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Society, Scientific Authority, and Linguistics: The Need for Epistemic Justification
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Abstract
Many have considered Linguistics a science for decades, though linguists themselves have debated the accuracy of this characterization of the study of language. These conversations about linguistics as a science reveal a discipline intent on securing scientific status, often through rigorous methodology and theoretical frameworks mirroring the traditional sciences. If successful, however, linguistics inherits the authority of modern science, which maintains an epistemically hierarchical relationship with non-scientists. By examining and representing the epistemic relationships between expertise, authority, and science, I ask us to think of all linguistics not as a socially neutral endeavor, but as perpetuating the juxtaposition of scientific and popular understanding. To practice science responsibly, I claim, linguists must justify not only their own practice, but the practice of science itself through philosophical analysis and epistemic justification that requires us to ask: Why is my way of knowing better than theirs? Answering this question will help us both research responsibly and engage in productive conversations about the discipline’s place in the larger, often skeptical, world of academia.

Keywords
Philosophy of Linguistics, Epistemology, Science, Society

Introduction
When I submitted the abstract for the conference presentation that became this publication, I was wrestling with myself over two conflicting identities: the social scientist and language researcher, and the postmodern critic from the humanities. As a linguist who maintains personal and intellectual ties to postmodernity, understanding epistemological foundations of linguistic science is a conversation that I need to happen on both a personal and an academic level. This was clearly reflected in my initial abstract to the conference where these ideas were presented, and one of my reviewers correctly remarked that the topic I was proposing would be more appropriate for a workshop than for a presentation. I completely agree, and so this publication is not a presentation of a study and its findings, nor will I analyze any particular dataset. Instead, I consider this an exercise in reflexivity, in critical reflection on the discipline and the nature of knowledge, an informed and timely reflection on the relationships between experts and nonexperts on language. Nor is this discussion without its predecessors, as will be shown. In a time where the status of the ‘fact’ is both questioned and passionately defended in the American political sphere, I intend to reignite some of the conversations about the status of knowledge within linguistics, focusing particularly on the coveted status of science. It is my hope that the content of this article will be provocative enough to encourage other linguists – particularly those who, like me, are only recently introduced to the field – to practice some philosophy alongside their science. Ultimately, I advise us all to justify our own study and intellectual foundations in the hopes that this will help us to research responsibly, as well as enable us to explain the value of our work on our own terms with maximum self-awareness.
The paper is organized as follows:

First, I discuss the nature of scientific inquiry from an epistemic viewpoint, reviewing the pursuit of objective knowledge that is the hallmark modern science. I examine the relationships that are maintained or assumed in valuing scientific knowledge above others, highlighting the epistemic inequalities that result. In the second section, I provide a distinction between two types of knowledge – *expertise* and *authority* – that will hopefully prove helpful. In the third section, I review some of the more relevant conversations about linguistics as a science and the field’s relationship with the public, broadly speaking. Finally, I will wrap up by examining the implications of linguistics as a science and calling for a conscious effort at epistemic justification that goes beyond a blind appeal to scientific status.

**Science and Epistemic Authority**

In Western culture, the enterprise of scientific research holds a special epistemological status within society. This can be traced back as far as ancient Greece, when philosophers of nature first began the search for universal truths about the way the world works (see Eda & Cormack 2012). Working within a positivist paradigm, modern science appeals to those of us who are realists about or objects of study, promising knowledge wrapped safely in objectivity, sterile and protected from any subjective influences on its contents. Historically, Western science has hinged on the attainability of a ‘view from nowhere’ (Gaukroger, 2012), an ability to have our objects of study “passively laid-out for detached observation” (Aitchison 2001, p. 618). A notion of objectivity as an uncompromised analysis undertaken on an impersonal *tabula rasa* has dominated scientific study, both inductive and deductive approaches, as the epistemic certainty of knowledge and facts has often been the primary goal of modern science. It is no coincidence, then, that despite the postmodern skepticism of truths with a capital *T*, we continue to produce and teach the ‘facts’ of language and languages. Facts that, to our dismay, lack the epistemic authority that accompanies most established scientific practice.

The epistemic privilege and authority of science is not only evident in the way that STEM fields are funded, but in the way that the relationship between scientific spheres of knowledge are contrasted with the public spheres. In general, there is a tendency to promote a ‘dissemination’ approach, where knowledge is *possessed* by scientific experts and can (and should, according to dominant belief) be communicated and passed along to the layperson, the non-expert. According to Mogendorff (2012), who reviewed the literature investigating the views that scientific experts held toward their own knowledge and the roles of non-experts, scientists in the United Kingdom who work in the agricultural biotechnology industry “treat ‘scientists’ and ‘laypeople’ as mutually exclusive categories,” not only dividing these spheres of life definitively, but restricting the possible identities for both the public and scientists themselves, failing “to acknowledge their own existence as both scientists and laypeople” (p. 731). There is a history of scientists considering themselves as separate from nonexperts in an irreconcilable fashion. Mogendorff herself reaches a more nuanced conclusion, namely that “scientists present themselves as knowledge hybrids” (p. 740) who have access to both expert and nonexpert ways of knowing, which ascribes a particular privilege to scientists. Even the notion of hybridity, however, is built on concrete dissimilars, on the opposition of the scientific and public spheres. Although specific to the field of agricultural technology, Mogendorff’s
research reflects my own intuition as a scientist turned philosopher (or is it vice versa?); we, as scientists, uphold a dichotomous relationship between lay and expert knowledge.

To represent this culturally embedded juxtaposition of lay and expert knowledge, as well as the objective/subjective dichotomy, we can represent these relationships using Greimas’ semiotic square (Fig. 1):

![Semiotic Square](image)

*Figure 1: Semiotic Square depicting the relationships between scientific and public spheres of knowledge.*

The semiotic square, theorized by Greimas in *On Meaning*, is a method of representing relationships between meanings, or concepts. As a structuralist model, the square is built on relations between concepts, and these relations are thought to have, at their core, a “definable logical status” (p. 48). Thus the logical relationships of contraries (S1 & S2), contradictions (S1 & non-S1, S2 & non-S2) and implication (S1 → non-S2, and S1 → non-S2) are clearly represented in the semiotic square. The depiction in Fig. 1 is not meant to represent these relationships as they are, but rather as they are believed to be, according to traditional views of science in the West. That is, this representation clearly separates the scientific sphere from the public sphere and objective knowledge from subjective opinion. In Fig. 1, the relations are based on opposition: so *science* contrasts with the *public*, the *objective* with the *subjective*, and – perhaps less convincingly – *knowledge* with *opinion*. Likewise, logical contradiction is represented in non-S1 and non-S2. Here, that which is *not-science* clearly enters a relationship of implication with *public*, while that which is *not-public* is implied in the S1 *science*. *Not-subjective* and *not-objective* are further implications of their related Sn terms. While this square is presented as one complete representation, it could easily be separated into three squares.

The benefits of having these three squares presented this way is that we are able to see the epistemic privileging of science over public ‘knowledge,’ which here has been labeled *opinions*. The first sublevel of the primary terms on the square represent properties believed to be held by these contrasting spheres of life (those of scientific study or of public concern), while the second sublevel may be considered a product of those spheres, so that *Science* is an objective process that produces knowledge, while the *Public* sphere is subjective, producing, at best, opinions. In this representation, then, we can see at a glance the dichotomous *conceptualization* of the relationship between scientific experts and the general public and the function of one of.
the common justifications for this epistemic difference, that is, the degree to which the knowledge produced by either science or the public is thought to be objective.

What Fig. 1 does not capture is the dynamic nature of the real-world relationships being described from a post-structuralist standpoint, which would place emphasis on the construction of knowledge and expertise through discourse and social relationships. Further, we should question the objective/subjective dichotomy that seems so static in the diagrams provided. The representation itself is not meant to be a portrayal of the relations as they are, but rather as how they are conceptualized by the scientists Mogendorff and others interviewed and how, I suspect, they are envisioned by us to some degree. A constructivist and postmodern stance on objective knowledge would hold that “science is one possible ode of discourse that takes place against the backdrop of conceptual and epistemic frameworks whose rational justification necessarily involves presupposing those very frameworks” (Bland 2014, p. 467). In other words, the knowledge that science promises is itself still infinitely contextual – it simply jumps through more red tape. It is probable that most academics in the social sciences don’t need to be reminded of the impossibility of absolute objectivity. I, myself, as Johnson (2001), “do not wish to suggest that linguists dispense with the notion that there are indeed ‘facts’ about language, or that we abandon a commitment to discovering and verifying them empirically” (p. 600), but merely to remind us of the fallibility of objective knowledge, which none-the-less continues to retain epistemic authority among scientists themselves and – to varying degrees – with the public.

**Expertise and Authority**

While the epistemic privilege that scientific knowledge is granted is widely recognized by those choosing to write on the topic, it may help us to further examine the types and degrees of authority that we are dealing with. Working with the discussion above, I propose a distinction between *expertise* and *authority* when it comes to epistemic issues.

While scientific facts may be accorded a degree of certainty and universality, there are other forms of knowledge that are equally trusted at a more localized level. To describe the trusted knowledge of a context-dependent and specialized type, the term *expertise* will suffice. *Expertise*, then is an acknowledged, valued way(s) of knowing or types of knowledge that tend to be practical or contingently justified. Consider the skilled professions, for instance, and the types of knowledge and ways of knowing that are practice therein. When I have a problem with my car, I call the auto mechanic. If I am worried about a friend, I may talk to a mutual friend who has known them longer. When I grade my students’ papers, I use my expertise as an instructor. All forms of expertise are valuable, but contingent, or limited. Those who I consider to be experts others may not deem trustworthy – perhaps we can our news from different sources or medical advice from different types of practices. Or perhaps my expertise on language is respected only when among other linguists. Expertise, in this definition, is specialized.

*Authority*, on the other hand, is the kind of expertise that is thought to be non-contingent and enjoys a widespread, social epistemic privilege. It is expertise that is ratified by others to such an extent that the knowledge and ways of knowing contained within it are accepted as non-contingent fact. This type of epistemic privilege can be conceptualized as *ratified expertise*, and
it is the type typical of the natural and traditional sciences in the age of modern science, generally speaking.

**Scientific Status of Linguistics**

Somewhere on the syllabus of every introduction to linguistics course can be found the phrase, “the scientific study of language.” This description is my own go-to to explain what it is I study, and I suspect that, for many of us, it is not only an apt description, but a guiding principle. The pursuit of scientific knowledge and practice within linguistics has arisen with the discipline itself, arguably solidifying around the time of the cognitive turn in American linguistics. Nonlinguists and linguists alike, however, do not always agree on the status of linguistics as a science.

The scientific status of linguistics has been repeatedly questioned by nonlinguists, who not only tend to resist linguistic findings and assumptions that contradict “common sense” (Milroy 2001, p. 620) but also seem to resist the idea of the scientific approach to language, doubting that “language… can be subjected to systematic, academic analysis” (Johnson 2001, p. 598). As Milroy (2001) discusses, this resistance may be partially due to the fact that language is itself “internal to the common culture: it is part of it” (p. 620). As users of language, nonlinguists already possess beliefs and ideologies about language that are taught and then embraced with an almost moral certainty. The need for additional scientific inquiry seems unnecessary when faced with what appear to be self-evident truths about language, while the unyielding truths linguists produce seem only to contradict lived experience (Milroy 2001) and fail to account for “local contexts” (Johnson 2001). Linguistics, then, lacks authority in that the expertise that we pride ourselves on when it comes to language is not ratified by the public, but instead is confined to a narrow echo chamber of our own making. Focusing on possible solutions to poor publicization of linguistic research, Johnson’s (2001) contribution reminds us that the positivist, truth-seeking that reverberates in our ivory towers does not reflect the values and experiences of those living in a postmodern reality. That is, individuals treat knowledge of language as a type of expertise that, perhaps, cannot be ratified at all, given its contextual nature and the intricacies of its ties to non-linguistic facets of life. Along with many other social sciences, then, linguistics has not secured a position of epistemic authority in the eye of the public, generally speaking.

While nonlinguists have doubted the credibility of linguistics, linguists themselves have been discussing the scientific status of the field. Though linguists identify the beginnings of the science of language at different points (as early as grammarians, for Reichling (1947), the birth of comparative reconstruction, for Sapir (1929)), many have defended the scientific status of the field. As Hammarström (1978) characterized the issue, “American and European linguists may not mean the same thing when they say ‘science’ but all want to be a ‘science’” (p. 17). This issue, however, is debated, with disagreements over whether linguistics is rigorous enough or empirical enough to be considered a ‘proper’ science. Implicit in this debate has been the desire for scientific status. And with scientific status, traditionally, comes with epistemic privilege and authority. This type of authority is not only important for institutional bureaucracy, providing academic prestige, direction, and – last but certainly not least – funding (see Gray 1981), but also for those who consider science to be in-line with natural philosophy in its search for knowable truths about the world. That is, for many linguists, scientific study is the pathway to facts, to
knowledge, and to understanding. The goal of establishing linguistics as a science is not entirely one of authority, but of epistemic certainty.

The desire for both epistemic certainty and uniformity, more than a ratified authority, is what comes through in the evidence offered up for linguistics as a science by linguists themselves, both before and after the discipline became formally recognized at the university level. Moreover, the standard against which linguistics is measured are the established sciences of the day, which speaks to the authority those fields enjoy even across disciplines. Sapir, in 1929, claimed that linguistics was the best of the social sciences, due primarily to “its data and methods,” which he admired for being thoroughly adapted from the natural sciences, rather than copied from them (p. 214). While acknowledging the appropriateness of the natural sciences as a model of sorts for linguistics, Sapir commended linguists for taking what was effective in the natural sciences and modifying those approaches to fit their own objects of study. Nearly fifty years later, Hammarström (1978) defends linguistics by assuring fellow linguists that attempting to be “as objective, systematic, precise and explicit as possible” is a solid foundation for “any kind of scientific work” (p. 17). More recently, Clark (2006) describes the cognitive revolution and its axioms, claiming that they have “served to transform modern linguistics into a science ruled by laws as precise as those of mathematics” (p. 378). That is, scientific status may be bought with lawlike principles and theories, when empirical methods may be less successful. Nirenburg and Raskin (2004) reflect in detail upon theory-building in linguistics, also highlighting its importance in unifying a scientific field. The evidence offered for linguistics as a science, in these few examples, shows the close relationship that linguistics has with the traditional sciences, be they inductive or deductive. By being objective and systematic, by collecting and analyzing data through tried and true methods, and by arriving at the laws, linguistics is thought to secure its position as a science.

Not everyone has agreed, however, that linguistics is a successful science. The state of the field in the 80s has been likened to the early years of physics, in that “ancient preconceptions” still plague the discipline, according to Yngve (1986), a particularly outspoken critic. Meanwhile, others have raised doubts about whether we have the theory – “what are the basic facts of autonomous linguistics like?” (Itkonen, 1978) – or tools necessary to be able to study language scientifically, given that cognition is “inaccessible to objective observation” (Hall, 1981). This again reveals a tendency to measure linguistics, a relatively new scientific enterprise, against the sciences of the day, which boast centuries of development. Gray (1981) has even gone so far as to argue against linguistics as a science, claiming that the future of the field is in danger if “above all else [linguistics] must pretend to be a science” (p. 226), a status he identified as primarily exclusionary, and therefore a threat to language research that “acknowledge its social, historical nature” (p. 225). To restrict the study of language to a science, Gray suggests, is to disregard valuable inquiry necessary for the development of the field. Though not as antagonistic as Yngve (1986), these and other scholars – linguists and nonlinguists alike – have expressed doubts as to the scientific status of the field. For both sides of the debate, retaining an interest in measuring the success of linguistics as a science against the positivist foundations of science that continue to hold sway in the so-called natural sciences. As Hall (1981) so aptly put it, “the answer [to whether or not linguistics is a science] of course depends on what is meant by the terms linguistics and science” (p. 221).
The influence of the natural sciences are not hidden, as many have acknowledged it outright (Sapir 1929; Hammarström 1978; Itkonen 1978; Hall 1981). Like those in the established fields of science and technology, linguists have reflected upon the relationship that their research has with society, particularly in discussions by sociolinguists regarding popular linguistics, or how to share linguistic research with the public. These discussions productively lead us to reflect on the nature of our relationship with society and how – or whether – this is a consequence of scientific status.

To briefly review one such discussion, we can refer to Johnson’s (2001) “Who’s Misunderstanding Whom?” in the Journal of Sociolinguistics and the responses published therein. In this conversation, Johnson (2001) raised the issue of how we, as scientists, relate to the public and what can be learned from work in the ‘public understanding of science’ (PUS). Embracing but reflecting on our position of authority on all things language, Johnson claims that the deficit view – “which blamed the public for its purposed scientific illiteracy” (p. 594) – that has been dominant among scientists (and linguists) be questioned. She suggests that we proceed with self-awareness and respect for the knowledge that nonexperts have about language, harboring a healthy skepticism for our “belief in our duty, as linguists, to enlighten those outside of the discipline” (p. 601) when that belief often also “necessitate[s] a conviction as to the superior rationality of the knowledge we produce about language” p. (601), particularly when dealing with applied linguistic science. The replies to her publication did not deny the authority of language experts to be, in fact, experts, but generally agreed that there may even be an “obligation to understand and respect” nonexpert opinions (Milroy 2001, p. 625), especially when our own ‘facts’ are comparably mythologized (Aitchison 2001).

Despite the emphasis on reflexivity and respect in this exchange and others, the traditional dichotomy of expert/nonexpert, science/nonscience remains – though perhaps less starkly – in the conviction that we do know better, whether that knowledge is primarily scientific or undeniably ideological (see Milroy 2001). Here, as in the previous insistence on linguistics as a science, can be seen the disparity between specialist and non-specialist knowledge about language.

While this review does not cover every argument produced surrounding the discussion of linguistics as a science, it reveals a desire for a rigorous, reliable, and progressive discipline that enjoys the same epistemic reliability as the traditional sciences. Although our objects of study are varied even within our discipline and our methodologies and theories are equally profuse, we linguists are invested in the success of our discipline and repeatedly seem to pair that success with scientific status. It is the baggage that comes with securing a place among the sciences that I turn to next.

Implications and Epistemic Justification

The implications of being a science are several, depending on the success (internally or externally measured) in achieving scientific status. From a socially-responsible epistemic point of view, the sort of objectivity and universality that scientific research promises is irredeemably elitist, founded in a position of epistemic privilege that maintains an unequal relationship between the public and the scientists. Practicing science traditionally means embracing this epistemic asymmetry, and requires us to say with complete comfort: My ways of knowing are...
better than yours. That is, to believe in the scientific enterprise is to, at best, tolerate this inequality. While acknowledging the existence of ‘better’ knowledge does not preclude a democratic epistemology or a research based on exchange of knowledge, it requires us to be in a position of authority when it comes to language – a responsibility, I think, many of us are keen to undertake.

What has happened with the natural or traditional sciences, however, (and which might explain our own interest in being similarly established) is that this epistemic authority is no longer questioned or justified. The authority of science is so secure that other disciplines, in order to develop authority, use as evidence for the superiority of their research and knowledge science itself. Science has been the measuring stick for epistemic authority for many a fledgling discipline, and those of us who practice science no longer feel any need to justify the scientific method or practice. The risk of authority, then, is the lack of a need to justify our ways of knowing, since the expertise is so widely ratified.

Linguistics has been in the business of justifying itself, and linguists have discussed whether or not linguistics is a ‘proper’ science for decades. Like other social sciences, we are used to being made to justify our work. But what has passed for justification in the past has largely been an appeal to scientific status. I suggest that this, alone, is not enough. It is not enough to appeal to an existing authority in order to establish our own without questioning the source of that authority. As experts who seek authority in their objects of study – especially socially ratified authority – we have the responsibility to justify our ways of knowing and to do so with maximum self-awareness. Answering the question Why is my way of knowing better than theirs? is the first exercise in the philosophy of linguistics that we may complete when attempting to achieve the type of authority enjoyed by other sciences, or when we wish to diverge from the path of science itself. And our answers to this question must not simply be an appeal to science, but must show more awareness of the strengths and weaknesses of the scientific approach to knowledge.

The type of reflexivity I’m advocating does not ensure that scientists and nonscientists will be epistemically equal, nor does it fix the problems that science faces when subjected to postmodern and constructivist criticism. Justifying science in no way guarantees a fairer, more democratic, or more perfect discipline. Instead, to justify our practice – science or otherwise – is to acknowledge these inequalities and take responsibility for them. And, occasionally, reassess them for their soundness. As paradigms shift and programs evolve, we may all communicate a little more clearly with both one another and with the public if we are willing to take our own knowledge production to task on a regular basis. When we are able to responsibly and self-consciously justify our ways of knowing, we will be better prepared to bridge the gap between our knowledge and the rest of society.

Conclusion

The nature of scientific practice is not without its pitfalls, and although linguists have been attempting to establish the discipline as a science for decades, the authority that comes with scientific status is not to be taken lightly. As linguists, we should continue to be self-reflective and welcome critique on our own methods and practices that require us to question our epistemic and paradigmatic foundations. We should be open to identifying and remapping the assumptions
that drive our discipline, and be ready to explain the value of our work by referring to these assumptions, to our paradigmatic foundations, and so to our ways of knowing, whatever they may be. It is my hope that, by adding the need for epistemic justification to our conversations about linguistics as a science and linguistics and the public, we will be more willing to work with one another and with the public when it comes to sharing and creating knowledge about language.

References:


