range of personal interests and constantly expanded his horizons to learn about new research methods and findings. He retired in 2014, remaining active in research collaborations and graduate student supervision until shortly before his death. Terry is survived by his wife Beatrice and three children.

#### **Selected Publications by Terrence M. Nearey**

- Nearey, T. M. (1989). Static, dynamic, and relational properties in vowel perception. *The Journal of the Acoustical Society of America* 85, 2088–2113.
- Nearey, T. M. (1990). The segment as a unit of speech perception. *Journal of Phonetics* 18, 347–373.
- Nearey, T. M. (1992). Context effects in a double-weak theory of speech perception. *Language and Speech* 35, 153–172.
- Nearey, T. M. (1997). Speech perception as pattern recognition. *The Journal of the Acoustical Society of America* 101, 3241–3254.

#### **Written by:**

**Peter Assmann** [assmann@utdallas.edu](mailto:assmann@utdallas.edu)  
School of Behavioral and Brain Sciences  
The University of Texas at Dallas, Richardson, TX

**Michael Kieft** [michael.kieft@dal.ca](mailto:michael.kieft@dal.ca)  
School of Communication Sciences and Disorders  
Dalhousie University, Halifax, Nova Scotia, Canada