

# Language Across the Disciplines

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## Keywords

study of language, linguistics, transdisciplinary trends, linguistics as a discipline

## Abstract

This article reviews the study of language across disciplines. We focus on epistemological and methodological frameworks in the study of language broadly within linguistics departments and across disciplinary areas that concentrates on the organizational structure across departments, degree programs, organizations, and professions. We then emphasize emerging transdisciplinary trends in the study of language and communication. We highlight pressing research required to recenter humans and the human communicative experience. We use examples from lexical and morphological investigations to illustrate the complexity and relevance of the study of language across areas and paradigms.

## 1. INTRODUCTION TO DISCIPLINES AND THE STUDY OF LANGUAGE

To comprehensively address the topic of language across disciplines, we first delve into what a discipline is and what disciplines tell us about the study of language (Krishnan 2009). Broadly, a discipline is a scholarly conversation influenced by historical artifacts that leads others to join that conversation. Who attempts to join and who is included in the conversation are based on the contemporary, political, and economic realities of higher education. In the current development of modern disciplines, decisions about methodology have played a prominent role. How we discuss the field of linguistics is greatly determined by the methodologies that scholars employ in their investigation of language.

The study of language impacts every aspect of humanity. Several major disciplines and research areas are devoted to various aspects of language and communication, ranging from linguistics to communication to English and modern languages. In several cases, the study of language figures prominently in other disciplines, such that they could genuinely constitute their own disciplines themselves; these include computational linguistics, educational linguistics, linguistic anthropology, and psycholinguistics. In addition, most established disciplines were created and chiefly defined in a time when economically privileged white men dominated the discourse of what was studied and how. Human communication is central to every interchange, so we directly address the big question of what the study of language is across the disciplines as they are now and what it could be with concerted critical change focused on equity, inclusion, and justice.

As three scholars from underrepresented backgrounds in higher education and linguistics, we approach the question of the study of language across the disciplines from both our own research and our lived experience. We are well aware that the answer to what discipline studies language in what way will depend on whom you ask, which, in turn, has material consequences for researchers, students, and those who could benefit most from innovative linguistic research. As such, in this review article, we take a broad view of the study of language and of who a linguist is—anyone who studies language (LSA 2019). We focus on the dominant themes in current language research. We highlight areas of inclusive innovation that we could be paying attention to in interdisciplinary and transdisciplinary spaces to facilitate the next generation of innovative research.

Language is a fundamentally human aspect and function of the human body and mind. At the same time, language is a social construct and a social process. Language is also a structured symbolic system with regular observable characteristics. Furthermore, language is a tool through which complex technical and social tasks can be accomplished. These aspects are reflected in how language is analyzed in both the elements that make up language and the contexts in which language happens. At the same time, research at the intersections of the cognitive, computational, and social is currently some of the most innovative and most pressing needed. That research can potentially change how we think about language, its impact on humanity, and how we structure society.

## 2. LANGUAGE IN THE ANNUAL REVIEWS JOURNALS

We start with the disciplinary lens of this journal and other Annual Reviews journals for insights into how language is described. The purview of the *Annual Review of Linguistics* includes “phonetics, phonology, morphology, syntax, semantics, pragmatics, and their interfaces. Reviews synthesize advances in linguistic theory, sociolinguistics, psycholinguistics, neurolinguistics, language change, biology and evolution of language, typology, as well as applications of linguistics in many domains” (<https://www.annualreviews.org/journal/linguistics>).

The study of language is present in other Annual Reviews journals. The mission of the *Annual Review of Anthropology* covers “linguistics and communicative practices” (<https://www.annualreviews.org/journal/anthro>). The *Annual Review of Developmental Psychology* “covers cognitive, linguistic, social, cultural, and biological processes across the lifespan” (<https://www.annualreviews.org/journal/devpsych>). The latter journal also gives a much more articulated nod to the goal of “synthesizing the theoretical, methodological, and technological developments. . . that have led to important new discoveries relevant beyond psychology, including education, cognitive science, economics, public health, and public policy.” In addition, articles with an express focus on language have appeared in the *Annual Review of Psychology* and the *Annual Review of Sociology*.

### 3. HISTORICAL APPROACH

While a complete history of the field of linguistics (and its associated fields) is beyond the scope of this review, we understand the development of the field to be influenced by specific and sociohistorical moves in society and academia. Harris (2021) and Newmeyer (1986) give overviews of the contentious carving up of the modern linguistics space. Hutton (2019) describes how these divisions were closely aligned with the US Government, particularly military funding priorities. Taylor & Harris (1997) and Taylor et al. (2001) come from a different angle and give an overview of the Western traditions of linguistic thought. Errington (2008) demonstrates how linguistic ideology mixed with early scientific notions of taxonomy to form the underpinnings of race and language. Golden (2010) profiles Baker (2010), who notes that Franz Boas is widely credited for delimiting race from language and culture in the modern study of language. As we can see from these historical treatments, so much of history depends on who is telling the story (Lieberman 2007). To address the lack of full representation in these treatments, a volume edited by Ayres-Bennett & Sanson (2021) details the oft-overlooked contributions of women to linguistics around the world in a groundbreaking investigation into women’s contributions to the description, analysis, and codification of languages across linguistic and cultural traditions. Notably, the volume looks beyond Europe to Africa, Australia, Asia, and North America, offering a systematic and comparative approach to a subject that has not yet received the scholarly attention it deserves.

Historically, linguistics has passed through several paradigm shifts in terms of preferred language data and methodologies, resulting in the production of several genres of linguistic research. Present-day linguistics skews empirical, relying on data that can be observed out in the world (Dipper 2008). Surprisingly, this emphasis represents a shift in the ways that we conduct linguistic research, since Chomsky’s theories are intensely rationalist, taking the position that much of language learning is based on an innate Universal Grammar and scorning the idea that linguists need empirical data (Harris 2021).

An essential genre in the range of study of language across disciplines is memoirs from linguists themselves (Chomsky 2021, Thomason 2022). As the white historians of language have left out many important stories, scholars have taken to writing them themselves. Rickford (2022) and Smitherman (2022) share two comprehensive descriptions of lives spent studying languages in a truly transdisciplinary way. Scholarly memoir defines the study of language in an embodied way, which requires us to break free from some of the traditional constraints on empiricism in linguistic scholarship.

### 4. WHO AND WHERE ARE THE LINGUISTS?

We want to make explicit that not everyone who studies language calls themselves a linguist, which is partially due to policing by linguists themselves. To this, we ask: Why is their linguistics so small

(Charity Hudley et al. 2020)? Furthermore, we intend this review to show that there are indeed many people who are linguists who may not be going by the title as such. First, not everyone who calls themselves a linguist works within a linguistics department or even a linguistics program. Second, some of the most active linguists are not in linguistics departments or programs at all. We exemplify this variety ourselves, given where we got our PhDs and work now. The variation is apparent even in our formal titles.

Aris Clemons received her linguistics education across a range of departmental contexts, including a language, literatures, and linguistics department; a second language acquisition program within a school of education; and a Spanish and Portuguese department. Her education culminated in a degree in Hispanic linguistics and a position in a modern foreign languages and literatures department, where she focuses on teaching Spanish as a foreign language and conducting linguistics research on language, race, and identity in the context of varying social institutions.

Dan Villarreal was educated in linguistics in a small program in interdisciplinary studies within an English department and in a linguistics department, where he was exposed to sociolinguistics through the lens of applied linguistics, second language acquisition, variation, and critical sociolinguistics. He then received postdoctoral training in a lab, where he developed quantitative and computational skills. His current position is an appointment in a linguistics department as a computational sociolinguist.

Anne Charity Hudley earned two degrees in linguistics at Harvard that focused on generative linguistics in the Chomsky-related tradition, but her work and research came out of the historical linguistics tradition of Calvert Watkins that fully embraced philological literary and orality as well as the language of the individual. She continued in that model with William Labov at the University of Pennsylvania, where she earned a PhD in linguistics from two faculty who had degrees in psychology and one who had a degree in anthropology. Charity Hudley has earned tenure in English, linguistics, African American studies, and education departments.

As we embody, very different trajectories can lead to the development of linguistic scholarship, hence our decision to break it down first by linguistics departments, then by linguists across campuses and in communities.

#### 4.1. The Study of Language Across the Range of Linguistics

As the historical accounts detail, there has been a divide in how language is studied across what has commonly been referred to as theoretical applied and social linguistics. Many linguistics departments still observe this divide in how they characterize their departments as a whole and in the unequal representation of faculty research agendas within departments. Others have reimagined this reality in the era of cognition and computational linguistics, such that formerly theoretical and applied linguistic departments are in the process of becoming more computational and cognitive in nature. These transitions are important because of the realities of who grants PhDs in linguistics. The 2020 annual report of the Linguistic Society of America (LSA) details the specializations of linguistics departments:

[P]rograms that offer a PhD as the highest degree have the most variety in their possible program specializations. The most popular program specializations are in syntax, semantics, phonology, phonetics, psycholinguistics, language acquisition, and sociolinguistics. . . . Note that the possible specializations were determined without the ability to edit or add to them, so departments could not report many other specializations, including as Romance, Hispanic, or Educational Linguistics (LSA 2021, p. 30).

This report admits that it is not exhaustive, but it does give a sense of the range of disciplinary foci within linguistics programs, which is relevant to who makes PhDs in linguistics and what they do (Lee et al. 2021).

## 4.2. Large-Impact Linguistics Departments

We turn now to the descriptions of some of those programs to understand their disciplinary range within departments that grant a large number of degrees in linguistics and whose graduates are hired into many linguistics departments and programs.

Stanford University's Linguistics Program "emphasizes intellectual breadth, both disciplinary—integrating diverse theoretical linguistic perspectives with empirical investigation across languages—and interdisciplinary—drawing on perspectives from the other cognitive, computational, and social sciences, and the humanities" (<https://linguistics.stanford.edu>). Similarly, the Department of Linguistics at the University of Michigan notes that it is "one of the few departments in the United States that captures the inherent breadth of the discipline by exploring the cognitive, interactional, cultural, and developmental aspects of language. Faculty and students explore language structure, history, knowledge, behavior, and use" (<https://lsa.umich.edu/linguistics/about-us.html>).

The Department of Linguistics at the University of Pennsylvania (Penn) states that it is known for "its interdisciplinary research, spanning many subfields of linguistics, as well as integration of theory, corpus research, field work, and cognitive and computer science" (<https://www.ling.upenn.edu>). Of interest is the amount of noteworthy linguistic work that happens outside of the linguistics department. Penn created a historically interdisciplinary approach with the former Institute for Research in Cognitive Science, and it established MindCORE (<https://mindcore.sas.upenn.edu>) as one of the School of Arts and Sciences' key endeavors under the "Mapping the Mind" initiative identified in the School's strategic plan, "Foundations and Frontiers" (Penn Arts Sci. 2022). Similarly, The Ohio State University (<https://linguistics.osu.edu/about-us/mission-and-vision>, <https://linguistics.osu.edu/research/interests>) shares a mission and vision statement for its program. Its mission is "to pursue the scientific investigation of language as a human phenomenon in its historical, psychological, and social dimensions, through effective and innovative undergraduate teaching, a research-oriented graduate program, and high-quality faculty and student research covering the major subareas within the discipline of linguistics." The research focus of the program is exemplified by the existence of the Buckeye Language Pod (<https://u.osu.edu/thebln/language-pod>).

MIT Linguistics aims "to discover the rules and representations underlying the structure of particular languages and what they reveal about the general principles that determine the form and development of language in the individual and the species" (<https://linguistics.mit.edu>). Similarly, the Department of Linguistics at the University of Massachusetts Amherst emphasizes "a range of areas: phonology, syntax, semantics, phonetics, psycholinguistics, language acquisition, prosody, field linguistics, typology, historical linguistics, and morphology. We are especially known for innovative work at the interfaces between areas" (<https://www.umass.edu/linguistics/department-linguistics-umass-amherst>).

## 4.3. Linguistics in the University of California

Linguistic departments across the University of California (UC) system have taken various approaches to studying language. Some of that range was strategically and structurally complementary on the part of departments as they aligned with the architecture of the California Master Plan (Univ. Calif. Off. Pres. 2017). Rather than describe them in the categories established above, we suggest they are best taken as a set, given that faculty can teach and advise across the system, though they reflect the same categories described above.

The UCLA Linguistics Department describes its focus as on "the scientific study of language in all aspects. The fields represented include phonetics, phonology, syntax, and semantics,

as well as the interdisciplinary areas of psycholinguistics, language acquisition, historical linguistics, and mathematical linguistics. The department has a strong emphasis on linguistic theory as well as on fieldwork and experimental study” (<https://linguistics.ucla.edu>). UC Berkeley emphasizes a cross-disciplinary approach, adding a special note about linguistics beyond the US and European contexts that have dominated much of linguistic inquiry. UC Berkeley’s Department of Linguistics supports a broad view of language and diverse approaches to its analysis, engaging with “linguistic theories through methods that include computational modeling, corpus linguistics, experimental procedures, fieldwork, and formal analysis” (<https://lx.berkeley.edu/about-berkeley-linguistics>).

UC Santa Barbara and UC Davis adopt a broad approach with a sociolinguistic and descriptive emphasis. The Department of Linguistics at UC Santa Barbara states that the department was created to

realize a vision of linguistics as a field that would seek explanations for language as a fundamental human activity, through an understanding of how languages are used by their speakers. From the beginning, the department committed itself to maintaining a sharp focus on the theoretical and methodological tools that would be needed to realize this vision, and to developing a broad empirical base for the work via a typologically diverse sampling of the world’s languages. (<https://www.linguistics.ucsb.edu/home>)

The UC Davis Department of Linguistics offers “a vibrant and heterogeneous array of research expertise about human spoken and signed language, derived from field research, insightful analysis, and integration with information technology applications in the realm of cognitive science” (<https://linguistics.ucdavis.edu/about>). The department highlights that it “offer[s] courses in all areas of structural linguistics, computational linguistics, neurolinguistics as well as applied and sociolinguistics” and is clear to state that “[t]his is the only linguistics department across the UC campuses to offer this much variety.” UC Davis has a focus on “language structure and cognition” and on “second language development and multilingualism” (<https://linguistics.ucdavis.edu>).

#### 4.4. Linguistics in the US Southeast

Many linguistics programs are embedded in or have grown out of English departments in conjunction with faculty from around their campuses. In the southeastern United States, the Department of Linguistics at the University of Georgia (<https://www.linguistics.uga.edu>) and the Department of Linguistics at the University of Florida (<https://lin.ufl.edu>) are full departments. Historically, the University of Georgia offered in-state reciprocity for students from other southern states that did not have their own linguistics departments. The Department of Linguistics at the University of Florida notes that it is “home to the science of language. We have expertise in different subfields of linguistics, including language documentation, theoretical linguistics, neurolinguistics and psycholinguistics, computational approaches to linguistics, African languages and linguistics, sociolinguistics, language acquisition/bilingualism, and language teaching” (<https://lin.ufl.edu>). The Southeastern Conference on Linguistics is a unifying organization for departments, programs, and scholars from institutions including Louisiana State University, the University of South Carolina, and the University of Tennessee–Knoxville (<http://secol.org>).

While not exhaustive, this overview of major PhD-granting linguistics departments gives a sense of the disciplinary range within linguistics departments. We now turn to other language-related disciplines for a glimpse of the broader picture.



## 5. LINGUISTS ACROSS CAMPUS

In addition to the theoretical and methodological divides found in linguistic departments across institutions, many linguists find homes in departments across individual campuses, particularly area and ethnic studies, education, English (language and literature), language departments, and others. Many of the institutions profiled above are known to attract language scholars in departments other than linguistics. UCLA, Michigan, and Stanford are particularly well known for their cross-departmental engagement with the study of language, employing language scholars in computer science, English, linguistic anthropology, sociolinguistics, and education. Such departments often attract students interested in human and culturally focused linguistic programs geared toward the exploration of language practices of named language communities. The growing number of linguistics programs across campuses signals a move away from disembodied practices of theoretical linguistics and a shift toward linguistic justice. Several campuses are noteworthy for the expansiveness of linguistic study in nonlinguistic departments.

The University of Texas at Austin (UT Austin) houses linguists over a wide range of stand-alone departments (<https://liberalarts.utexas.edu/linguistics>). Professors often hold complementary appointments across these departments, since collaborative efforts are not uncommon. Students are drawn to these departments to explore alternative linguistic methodologies that focus on specific language communities. UT Austin also offers linguistic innovation through an open and cross-departmental model that allows both faculty and students to access resources for the study of language beyond departmental boundaries. Notably, UT Austin allows its graduates to complete what it calls “graduate portfolios,” effectively providing minors in related fields to strengthen interdisciplinary lenses on particular areas of study. The University of Illinois Urbana-Champaign (<https://linguistics.illinois.edu>) also houses linguists across campus, particularly through scholars in the Department of Anthropology, who work alongside those in ethnic and cultural studies departments across the institution. This collaboration has resulted in formatively interdisciplinary scholarship.

In some of these institutions, linguistics is described as a cross-disciplinary effort. The University of Wisconsin–Madison calls its program Language Sciences and describes it as “a hub for cross-disciplinary and cross-departmental collaborative research, teaching, service, and outreach related to the scientific study of human language at UW–Madison. Language Sciences houses an undergraduate Linguistics major, a Ph.D. program in Linguistics, and a Linguistics Ph.D. minor” (<https://langsci.wisc.edu>). Many universities create linguistics programs by bringing together professors with placements and expertise across several departments. At Penn State, “the study of language as a structural, cognitive, historical, and cultural phenomenon is a pursuit that cuts across many different academic disciplines. Our program offers majors and minors at the doctoral and undergraduate levels designed for students in any major field” (<https://linguistics.la.psu.edu>).

While these programs offer a view of the expansiveness of linguistics as a field of inquiry, they also tend to privilege the theoretical nature of language study over the professional and applied. For the full impact of the study of language on learning and education, we now turn to linguists in schools of education.

### 5.1. Linguistics in Schools of Education

For many scholars, the study of language is a way to assess, evaluate, and reform societal institutions and respond to language-related questions and challenges concerning acquisition, education, and translation. The lack of attention to these kinds of problems and solutions was the impetus for a rupture in the field from which the disciplinary focus of applied linguistics was formed. In particular, these lines of inquiry problematize the way society is organized around language and

language ideologies. To be clear, several linguists were interested in this approach prior to the formation of applied linguistics as an independent field. Some of the most applied and interdisciplinary applied linguistics departments were developed as a result of long-standing scholarship and integration of community-driven activism by scholars in traditional linguistics departments. If we take Stanford's Linguistics Program as an example, we can point to scholars such as John Baugh and John Rickford as language research scholars who considered social institutions such as education, housing, and media. Additionally, Stanford scholars Guadalupe Valdes and Kenji Hakuta, among others, have been instrumental to our understanding of bilingualism in school contexts.

As a result, linguists who take this approach often find themselves in schools of education, speech and hearing sciences, communications, and rhetoric. Two institutions of note are Penn and the University of New Mexico (UNM), which have established departments of educational linguistics that take several approaches to applied linguistics for the express purpose of developing stronger language and literacy pedagogies grounded in linguistic understandings of language.

At Penn, the Department of Educational Linguistics is housed in the Graduate School of Education and describes itself as "a pioneering doctoral program with an enduring legacy of research in applied linguistics, language learning, and teaching" (<https://www.gse.upenn.edu/academics/programs/educational-linguistics-phd>). The interdisciplinary nature of the program is exemplified by a commitment to "interdisciplinary theory and research in linguistics, anthropology, psychology, sociology, history, and other fields."

At UNM (<https://coehs.unm.edu/departments-programs/llss/educational-linguistics/index.html>), there is an educational linguistics program housed in the Department of Language, Literacy and Sociocultural Studies in the College of Education & Human Sciences; in the Department of Linguistics in the College of Arts and Sciences; and in the Office of Graduate Studies. The complexity of applied linguistics is captured by the overlapping institutional structures required to make a program like this available to graduate students at UNM.

Other institutions with an active applied linguistics presence are Penn State (<https://aplng.la.psu.edu>), Columbia (<https://www.tc.columbia.edu/arts-and-humanities/applied-linguistics-tesol>), Indiana University–Bloomington (<https://dls.indiana.edu>), and the University of Toronto (<https://www.sgs.utoronto.ca/programs/language-and-literacies-education>). Georgetown's Applied Linguistics Program (<https://linguistics.georgetown.edu/programs/phd-programs/concentrations/applied-linguistics>) is part of its linguistics department and has close, long-standing ties to the Center for Applied Linguistics (CAL). These programs study language as applied in educational contexts and are dedicated to the education training of both researchers and language practitioners, including speech-language pathologists, medical interpreters, and language teachers.

## 5.2. Other Language-Related Disciplines

The Annual Survey of Earned Doctorates (<https://www.nsf.gov/statistics/srvydoctorates>) provides insight into the range of language-related disciplines in departments other than linguistics. Degree areas listed that are relevant to the study of language are speech-language pathology and audiology, communication, English as a second or foreign language, English education, bilingual and multilingual education, and foreign language education. Language study areas are also relevant and include PhDs across a range of languages and literatures, from Spanish or Hispanic linguistics to classics to comparative literature. The humanistic range of research areas, including Deaf studies, English, and world language and literature, is also relevant. Other adjacent areas include creative writing, speech and rhetorical studies, technical writing, writing rhetoric, and composition.



Psychology, particularly cognitive psychology, neurolinguistics, and psycholinguistics, represents crucial areas examining how language is represented in the mind and cognition. These areas overlap with the educational study of language as typified in areas including applied linguistics, educational linguistics, ESL (English as a second language), TLOTE (teaching languages other than English), and TESOL (teaching English to speakers of other languages).

Other key areas are computational linguistics, as done in both linguistics and computer science programs; language documentation and revitalization and reclamation across the range of linguistics and Indigenous studies; and American Sign Language (ASL) and other sign languages, at the intersections of linguistics, Deaf studies, Crip Linguistics (disability studies), and education.

## 6. AN ORGANIZATIONAL LENS

An organizational lens complements our linguistic and degree-based lenses. We start with the range of disciplines that the LSA addresses. The LSA states that it is designed to “advance the scientific study of language and its applications” (<https://www.linguisticsociety.org/what-linguistics>). The organization defines linguistics as “the scientific study of language. Linguists apply the scientific method to conduct formal studies of speech sounds and gestures, grammatical structures, and meaning across the world’s 6,000+ languages.” But in reality, the paradigmatic and disciplinary boundaries around who is in the LSA and what they do have become more porous to those who more strictly fall under the definition of the scientific method (Charity Hudley et al. 2020).

As an umbrella organization, the LSA promotes conferences and events across linguistics, and reveals a wide range of language-related disciplines across the humanities, social sciences, and natural sciences (<https://www.linguisticsociety.org/conferences-calls>, <https://linguistlist.org/events>). The LSA itself is part of the Consortium of Social Science Associations (<https://cossa.org>), the Coalition for National Science Funding (<https://cnsf.us/mission.cfm>), the Joint National Committee for Languages (<https://www.languagepolicy.org>), the American Council of Learned Societies ([https://www.acls.org/acls-member-societies/?\\_fulltext\\_search=language%20](https://www.acls.org/acls-member-societies/?_fulltext_search=language%20)), and the National Humanities Alliance (<https://www.nhalliance.org>). The LSA also maintains reciprocal relationships with other professional societies, such as the American Council on the Teaching of Foreign Languages (ACTFL; <https://www.actfl.org>) and the American Association for the Advancement of Science (<https://www.aaas.org>).

The American Council of Learned Societies’ (<https://www.acls.org>) alliance with the humanities brings its relationship closer to those in the humanities, including the American Dialect Society, the Modern Language Association (MLA), and the American Comparative Literature Association (<https://www.acla.org>), as well as in area studies, including societies that also see linguistics and language as part of their missions. Noting these affiliations exemplifies how linguistics often falls on the border of humanities and social sciences, a topic taken up by the LSA Committee on Public Policy (<https://www.linguisticsociety.org/content/committee-public-policy-0>).

The LSA is also part of the General Assembly of the Comité International Permanent des Linguistes (Permanent International Committee of Linguists, or CIPL), an international organization founded to assist in the development of linguistic science (<https://ciplnet.com>). The CIPL General Assembly comprises around 50 national and international organizations worldwide (<https://ciplnet.com/about-cipl/general-assembly>).

### 6.1. Study of Language in Anthropology: Linguistic Anthropology

The study of language has encompassed a range of anthropological approaches and foci (Teeter 1964). One major approach focuses on linguistics as one of the four major fields of anthropology.

The Society for Linguistic Anthropology (<https://www.linguisticanthropology.org>) is a section of the American Anthropological Association (<https://www.americananthro.org>) whose mission is the “comparative study of the ways in which language shapes social life.” It explores “the many ways in which practices of language use shape patterns of communication, formulate categories of social identity and group membership, organize large-scale cultural beliefs and ideologies, and, in conjunction with other semiotic practices, equip people with common cultural representations of their natural and social worlds.” Within this tradition, there has been a particular focus on the documentation, revitalization, and reclamation of languages. In this vein, the Society for the Study of the Indigenous Languages of the Americas (<https://www.ssila.org/en/home>) is an international scholarly organization representing the linguistic study of the Indigenous languages of the Americas. Additionally, Natives4Linguistics (<https://natives4linguistics.wordpress.com>) was created to improve the field of linguistics by broadening the participation of Native Americans within linguistics by (a) directly bringing Native Americans to the LSA’s annual meetings and (b) developing and promoting strategies to better integrate Native Americans’ needs and values about language into linguistic science.

## 6.2. Study of Language in Communication

The discipline of social interaction within the field of communications is closely aligned with linguistic inquiry and methodology. It relies on discursive analyses at both the community level and the conversation level between individuals. In this field, we find linguists trained in linguistics departments, such as at Georgetown. These linguists find academic placements in communications and rhetoric departments and draw upon linguistic theory in their exploration of topics such as humor, social media–mediated communication, bilingualism and monolingualism, transcription practices, and more. The National Communication Association (<https://www.natcom.org/about-nca/what-nca>) advances communication as the discipline that studies all forms, modes, media, and consequences of communication through humanistic, social scientific, and aesthetic inquiry. The organization is related to the International Communication Association (ICA; <https://www.icaheadq.org/page/About>), which “aims to advance the scholarly study of communication.” Its mission is research but also action based as, since 2003, ICA has been officially associated with the United Nations as a nongovernmental organization. Within the organization, the Language and Social Interaction Division of the National Communications Association “provides a home to those who study how social life is produced and organized through situated conversation, language use, and embodied interaction” (<https://www.natcom.org/about-nca/membership-and-interest-groups/nca-interest-groups/lsi-division>).

Additionally, linguists have crossed paths with communications scholars through questions about the nature of communicative messages and the structure of language and possibilities for analysis of performance, media, art, and the commodification of language practices. Journals including *Communications and Critical/Cultural Studies* (<https://www.tandfonline.com/action/journalInformation?show=aimsScope&journalCode=rccc20>) and the *Journal of International and Intercultural Communication* (<https://www.tandfonline.com/action/journalInformation?show=aimsScope&journalCode=rjii20>) publish articles with highly interdisciplinary foci that often draw linguistic scholars at the intersections of language and communications. Scholars contend with linguistic strategies incorporated in the social structuring of a society organized around capitalism, investigating how different people navigate a shared system. In a podcast regarding voices, Asare & Charity Hudley (2021) discuss the importance of sociolinguistic perspectives in understanding how our language is culture, noting how our language reflects our cultural, ritual, and performance practices in ways that shape and reshape identity across communities.

### 6.3. Study of Language in English and Other Languages

The MLA states that “members have worked to strengthen the study and teaching of language and literature” (<https://www.mla.org>). Due to the large number of language-related departments and interests, myriad regional and specific organizations fill in around the MLA’s larger mission. One such important organization is the College Language Association (CLA), founded in 1937 by a group of Black scholars and educators. The CLA states that it “is an organization of college teachers of English and world languages that serves the academic, scholarly and professional interests of its members and the collegiate communities they represent” (<https://www.clascholars.org/mission-statement>).

The National Council of Teachers of English (NCTE) is “devoted to improving the teaching and learning of English and the language arts at all levels of education” (<https://ncte.org>). In its mission statement, the NCTE states that it “promotes the development of literacy, the use of language to construct personal and public worlds and to achieve full participation in society, through the learning and teaching of English and the related arts and sciences of language.”

The Conference on College Composition & Communication (<https://cccc.ncte.org>) is part of NCTE. It has been the world’s largest professional organization for researching and teaching composition, from writing to new media.

### 6.4. Study of Language in Education

Four major organizations represent significant research and collaboration in language studies within the field of education. The American Educational Research Association (AERA) aims “to advance knowledge about education, to encourage scholarly inquiry related to education, and to promote the use of research to improve education and serve the public good” (<https://www.aera.net>). The AERA Language Special Interest Group is designed particularly “[t]o explore directions in and issues of language and discourse practices literacy, learning processes, and social contexts through studies grounded in sociocultural, constructivist and constructionist perspectives.”

The American Association for Applied Linguistics is a professional organization of scholars interested in and actively contributing to the multidisciplinary field of applied linguistics, where “[m]embers use a wide variety of theoretical frameworks and methodological approaches to address a broad range of language-related issues that affect individuals and society” (<https://www.schev.edu/index/tuition-aid/academic-common-market>). The ACTFL is a national organization “dedicated to the improvement and expansion of the teaching and learning of all languages at all levels of instruction throughout the U.S.” (<https://www.actfl.org>).

Complementary to the ACTFL is CAL (<https://www.cal.org>), which uses “the findings of linguistics and related sciences in identifying and addressing language-related problems.” As an applied organization, CAL “carries out a wide range of activities including research, teacher education, analysis and dissemination of information, design, and development of instructional materials, technical assistance, conference planning, program evaluation, and policy analysis.”

### 6.5. Study of Language in Sociology

While there is no larger organization explicitly dedicated to the study of language in sociology, the *International Journal of the Sociology of Language* is “dedicated to the development of the sociology of language as a truly international and interdisciplinary field in which various approaches—theoretical and empirical—supplement and complement each other, contributing

thereby to the growth of language-related knowledge, applications, values, and sensitivities” (<https://www.degruyter.com/journal/key/ijsl/html?lang=en>).

## 6.6. Study of Language in Speech and Hearing

The American Speech-Language-Hearing Association (<https://www.asha.org>) is “the professional, scientific, and credentialing association for more than 140,000 members and affiliates who are audiologists, speech-language pathologists, and speech, language, and hearing scientists.” Additionally, the National Black Association for Speech-Language and Hearing (<https://www.nbaslh.org>) was created to “establish a viable mechanism through which the professional needs of the Black professionals, students, and the communicatively handicapped community could be met.”

The Acoustical Society of America (<https://acousticalsociety.org>) states that its mission is “to generate, disseminate, and promote the knowledge and practical applications of acoustics,” which includes the acoustics of speech as well as nonspeech acoustics (e.g., musical acoustics). The American Auditory Society (<https://www.amauditorysoc.org>) promotes the translation of scientific discovery to clinical practice in hearing and balance disorders through multidisciplinary interaction among members in clinical care, research, engineering, and industry. The American Academy of Audiology (<https://www.audiology.org>) states that it serves “as the collective voice of audiology. We are committed to advancing the science, practice, and accessibility of hearing and balance health care for our patients.”

## 6.7. Study of Language in Psychology

Psycholinguists are found across the range of developmental, clinical, and cognitive psychology. They particularly overlap with speech and hearing and related areas. The Max Planck Institute (<https://www.mpg.de/institutes>) has “been at the forefront of interdisciplinary research into the foundations of language and communication. The research conducted here combines perspectives from disciplines as diverse as linguistics, psychology, neuroscience, genetics, anthropology, informatics, medicine, and acoustics.” A new and important group in the study of language in psychology is the Spark Society (<https://www.sparksociety.org>), which was designed to create opportunities for cognitive psychologists and cognitive scientists from underrepresented groups.

## 6.8. Study of Language and Computers

Computer science and linguistics came of age at the same time; Chomsky’s early syntactic theories were foundational in the theory of programming languages, and his theories of language have always been quasi-computational (Harris 2010). Nowadays, there are three main ways that computers are used to study natural languages (what other linguists just call *language*): computational linguistics, natural language processing (NLP), and forms of artificial intelligence (AI) that consider language as simply one type of data (unlike NLP). Like the rest of linguistics, computational linguistics is interested in the theoretical implications of considering language as an object of empirical investigation; NLP (also known as human language technology) is focused more on the “goal-oriented” engineering aims of producing the best-performing computer systems for processing and/or generating language (Lieberman & Wayne 2020). Despite these differences, there is a lot of cross-pollination through a shared professional society, the Association for Computational Linguistics (<https://www.aclweb.org/portal/what-is-cl>), and its conferences, as well as through the International Conference on Language Resources and Evaluation (<http://www.lrec-conf.org>).

These disciplines also intersect with the study of acoustics and of speech and hearing (see Section 6.6). Within much larger professional organizations, research at the intersection of language, computers, and acoustics takes place at conferences like the International Speech Communication Association's Speech Prosody (<http://www.isca-speech.org/iscaweb/index.php>) and the IEEE's International Conference on Acoustics, Speech, and Signal Processing (<https://signalprocessingsociety.org>). Unlike many of the other research communities mentioned above, these societies and conferences extend well beyond academia into industry, government, and the military.

These diverse computational approaches share a natural-sciences view of language as a symbolic system, largely downplaying its nature as a social entity (not to mention humanities approaches to language). This tendency has led to socially harmful results, as designers of computational applications like automatic speech recognition (ASR) do not account for variability within languages (Bender & Grissom forthcoming). Commercial ASR systems work better for white than Black speakers in the United States (Koencke et al. 2020), which is concerning given the increased adoption of ASR in applications like medical transcription (Topaz et al. 2018). Arguably, however, this usability harm is outweighed by a sociolinguistic harm; ASR that is inadequate for Black speakers creates negative psychological and emotional effects (Mengesha et al. 2021), reinforcing the myth that white English is the correct way to speak (Lippi-Green 2011).

These failures have led to a growing awareness that computational approaches need to better consider language in its social realities. At the same time, more sociolinguists are tapping into computational methods to speed up their own research (Villarreal & Collister forthcoming). These two strands have coalesced into the nascent subfield of computational sociolinguistics (Nguyen et al. 2016). We are optimistic that computational sociolinguistics can combine the best features of both fields. For example, the third author of this article not only has utilized AI methods to expedite a time-consuming step in the sociolinguistic research workflow, coding variants (Villarreal et al. 2020), but also—contrary to the usual pattern of “unleash the algorithm first, consider bias later”—has demonstrated methods for detecting and mitigating bias in this particular method (Villarreal 2021). While this subfield is quite new (it does not have a dedicated journal or conference), it is gaining recognition; *Frontiers in Artificial Intelligence* recently published a 31-article series on computational sociolinguistics (Grieve et al. 2022).

## 7. PROFESSIONAL SCOPE OF LANGUAGE ACROSS AREAS

Summarizing the range of professional areas with large concentrations of linguists gives a sense of the professional disciplinary variety. The LSA presents a range of examples of the professions of its members (<https://www.linguisticsociety.org/resource/linguistics-profession>, <https://linguistics.osu.edu/undergrad/careers>), as does Trester (2017, 2022).

Computational linguists are in high demand, as are clinical speech and hearing scientists (<https://www.asha.org>). Also in perennial need are multilingual educators—in areas ranging from teaching to counseling and other areas, including language curriculum development (<https://www.aft.org/position/english-language-learners>, <https://www.aatsp.org>).

There is an active need for languages around the world in specific contexts, particularly educational, legal, and medical. In the time of virtual working and learning, increased need exists for signers, subtitlers, and captionists (<https://www.nad.org/resources/american-sign-language/interpreting-american-sign-language>). Similarly, there is a linguistic and multilingual demand for writers, including technical writers and translators (<https://www.atanet.org>, <https://www.stc.org>).

Media studies and commodification are growing as people spend more time interacting with one another on social media platforms and through other technologically informed mediums,

and demand for discursive analysis of these spaces is becoming apparent. First, there are several companies whose primary goal is to cultivate online language learning spaces, such as Duolingo, Babel, and Rosetta Stone. These companies have found extreme success through promotion on social media platforms and through partnerships with educational organizations; Rosetta Stone has even replaced language teachers in some school districts (Clemons 2022). Second, companies dedicated to marketing in online spaces, product development, social media content creation, and more are increasingly interested in analyzing how humans cocreate meaning within these spaces. As an example, companies such as Facebook and Google often hire linguistic anthropologists for their ability to handle large-scale discourse analysis to work alongside content creators in the development of software, algorithms, and social media content.

The full range of justice requires insights from the study of language. While forensic linguistics has received attention in linguistics literature, intellectual property and trademark concerns are also particularly pressing as language impacts the legal and creative aspects of marketing and branding related to everything from naming drugs to the Washington football team (Heymann 2015). Furthermore, health communication is a crucial aspect of the study of language. The director of the National Institutes of Health admitted that more focus on the behavioral aspects of health care is needed (Benen 2021). Health communication is a crucial part of how we cope with the COVID-19 pandemic and how we envision health and wellness. For example, new lung cancer language guidelines for researchers and clinicians emphasize respect for the person and a move away from stigma and a focus on cancer as failure (IASLC 2021).

## 8. KEY RESEARCH IN THE STUDY OF LANGUAGE ACROSS DISCIPLINES

We now trace current questions in the study of language with a focus on the lexicon. The lexicon is an aspect of language that people quickly and widely notice. It is both popular and contested in general thought and research and in the study of language itself. We highlight the lexicon and corpus and challenges in computational linguistics (Bender & Grissom forthcoming) and how they cause researchers to rethink the representation of lexical items as we work to more precisely define what a mental entry is according to different lenses—for example, there are great differences in what lexicographers would say the lexicon is versus what we can derive a lexicon to be from a corpus. The case studies we present demonstrate different approaches to language across the disciplines: language ideologies of the lexicon, the so-called 30-million-word gap, and gender identification in tweets. Despite the fact that the lexicon is traditionally overlooked in linguistics in favor of phonetics, phonology, syntax, and semantics, these case studies show that there is a lot to be learned from the lexicon alone.

### 8.1. Case Studies: Language Ideologies of the Lexicon

Major discussions in linguistics often draw on linguistic ideologies, ideologies of language, or language myths that uphold or justify particular visions of our society. Three examples that have received significant attention across several humanistic disciplines are (a) gender expression as morphological innovation on lexical identifiers for racial and ethnic categorization, (b) development of the lexicon in educational settings, and (c) prediction of social categories based on lexical production.

### 8.2. *Latinx* as Lexical Innovation in Spanish

In recent years, the topic of inclusive language and gender expression has been of particular interest in the public domain, including conversations about the possibility of pronominal expression



for individual gender identification. Though English lacks grammatical gender except in personal pronouns, in Spanish, the interplay between grammatical gender and social gender expression has resulted in tremendous social conflict and struggle. Several commentators have noted the impossibility of gender-inclusive language in Spanish, citing the “linguistic imperialism” of forcing an English sound into the Spanish language (Guerra & Orbea 2015, Hatzipanagos 2018). Holding our discussion of whether the ethno-racial identifier *Latino/a/e/x* is appropriate for the categorization of a highly heterogeneous population, the word itself is an example of how language ideology can influence our understanding of morphological innovation.

In 2020, the Pew Research Center published its findings that only around 25% of US Hispanics had heard *Latinx* and that only 3% of those who had heard it were using it in their own vocabulary (Noe Bustamante et al. 2020). These findings were shared across social media at viral levels, fueling an ongoing debate about the appropriateness of the morphological transposing of English phonology onto Spanish words (Radar 2021). These debates were fueled by prescriptive understandings of grammar, which also sought to delegitimize the use of nonbinary pronouns. Nonetheless, much of the pushback that arose pointed out that Black and queer people had adopted and used the terms at far higher rates than indicated by the Pew survey and questioned the sample surveyed in the original report. This disconnect points to how major institutions often report white statistics as holistic, leaving out racialized and othered bodies from their analyses (Alvarenga 2021).

A quick survey of popular-press articles surrounding the use of the term reveals folk language ideologies, major ideas held by individuals in a given society based on the naturalization of social structure. In this case, the idea that there is a correct or incorrect way to say something results in paradoxical reporting of how individual users are adopting terms such as *Latinx*. For example, the author of a January 2021 *Billboard* article expressed doubt that *Latinx* would catch on among Hispanic speakers (Cobo 2021). The article draws on the abovementioned Pew survey, failing to account for Black and Indigenous erasure in the sample as well as processes of linguistic variation. As a result, this article, and most popular cultural commentaries, evades an intersectional analysis, which would require a heterogeneous understanding of Latinidad to include Black, Indigenous, queer, and nonbinary people, as well as more-thorough linguistic analyses. In response to popular (mis)understandings of what amounts to a lexico-morphological innovation, several studies emerged across language disciplines that challenge our understanding of *Latinx* as a term of address (Salinas & Lozano 2019; Slepmp 2020a,b; Vidal-Ortiz & Martínez 2018). What is clear is that linguistic analysis benefits social analysis in ways that disrupt popular language ideology.

### 8.3. Educational Vocabulary

Charity Hudley & Mallinson (2011) described vocabulary as a critical part of demonstrating fluency in standardized English and succeeding on standardized tests in educational contexts. An important illustration of the need for linguistic awareness when assessing the vocabulary of non-standardized English-speaking students is presented by Hart & Risley (1995). These authors conducted a study examining the speech of African American and white children of economically diverse backgrounds; they used what they called “textbook definitions” to define and categorize the children’s utterances and vocabulary. They used “a standard dictionary to define words as nouns, verbs, modifiers, and functors” (p. 138). There are serious concerns with the ways that many language assessment situations, such as that of the Hart and Risley study, are carried out. The methodological circumstances of the Hart and Risley study call into question the conclusions that were drawn. The fact that certain groups of parents and children were found to be quantitatively less verbose during observational situations is a limited and decontextualized finding. Results from assessing a speaker’s vocabulary size in observational settings must not be extrapolated to draw

generalized conclusions about that speaker's overall linguistic development, proficiency, and competence. Moreover, it is incorrect to interpret evidence of language differences in ways that suggest that the language and culture of lower-socioeconomic status or African American speakers—or even the speakers themselves—are inherently deficient.

Figueroa (2022) shows that this lack of interdisciplinary focus on the study of language and the lexicon has not gone away and has had lasting detrimental effects. She also shows that it is going to take a transdisciplinary approach to address what is now an even bigger problem, and underscores the need for organized action across scholars and disciplinary boundaries so that we can wage better scholarly campaigns against particularly damaging logistic models. Figueroa makes a strong case for the important role that applied linguists can, and must, play in shaping public debates focused on language. She shows how Hart & Risley's (1995) work makes it “past the literal and psychological paywalls” and explains that “normally the dissemination of research is a two-step process of research being translated into grant-funded interventions based on that work. From there, popular media picks up on the marketing of the intervention and disseminates it to the public” (Figueroa 2022, p. 44). She further notes that “[t]he message continues to proliferate today” (p. 44). In addition, she observes that generalizations about language development are considered “normal” because members of the white middle and upper classes are disproportionately represented in academia. This critique ties the psychological analysis of the lexicon back to the cases described above. It shows that a focus on ideology and method is inescapable. If researchers try to ignore those realities, the effects have large-scale ramifications. Scholars from across the disciplines must come together to fully address these issues.

#### 8.4. TweetGenie: Gender Identification in Tweets

In Section 6.8, we describe a vision for the nascent subfield of computational sociolinguistics that represents the “best of both worlds”: the technological tools and methodological rigor of computational linguistics with the social awareness of sociolinguistics, capable of answering both computational and sociolinguistic questions. Exemplifying this approach is Nguyen et al.'s (2014) TweetGenie, a program that predicted Dutch Twitter users' gender and age based on the content of their tweets.

While TweetGenie is relatively recent, the general idea of using computational approaches to perform text classification dates to the 1960s (Jurafsky & Martin 2022), when statistical models were used as evidence that James Madison wrote a set of 12 Federalist Papers whose authorship had been the subject of historical dispute (Mosteller & Wallace 1963). First, each text (each tweet or Federalist Paper) is treated as a “bag of words,” as opposed to a text with words in a specific linear order. (For example, the first sentence in this paragraph has one “dispute” and one “text,” while the second sentence has no “dispute”s and two “text”s.) Second, a subset of texts are labeled with the “ground truth,” such as: Is this bag of words from a tweeter we know is female, or one we know is male? Third, a statistical model is trained to recognize patterns in this training data, identifying what makes particular bags of words more likely to come from female or male tweeters. Fourth, this statistical model can make predictions about texts whose label is unknown by comparing new tweets to its template for what makes a bag of words particularly likely or unlikely to come from female or male tweeters. Finally, some statistical models (but not all) can be pried apart to figure out which words the model thinks are telltale signs of a female or male “bag.”

With the engineering-related goal of improving system performance, the computational research question is: How well does this system work? With the social science-related goal of improving theories of the interaction of language and society, the sociolinguistic research question is: What types of words do women tweet more often than men? In isolation, however, both

questions miss the point: “Most of the NLP research focusing on predicting gender and age has approached these variables as *biological* and *static*, rather than *social* and *fluid*” (Nguyen et al. 2014, p. 1951; emphasis in original), and models trained to predict binary gender tend to use stereotypical features as the basis for these predictions. Instead, Nguyen et al. show how a long-accepted tenet of sociolinguistic theory—that gender is not fixed but rather is dynamically constructed through speakers’ day-to-day gender performance in interaction (Eckert 1989, Eckert & McConnell-Ginet 1992)—stands to benefit computational linguistics.

## 9. CONCLUSION: WHAT COMES NEXT?

Our most pressing question: Who is this work for, and whom do its findings serve? The question cuts across disciplines, and to address it head on, Charity Hudley et al. (2020) describe their vision of “liberatory linguistics” as linguistics designed by people from marginalized and racialized communities that is expressly focused on liberating their forms of communication and expression and humanizing their connections. Liberatory linguistics draws from Freire (1970) and Cone (2010) and centers on the scholarship of teaching and learning of students in higher education as a crucial step toward linguistic justice. It is linguistics that is intentionally designed and that is expressly focused on languages, language varieties, linguistic expression, and communicative practices within the context of the ongoing struggle for liberation. The components of linguistic liberation include (a) self-determination (in how language is used and how it is studied), (b) action and resistance (as both practical and aspirational strategies), and (c) humanization (fully recognizing people’s humanity in the ways they connect to one another linguistically, culturally, socially, emotionally, and spiritually). We focus our model on linguistics, but it is relevant to higher education as a whole. That is going to take the study of language across the disciplines we currently have and, honestly, a few more we have yet to create.

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## Errata

An online log of corrections to *Annual Review of Linguistics* articles may be found at  
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