

Linguistics and the Language Sciences: Growing a Scholarly Community

Language: a vital frontier of human knowledge

Language is a complex constellation of knowledge and abilities that is unique and fundamental to humans. As the basis of our ability to encode and communicate thought, language is the primary medium of culture, education, and social collaboration. The study of these fundamental capacities is not the domain of one discipline. Rather, the language sciences span linguistics, psychology, neuroscience, and speech pathology. The impact of the language sciences on other fields is immense—from computer science and informatics to education and cultural studies. Linguists and language scientists have learned more about language in the past fifty years than had been known in all of previous human history. Nonetheless, fundamental questions remain. For example, we do not yet fully understand how children acquire language, how language evolved, or if there are basic principles that apply to all human language, to name just three. And until we make further progress on these questions, advances in both the basic and applied fields will lag.

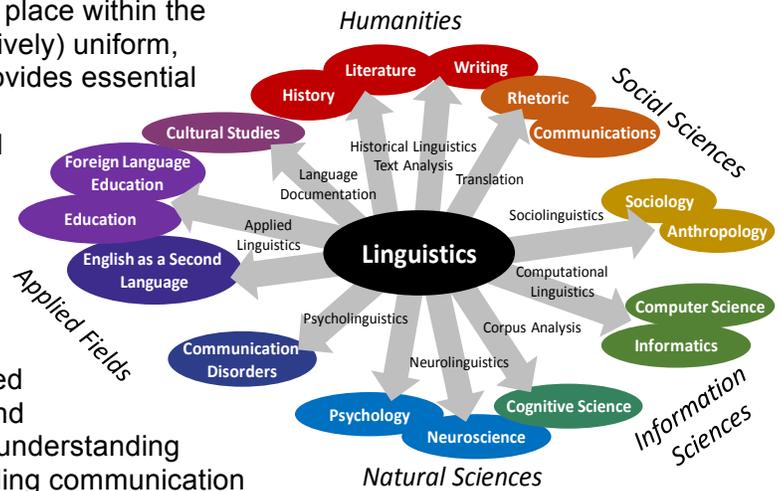
Linguistics is central, and it is changing

Linguistics is the scientific study of language itself. Linguists are concerned with a wide range of questions about the nature of language, such as: What are the key properties of a particular language, such as Spanish, Javanese, or American Sign Language? What are the key properties of human language, as such? How does language change and spread? How do people learn and use language? What are the cognitive processes used to produce, understand and learn language, and are these processes shaped by the structure of a language? And how can this deep knowledge of language be harnessed to achieve practical goals and improve people's lives?

Linguistics occupies a unique and central place within the scholarly disciplines. Linguistics provides a (relatively) uniform, formal way of speaking about 'language', and provides essential grounding for much research in psychology, communication disorders, computer science, and education. As a formal, theoretical field, linguistics can make fundamental contributions to the humanities in areas like translation, cultural studies, and language documentation. Further, linguistics has an important impact on other social and natural sciences. For instance, within an individual speaker, language is grounded in the mind and brain—core foci of psychology and neuroscience. Moreover, linguistics is critical for understanding and teaching new languages, and for understanding communication disorders, which affect over 16% of children. Furthermore, the technological revolution in artificial intelligence would not be possible without a deep understanding of language.

Traditionally, linguists have taken a largely analytic approach based primarily on descriptive linguistic research. This has led to both remarkable insights about language and the construction of sophisticated theoretical frameworks. However, this approach has been less successful as a vehicle for interdisciplinary work and as a platform for applied problems like disordered language or language technologies. Meanwhile, advances in other fields offer new ways to test and refine linguistic theory: experimental approaches from psychology and neuroscience, and the revolution created by "big data" in language. As a result, linguistics as a field is undergoing a major shift in the 21st century—a shift that draws on interdisciplinary trends, rapidly growing access to experimental data and large datasets of natural language. Over the past two decades, linguists have borrowed and embraced new research methods and technologies, bringing these to bear on new domains of inquiry and populations. Experimental approaches from psychology, cultural approaches from the humanities, computational approaches from computer science, new populations such as bilinguals and disordered language users, and techniques of/from neuroscience all play an increasingly central role in understanding and modeling language. Correspondingly, further advances in informatics, communication disorders and neuroscience will come as a deeper understanding of the properties of language itself—the grist of linguistics—is integrated into these fields.

While this revolution in approaches and research methodologies has not changed the questions at the core of linguistics, it has changed how they are answered, with ramifications throughout the academy—from student training and career placement, to interdisciplinary bridges across faculty, to funding priorities.



Linguistics and the Language Sciences at Iowa

The language sciences at Iowa are strong. Communication Sciences and Disorders (CSD) is ranked first in the nation, and is hiring 2-3 language scholars in the next few years. Psychological and Brain Sciences (PBS) has a strong tradition in language, with ongoing searches in Learning and Neuroplasticity (which will likely include language). The World Language departments in the DWLLC have a history of sustained commitment to linguistic scholarship, both prior to and following the formation of the Division; each has invested in applied and basic linguists. (Indeed, the Department of Spanish and Portuguese is currently conducting a search for a specialist in Spanish syntax and second language acquisition.) Even Pediatrics and Psychiatry are recruiting scholars who work on language. The interdisciplinary zeitgeist for language at Iowa is enhanced by existing groups like the DeLTA Center, FLARE, and the Cognitive Science of Language Certificate, and there are opportunities to potentially bridge further to the Iowa Neuroscience Institute (INI) and the Informatics Program.

At the same time, the Department of Linguistics itself confronts challenges. The unfortunate losses of Bill Davies and Alice Davison, along with the retirements of Catherine Ringen and Roumyana Slabakova, have left a small linguistics department with strength in the formal, analytic core. Our former colleagues are irreplaceable; but this confluence of events provides the department—and the University—with a tremendous opportunity. We can now build a broad, multi-disciplinary community that fulfills the promise of linguistics as a hub science, using cutting-edge methods from a variety of fields to address fundamental questions about the nature of language and how it can be applied for practical goals. Such a community can be established only when faculty in linguistics and the language sciences have both the relevant research programs, and the appropriate appreciation for work in related disciplines. As we describe below, a number of efforts (the Cognitive Science of Language Certificate, joining the DWLLC) have begun the process of establishing such a community. In the last 5 months we have coalesced around a shared vision for Linguistics and Language Sciences which we describe here. With a strategic reinvestment in linguistics and the language sciences by CLAS, we can realize this goal.

Looking to the Future

We envision a strong Linguistics Department that plays a key role in uniting linguists and language scientists across campus. Such a community will build scholarly and pedagogical bridges to the natural sciences, information sciences, and applied sciences, fostering collaborations in new and innovative ways that reflect the new orientation of the department as a whole. The future of the Department of Linguistics will embrace contact and collaborations across the University. We seek to answer fundamental questions about the nature and structure of language in a way that learns from and contributes to the broader scholarship on campus.

The field of linguistics is changing, and the Department of Linguistics will never be big enough to achieve excellence in every area. Thus, we must focus, but in a way that supports our goal of a more interdisciplinary and collaborative department, and is concordant with the future of the language sciences. Such focus must be found along three dimensions: 1) the scholarly questions that offer a broad but flexible mission to a future Department of Linguistics; 2) the languages in which we seek answers to these questions; and 3) the methods that our faculty use to answer them. We are uniquely poised to 1) build a strong program around a theme of language acquisition (broadly construed); 2) reorganize the program around commonly-taught world languages (Spanish, French, German, Asian Languages, and American Sign Language) to capitalize on existing strengths in DWLLC; and 3) build a focus on experimental methods (making bridges to PBS and CSD), while seeking opportunities to grow in emerging areas like computation and neuroscience. These are not limiting constraints, but rather aspirational: Even as we seek to build excellence in these areas, we remain open to new scholars, students, and collaborations that complement our broader goals in unexpected ways or which build on other established or historical strengths and collaborative opportunities.

Language Acquisition is the unifying topic around which we will reorganize and build the department. This is an area of immense societal importance. Helping children with language disorders, discovering how best to teach a second language, or determining how to train a computer to use language all require fundamental basic knowledge of how language is acquired. Consequently, research in language acquisition is both of theoretical importance and has good potential for external funding. This focus builds on the strength in second language learning in DWLLC, the DeLTA Center, FLARE, and on CSD and the strong developmental group within PBS. A focus on this topic—with a methodological focus on the interdisciplinary experimental approach described above—is the best way to achieve scholarly prominence. We already have multiple scholars across campus working on this (Gavruseva [Ling], Shea [Spanish], Destruel-Johnson [French], McMurray [PBS], Cook [PBS], Saletta [CSD], Hendrickson [CSD]) from a variety of perspectives (first, second, and third language acquisition, disordered language, bi/multilingualism), as well as a historically strong

program in TESL at both the BA and MA level, where students have received both practical training and generative theoretical perspectives on acquisition. Further, gaining a deeper understanding of language acquisition is intimately linked to achieving a deeper understanding of the key properties of the human capacity for language, the goal of formal linguistics. Thus, this focus builds on strengths, but also helps cement collaboration and scholarly engagement across campus. Crucially, this area of linguistics is highly fundable via a variety of external funding agencies including NIH, NSF, and the Department of Defense.

Commonly-taught World Languages are becoming increasingly important to the Department of Linguistics, as our strength has been augmented by linguists in the departments of French and Italian, Spanish and Portuguese, and German. By building in these languages, as well as languages such as American Sign Language, Mandarin, and others that are strong at Iowa, we leverage the current strengths of DWLLC, build on the already existing collaborative relationships within the Division, and create new opportunities for our students, who would have the opportunity to work in a more traditional language department, a linguistics department, or in private industry (Amazon is hiring linguists working in French and other commonly-spoken languages, but sadly, not in the indigenous North American language of Inuktitut).

We recognize that it is crucial to embrace **new empirical directions** for the study of language, both in the community of language scientists we are building, and in the training of future generations of students. These include experimental approaches (both psychological and neuroscientific) and computational methods, and work with special populations (for example, multi-linguals, people with communicative challenges). This is the future of linguistics, as is evident from the number of highly-regarded programs at peer institutions which have already embraced such approaches (Northwestern, Maryland, Massachusetts, Kansas, Illinois). Further progress in the language sciences can only be achieved by addressing the fundamental questions of linguistics not only by using a core analytic approach, but also by applying appropriate experimental and computational techniques. With the strengths on campus, our department is poised to spark this synthesis.

Achieving this Vision

We conducted a five-month process that consulted with both stakeholders throughout campus and external consultants. We have identified the following concrete steps:

- Change the name of the department to **Linguistics and Language Sciences** to capture our new vision, and communicate the relevance of our work to a diverse pool of scholars and students.
- Unite all of the linguists within the DWLLC. This move is underway, with several scholars moving some proportion of their appointment to Linguistics. This includes Sarah Fagan (German, 50%), Mercedes Niño-Murcia (Spanish & Portuguese, 25%), and Christine Shea (Spanish & Portuguese, 25%), as well as one other (Emilie Destruel-Johnson; French & Italian) who plans to do so post-tenure.
- Hire four new language scientists within the unit over the next three years. Such scholars must build on existing interdisciplinary ties and create new bridges (to PBS, CSD, Computer Science, the INI, and the DeLTA Center). These hires will focus on linguists who use experimental techniques to address core linguistic questions. We will prioritize experimentalists with additional expertise in emerging areas such as computational approaches, sociolinguistics, bilingualism, or disordered populations. These hires should begin with a **senior hire** who will serve as an intellectual catalyst for this new vision; this person will bring additional leadership to the Department and to the broader language sciences community on campus.
- Explore relocation to Phillips Hall. This will further consolidate the linguistics and language science community with linguists in DWLLC, move us closer to PBS and to ESL, and help foster an actual community of collaboration.
- Begin consolidating PhD programs in Linguistics and allied fields. This will yield a more robust PhD program in Linguistics and Language Sciences that allows students to pursue a degree in linguistics with a choice of tracks such as: 1) Theoretical Linguistics; 2) Romance Linguistics/Hispanic Linguistics/French Linguistics/Germanic Linguistics; 3) Cognitive Science of Language. As our faculty build (by external hiring and internal realignment), such a program can embrace a more comprehensive cognitive science oriented training (effectively expanding on the model developed by Bill Davies and Bob McMurray for the PhD Certificate in the Cognitive Science of Language) for students in any of the "tracks," with collaborative training opportunities such as lab rotations both in and outside of the department, and with funding driven by faculty research (i.e., a much more typical science model). As part of this initiative, we will continue to develop the collaborative teaching and training of students that is already underway, as well as pursue partnerships with allied departments to provide courses, such as graduate statistics and methods with PBS, which have not been open to linguistics students in the past.