ENGL6360 Descriptive Linguistics for Teachers

ENGL6360 DESCRIPTIVE LINGUISTICS FOR TEACHERS

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PART I
MODULE 1: LANGUAGE.

In this module, we begin to explore what language is, and how language scientists (also known as linguists) think about it and observe it. It might well be that most of experience learning about language has had to do with rules that you could get right or wrong. That's not the approach we're taking in this course. Instead, we're going to look at how to use the tools and techniques of linguistics to observe the patterns of human languages. From these observations, we'll try to draw some conclusions about the abstract principles and organization of human language in people's minds and in language communities.

Adapted from:

Anderson, C., Bjorkman, B., Denis, D., Doner, J., Grant, M., Sanders, N. & Taniguchi, A. (2022). *Essentials of Linguistics*.

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1.

WHAT EVEN IS LANGUAGE?

1.1 What even is language?

We're all users of language. Right now, people around you might be speaking in a variety of American English, and I bet many of you also know one or more other languages. Linguistics is the scientific study of human language. That definition is short, but it's not exactly simple, is it? How do we study language scientifically? And what even is language?

The word *language* is used for several different complex concepts that are interconnected with each other. One use of the word is to refer to individual languages, like American Sign Language (ASL), German, Basque, English, O'odham, Xhosa, and many others.

For the moment, let's think about one particular language, because it happens to be the one we're using now. I'm using one variety of English. While I am writing this, I used my fingers to type words on my keyboard. Now as I read those words out loud, I'm squeezing the air out of my lungs; I'm vibrating my vocal folds, and I'm manipulating parts of my

mouth to produce sounds, then I'll upload them to the book. If you're reading the text or the captions, your eyes are reacting to the visual information. Your eyes and your ears send signals to your brain. And somehow, after all that, if my communication was successful, you end up with an idea in your mind that's similar to the idea in mine. There must be something that we have in common to allow that to happen: some shared system that allows us to understand each other's ideas through language. This shared system is what many linguists call the **mental grammar**, and one of the goals of linguistics is to find out what that shared system is like.

So we've focused our definition of linguistics a little bit, by saying that we're interested in the scientific study of human language, of the grammar, the shared system that allows us to understand each other. What is the grammar like? Or to put it another way, what do we know when we know a language?

What is grammar?

Imagine you're an alien, you've just arrived on Earth, and you need to figure out how to understand the language used in the particular earthling community that you've landed in. What kinds of things do you need to figure out? One of the first things you'll need to know about that language is what counts as talking. Is this language signed or vocalized? In other words, what is the **modality** of the language? Many human languages are **vocalized** (or "spoken"). In this modality, language users make sounds with their larynx, tongue, teeth and lips, and receive sounds with their ears. Other human

languages are **signed**. Language users make signs with their fingers, hands, wrists and forearms, and receive signs by sight or by touch. Even though they have very different modalities, sign and vocal languages share many properties in their grammars. In this book, we'll try to reserve the words *speaking* and *speech* for vocal languages, and refer to **language users** when we're talking about languages of any modality.

Once you've figured out the modality, what next? You probably need to segment the stream of auditory or visual information into meaningful units. By observing carefully, you might be able to figure out that a particular sequence of sounds or gestures recurs in this language, and that some consistent meaning is associated with that sequence. For example, maybe you've noticed that the language users you've encountered make the sounds "cookie" as they're offering you a round, sweet, delicious baked good. Or maybe you've noticed that when that word has a *z* sound at the end of it, *cookies*, you're being offered more than one of them!

The part of the grammar that links up these forms with meanings is the **mental lexicon**. It's a bit like a dictionary in your mind. Knowing a word in a language involves recognizing its form – the combination of signs or sounds or written symbols, and its meaning. For the majority of words in the world's languages, the link between form and meaning is **arbitrary**.

For example, the English word for this thing is *pumpkin* and

the Nishnaabemwin word for it is *kosmaan*. There's nothing inherently orange or round or vegetabley about either of those word forms: the pairing of that meaning to that form is arbitrary in each language. In other words, there is no natural relationship between the idea or the physicality of a pumpkin, and the series of sounds (p followed by the sounds u, m, p, k, i, and n) used to name a pumpkin. This relationship is arbitrary and people use this word because a link has been made between the word 'pumpkin' and the object that it names.

Suppose you've figured out that cookies are delicious and you want to ask your earthling hosts for more of them. To do that, you need to figure out how to control the muscles of your mouth, tongue, and lips to speak the word for cookie, or how to use your hands, fingers, wrists and forearms to sign the word. In other words, you need to know something about the **articulatory phonetics** of the language. This brings up an important point about grammar: when we know a language fluently, a lot of our grammatical knowledge is unconscious, or **implicit**. For the languages that you know, your knowledge of the lexicon is probably fairly conscious or explicit, and probably also some of your knowledge about your language's **morphology**: that's the combinations of meaningful pieces inside words (like how if you want more than one cookie you say *cookies* with a *z*). But you're probably not as conscious of things like how you use your articulators to make the sounds *k* or *z*.

Our implicit knowledge of language also

includes **phonology**, information about how the physical units of language can be combined and how they change in different contexts. **Syntax** is the part of your mental grammar that knows how words can or can't be combined to make phrases and sentences, much of which is implicit. Syntax works hand in hand with **semantics** to allow the grammar to calculate the meanings of these phrases. And the **pragmatics** part of the mental grammar can help you to know what meanings arise in different contexts. For example, "I have some news," could be interpreted as good news or bad news depending on the context.

All of these things are parts of the grammar: the things we know when we know a language. But a lot of this knowledge is implicit, and the thing about implicit knowledge is that it's hard to observe. One of the most important jobs we're doing in this course is trying to be explicit about what mental grammar is like, and about what kinds of evidence we can use to figure that out.

What about reading and writing?

I bet you're wondering why I didn't include reading and writing as part of the mental grammar above. After all, as a student you probably invested a lot of time into learning how to read and write. And those skills are indeed part of the grammatical knowledge you have about your language. But language users don't actually need to know how to read and write to have a mental grammar. It's common for kids in Canada to start learning to read and write around age five,

but they are pretty competent in the phonetics, phonology, morphology, syntax and semantics of one or more languages before they ever go to school.

Furthermore, language users could start using a different writing system without changing anything else about the grammar. Mongolian, for example, presently uses two different writing systems: the Cyrillic alphabet and traditional Mongolian script, which is written vertically. Speakers of Mongolian understand each other's speech no matter which script they use to record the language in writing. And there are plenty of human languages that just don't have written forms. Signed languages like Amerigan Sign Language (ASL), for example, don't have written forms. Most signers are bilingual in their sign language and in the written form of another language.

So, because not every human language has a reading and writing system and not every language user has access to reading and writing systems, we consider these skills to be secondary parts of the mental grammar. If you're literate in your language, then that literacy is certainly woven into your mental grammar. But literacy isn't necessary for grammatical competence.

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2.

WHAT GRAMMARS ARE AND AREN'T

1.2 What grammars are and aren't

The previous section was a very quick tour of some of the parts of the mental grammar. We'll be discovering a lot more about grammar throughout this course. Notice that we're using the term *grammar* a little differently from how you might have encountered it before. Maybe your experience of grammar is as a textbook or style guide with a set of rules in it, rules that lead to consequences if you break them — you'll lose points on your essay or get corrected with a red pen. What we're most interested in this book is the mental grammar: the system in your mind that allows you to understand and be understood by others who know your language. Every human language has a mental grammar: that's how the users of each language understand each other!

This is a really important idea. One way that people sometimes express ableist ideas is to deny the validity of a language by claiming that it "has no grammar". But the truth is that **all languages have grammar**. All languages have a system for forming words, a way of organizing words into

sentences, a systematic way of assigning meanings. Even languages that don't have alphabets or dictionaries or published books of rules have users who understand each other; that means they have a shared system, a shared mental grammar. Using linguists' techniques for making scientific observations about language, we can study these grammars.

The other important thing to keep in mind is that no grammar is better than any others. Maybe you've heard someone say, "Oh, I don't speak real Italian, just a dialect," implying that the dialect is not as good as so-called real Italian. Or maybe you've heard someone say that Rio Grande Valley Spanish is just sloppy; it's not as good as the Spanish they speak in Mexico City. Or maybe you've heard someone say that nobody in Newfoundland can speak proper English, or nobody in Texas speaks proper English, or maybe even nobody in North America speaks proper English and the only good English is the Queen's English that they speak in England. From a linguist's point of view, **all languages and dialects are equally valid**! There's no linguistic way to say that one grammar is better or worse than another. This is part of what it means to study grammar from a scientific approach: scientists don't rate or rank the things they study. Ichthyologists don't rank fish to say which species is more correct at being a fish, and astronomers don't argue over which galaxy is more posh. In the same way, doing linguistics does not involve assigning a value to any language or variety or dialect. We also need to acknowledge, though, that many people,

including linguists, do attribute value to particular dialects or varieties, and use social judgments about language to create and reinforce hierarchies of power, privilege and status.

One of the most fundamental properties of grammar is **creativity**. One obvious sense of the word *creative* has to do with artistic creativity, and it's true that we can use language to create beautiful works of literature. But that's not the only way that human language is creative. The sense of creativity that we're most interested in in this course is better known as **productivity** or **generativity**. Every language can create an infinite number of possible new words and sentences. Every language has a finite set of words in its vocabulary – maybe a very large set, but still finite. And every language has a small, finite set of principles for combining those words. But every language can use that finite vocabulary and that finite set of principles to produce an infinite number of sentences, new sentences every single day.

A consequence of the fact that grammar is productive is that **languages are always changing**. Have you heard your teachers or your parents say something like, "Kids these days are ruining English! They should learn to speak properly!" Or if you grew up speaking Mandarin, maybe you heard the same thing, "Those teenagers are ruining Mandarin! They should learn to speak properly!". Other people say the same thing about languages that are in contact with other languages. For example, in the Rio Grande Valley, you might have encountered people saying something similar about someone's

English or someone's Spanish. For as long as there has been language, older people have complained that younger people are "ruining" it. Some countries, like France and Germany, even have official institutes that make rules about what words and sentence structures are allowed in the language and which ones are forbidden. But the truth is every language changes over time. Languages are used by humans, and as humans grow and change, and as our society changes, our language changes along with it. Some language change is easy to observe in the lexicon: we need to introduce new words for new concepts and new inventions. For example, the verb *google* didn't exist when I was an undergraduate student, and now googling is something I do nearly every day. Languages also change in their phonetics and phonology, and in their syntax, morphology and semantics.

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3.

STUDYING LANGUAGE SCIENTIFICALLY

1.3 Studying language scientifically

We said that linguistics is the science of human language. When we say that linguistics is a science, that doesn't mean you need a lab coat and a microscope to do linguistics. Instead, what it means is that the way we ask questions to learn about language uses a scientific approach.

The scientific way of thinking about language involves making systematic, **empirical observations**. That word *empirical* means that we observe data to find the evidence for our theories. All scientists make empirical observations. Entomologists observe the life cycles and habitats of insects. Chemists observe how substances interact. Linguists observe how people use their language. Just like entomologists and chemists, linguists aim for an accurate description of the phenomenon they're studying. And like other scientists, linguists strive to make observations that are not value judgments. If an entomologist observes that a certain species of beetle eats leaves, she's not going to judge that the beetles are eating wrong, and tell them that they'd be more

successful in life if only they ate the same thing as ants. Ideally, the same would be true of linguists — we wouldn't go around telling people how they should or shouldn't use language. Of course, like all scientists, and like all humans, linguists have biases that often prevent us from reaching this ideal. But the goal for doing language science is to do so with a **descriptive** approach to language, not a **prescriptive** approach, to describe what people do with their language, but not to prescribe how they should or shouldn't do it.

For example, you could describe English plurals this way:

Adding *-s* to a noun allows it to refer to many of something, like *apples*, *books*, or *shoes*.

Or you could prescribe how you think people should form plurals this way:

Because the word *virus* is derived from Latin, you should pluralize it as *viri*, not *viruses*.

So when we're doing linguistics, our goal is to make descriptive, empirical observations of language. But one challenge to being a language scientist is that a lot of what you're studying is hard to observe. Unlike our entomologist friends, we can't just go out to the garden and poke around and find some grammar crawling on a plant. We have to figure out how to make observations about the mind. Throughout this course you'll get introduced to the many different tools of language science, which allow us to make systematic observations of how humans use language.

Going meta: Observing what's possible in a language

As I keep saying, a lot of the linguistic knowledge we have is unconscious. One of the tools we can use to get at our mental grammar is to try to access **metalinguistic awareness**, that is, the conscious knowledge you have about your grammar, not the grammatical knowledge itself. If you've studied a language in school you probably have some metalinguistic awareness about it because you got taught it explicitly. But for your first language, the one you grew up speaking, it can be a little more difficult to access your metalinguistic knowledge because so much of it is implicit.

Here's an example of accessing your metalinguistic awareness. Say you want to create a new English word for a character in a game. Are you going to call your cute little creature a *blifter* or a *lbitfer*? Neither of those forms exists in English, but they both use sounds that are part of English phonetics. You probably have a strong feeling that *blifter* is an okay name for your new creature, while *lbitfer* is a pretty terrible name. Notice that your sense that *lbitfer* is wrong is not a prescriptive sense — it's not that it sounds rude or you'll get in trouble for combining those sounds that way. It just … can't happen. You've made a descriptive observation that *lbifter* is not a possible word in English. From that observation, we can conclude that *lbitfer* is ungrammatical in English.

Since linguistics uses the word *grammar* in a particular way, the words *grammatical* and *ungrammatical* also have a

specific meaning. An **ungrammatical** word or phrase or sentence is something that just can't exist in a particular language: the mental grammar of that language does not generate it. Notice that grammaticality isn't about what actually exists in a language; it's about whether a form could exist. In this example, both *blifter* and *lbitfer* have the same sounds in them, but *blifter* could be an English word and *lbifter* couldn't. In other words, *blifter* is phonologically grammatical in English and *lbifter* is phonologically ungrammatical in English.

It's often useful to compare similar words, phrases or sentences to try to access our metalinguistic awareness. Let's look at another example of observing what's possible. Here are two similar sentences, both of which are possible (or acceptable) in English.

1. Sam compared the forged painting with the original.

1. Sam compared the forged painting and the original.

Let's try to make questions out of these sentences:

1. Did Sam compare the forged painting with the original?

1. Did Sam compare the forged painting and the original?

Observing those two questions, we can see that both (c) and

(d) are acceptable in English. Now let's try a different kind of question:

1. What did Sam compare the forged painting with?

1. *What did Sam compare the forged painting and?

Comparing these two sentences gives us a really clear finding: (e) is possible, but (f) is not. We use an asterisk or star at the beginning of sentence (f) to indicate that it just can't happen. These **acceptability judgments** (also sometimes known as **grammaticality judgments**) are our empirical observations: these two similar sentences are both possible as declarative statements (a-b) and as yes-no questions (c-d), but when we try to make a wh-question out of them, the result is acceptable for the first one (e) but not for the second one (f). Having made that observation, now our job is to figure out what's going on in the mental grammar that can account for this observation. Why is (e) grammatical but (f) isn't?

More tools for language science

Because it can be tricky to access metalinguistic knowledge, you might not want to rely on the acceptability judgments of one single language user. Instead, you could use a survey to gather quantitative data about acceptability from many users. We can also use **surveys** to **elicit** the words that people use for particular items. From survey data we know that some people call this thing a sweatshirt, other people call it a hoodie,

and people in Saskatchewan call it a bunny hug. Surveys are particularly useful for learning about regional variation. If you're studying regional and social variation you might also gather data using **interviews**, in which you could ask questions like, "Does the 'u' in *student* sound like the 'oo' in *too* or the 'u' in *use*?".

A **corpus** is another tool that allows us to make language observations. A corpus is a big database that collects examples of language as used in the world, from books, newspapers, message boards, videos. Some corpora contain only written text, and others include video of signed language, or audio files with phonetic transcription. The nice thing about tools like acceptability judgments, surveys, and corpora is that they're relatively easy to use: you don't need a lot of training or money to ask people what word they use for athletic shoes, or to see how a word or phrase is used in a corpus.

There are also more specialized tools for doing language science. Phoneticians use a variety of software for analyzing audio and video recordings of speakers and signers. Praat (Boersma & Weenink, 2022) is a popular waveform editor for analyzing audio recordings. While Praat is specialized for linguists, it has some similarities to audio-editing programs for podcasting. ELAN (*ELAN | The Language Archive*, 2021) is a powerful tool that allows a user to annotate video recordings, and the program SLP-Annotator (Lo & Hall, 2019) also enables phonetic **annotations** of video-recorded sign language. Some phoneticians also make anatomical

measurements of the articulators, using ultrasound or palatography for speech or motion capture for signing.

We can draw on techniques from behavioural psychology to make observations about language use in real-time using **experiments**. You might measure reaction times and reading times for words and sentences, or ask participants to listen to words that are mixed with white noise. Some experiments use eye-tracking to measure people's eye movements while reading a text, watching a signer, or listening to a speaker. It's even possible to use **neural imaging** techniques like electroencephalography (EEG) and functional magnetic resonance imaging (fMRI) to observe brain activity during language processing.

When you're starting out in linguistics, it's often really exciting to use the scientific method to think about grammar, as you start to see that grammar is not just a set of arbitrary rules to memorize so you sound "proper". Even if we're not peering through a microscope wearing a lab coat, the tools of language science allow us to make systematic observations of how humans use language. And we can interpret those observations to draw conclusions about the human mind.

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4.

THINKING ABOUT STANDARDS AND "PROPER" GRAMMAR

1.4 Thinking about standards and "proper" grammar

In previous sections we learned that one of the goals of doing linguistics is to describe languages and dialects accurately without ranking any dialect as better than any other. This is actually a pretty radical goal, because of course language is a deeply human behavior, and therefore is deeply intertwined with human relationships and social categories. Relationships like teacher-student, doctor-patient, or customer-server, for example, all involve power relations that play a role in people's expectations about language. Likewise, the communities that we belong to, whether they're based on ethnicity, religion, profession, fandom, or any other social category, shape how we use language and how we expect others to use language. So when we're studying language scientifically, we can't separate the grammar from all the other social pieces.

So we're striving for this radical goal of considering **all**

languages and dialects as equally valid from a linguistic point of view, but we also have to acknowledge that people have attitudes and expectations that arise from social power dynamics, and these attitudes – whether positive and negative – lead to linguistic **bias**. Everyone, including linguists, has linguistic biases. We can't help making judgments about people based on how they use language. But by learning to think about the relationship between language and power, we can gain **metalinguistic awareness** of our own linguistic biases, at the same time as we're developing metalinguistic awareness of our grammars.

Here's an example of a linguistic bias that's really prevalent in Canada and the US. North Americans tend to perceive all the varieties of British English as having **high prestige**. They tend to assume that speakers of UK English are better educated and more intelligent than speakers of North American varieties of English — even for varieties that have low prestige in the United Kingdom. Someone who speaks a variety that's stigmatized in the UK might arrive in Canada to find that everyone thinks their English is very fancy. Their English hasn't changed, but people's attitudes towards it have!

Language Standards and "Standard" Languages

Some ways of using language are associated with higher prestige. Because of colonialism, these are often the forms of language used by white people, by wealthier people, or by people who have received more formal education.

When people talk about the "standard" variety of a

language, they usually mean the form that has been **standardized**, that is, the form that most closely matches the language used in dictionaries, textbooks, and high-status media. This standardization happens via social mechanisms of power. In France, for example, there's an official government body, the *Académie Française*, that decides what counts as correct, standard French. In 2017, when they noticed more and more French writers including feminine nouns and adjectives alongside the standard masculine forms, they published a declaration that this kind of inclusive writing was a mortal danger (*"un péril mortel"*) for French! It's their literal job to tell people they're using language wrong.

Unlike French, English does not have an official language police to enforce prescriptive language rules, but that doesn't mean the standardized varieties of English are any less connected to power and privilege. Instead, standardized English is enforced through social norms, through dictionaries and style guides, textbooks and grammar-checking software. There's no official Boss of Canadian English warning about the dangers of gender-inclusive language, but it was still a big deal when the in-house style guide of the *Globe and Mail*, a national newspaper in Canada, decided in 2017 that it was okay to use specific singular *they*. And in the UK, the shorthand term for the highest-prestige variety is "the Queen's English" — who has more power and privilege than a monarch?

To be clear, the "standard" that these authorities

enforce isn't chosen out of nowhere, and is not somehow objectively determined to be the best or clearest variety. (Remember there's no linguistic way to determine "best" when it comes to language.) The standard is usually just the variety that's associated with economic, social, or political power. For many languages, the "standard" is whatever variety is spoken in the capital city, or by a dominant political class. For English and for other European languages, the variety that people categorize as "standard" tends to be the variety that white people with a certain amount of formal education use.

Isn't it good to have standards?

You might think of having a standardized variety of a language as a good thing, or at least as a neutral thing. We're used to having a single variety of English appear in most written sources, for example. It's easy to view standardization as positive if the variety that you and your family used when you were growing up was relatively close to the standardized variety used in schools. But if we assume that the standardized form is the only correct or proper form, we end up discriminating against users of different varieties. Here are some examples:

- More than 90% of people Haiti speak Kreyòl, a language with its own consistent grammar and spelling. But public education in Haiti is offered in standardized French. So when kids start school, they get told by their

teachers that their language is wrong (Degraff & Stump, 2018). The same pattern holds true for kids who speak Black English in most US schools. It's harder for them to learn!

- A judge in Alberta disregarded the medical evidence provided by an expert witness, a doctor who spoken Nigerian English. In his ruling, the judge made it clear that he distrusted the doctor's medical opinion because his accent was not Canadian. (Grant, 2019)

- An African-American deaf man who signed in Black ASL was imprisoned in an institution for decades because the signers who assessed him categorized his variety of ASL as incoherent, so they labelled him as languageless and incompetent. (Burch & Joyner, 2007)

Because elementary and high schools usually teach language in a prescriptive way, you've probably internalized the assumption that the standardized variety of your language is the best or most correct variety, and maybe even the assumption that languages have to have standards. Using your growing metalinguistic awareness, you can start to question why some varieties are considered standard and others aren't. It's likely that the answers to those questions have more to do with social status than with grammar.

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5.

DOING HARM WITH LANGUAGE SCIENCE

1.5 Doing harm with language science

Modern scientific practices of linguistics have done harm to Indigenous and other minoritized languages. Linguists rely on language users to provide language data, but those who spend their time and energy answering our questions don't always get much in return. Sometimes linguists gather data to test a particular scientific hypothesis, and the data ends up existing only in obscure scholarly publications when it could also have been made available to the community of language users themselves, for preserving and teaching their language. Sometimes what is merely data to a linguist is a sacred story or includes sensitive personal information, and publishing it might violate someone's beliefs or privacy. Even if a linguist is careful to work descriptively, there's a real risk of linguistic and cultural appropriation if they become the so-called authority on the language without being a member of the language community. And sometimes linguists' attempts at descriptive statements can turn into prescriptive norms: if a linguist writes "In Language X, A is grammatical and B is ungrammatical"

based on what they've learned from one set of speakers, that observation can become entrenched as the standard variety of Language X, even if there's another group of speakers out there for whom B is perfectly grammatical.

As a field, linguistics is also responsible for harms to disabled people and their language practices. Deaf kids are often deprived of language input because of **oralism**, the view that vocal language is more important than signed language. Oralism is prevalent in the field of linguistics, which often fails, like the first edition of this book did, to study or teach the linguistic structures of sign languages. The practice of observing patterns of language across many users, even from a descriptive point of view, has the tendency to identify **norms** of language use which then makes it all too easy to describe anything that differs from the norm as disordered. For example, Salt (2019) showed that when linguists used standard interview techniques to research autistic people's conversation, they found "deficits" in their pragmatic abilities. But when the autistic participants were observed in conversation with each other, no such deficits were apparent. Salt concluded that it was the research method itself, namely, the interview, that gave rise to the so-called pragmatic disorders of autism. Similarly, MacKay (2003) reported his experience of **aphasia** resulting from a stroke. His account eloquently illustrates how the standard diagnostic and treatment techniques ignored his communicative adaptations and treated him as incompetent.

What's the lesson for us, then, as 21st-century linguists? I'm going to aim for some humility in my scientific thinking. I love using the tools of science to observe language. But I try to remember that science is one way of knowing, which brings its own cognitive biases. In other words, doing linguistics is not a neutral exercise. One of the fundamental lessons of this book is to move from thinking about grammar as a set of prescriptive rules in a book to seeing grammar as a living thing in our minds. But let's not get stuck in that way of thinking either. In addition to thinking about language as something that lives in the individual minds of individual humans, let's also remember that language is something that lives in communities and is shared among users, in the conversations we have and the stories we tell.

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6.

DOING GOOD WITH LANGUAGE SCIENCE

Doing good with language science

In the previous section we tried to acknowledge the ways that linguistics has done and continues to do harm, like many fields of academic inquiry. Acknowledging those harms is only part of our responsibility. In this book, we're trying to focus on ways we can use the tools of language science to address some of those harms and even more importantly, do some good in the world. We also hope that working with this book will make you excited to carry on doing linguistics! So let's think about some of the things linguistics can prepare you to do.

In the tech sector, people with linguistics training use their skills to improve software that summarizes texts, translates from one language to another, synthesizes natural-sounding speech for your voice assistant or your GPS, helps your voice assistant understand your speech! As I'm writing this book, speech recognition systems do an okay job on standardized American English accents, especially when spoken by lower voices, but are much less accurate for higher voices and for the many different accents that English speakers use.

Speaking of tech, another field where language science is valuable is in developing language-learning apps. That owl that scolds you if you skip your daily Esperanto practice was designed by linguists! Many people who are learning a new language find that their learning is enhanced by gaining the kind of metalinguistic awareness that you'll acquire from this course.

That brings us to another really important area where linguistics is important: in supporting Indigenous people who want to reclaim, revive, or revitalize their languages. Linguistic analysis of these grammars can be useful for creating teaching materials and supporting adult language learners who did not have the chance to learn their languages as children.

Linguistics training is not only good for language learning, but also for language teaching! Studying linguistics is often a good entry point to getting certified as an ESL teacher, or learning how to teach any other language for that matter.

A lot of students are drawn to studying linguistics because they want to pursue a clinical career in speech-language pathology. Ideally, evidence from language science informs the treatments that clinicians offer. For example, if someone has a brain injury, their ability to produce or understand language might be impaired, and speech therapy can sometimes recover some of that function. Some clinicians take their careers in a more Hollywood direction and offer accent or dialect coaching for actors!

Linguists find their skills called upon in many other industries. For example:

- testifying in court as to the interpretation of contracts and policies,
- interpreting how customers understand the products they use,
- identifying the author of a disputed document,
- consulting on potential brand names for new medications, and
- creating entirely new languages for film and TV series.

Language is everywhere. It's fundamental to how humans interact with each other, so understanding how language works is part of understanding people. And understanding people just might be a step towards doing some good in the world.

Adapted from:

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PART II
MODULE 2: PHONETICS

7.

MODALITY

Modality

The major components of communication

An act of communication between two people typically begins with one person constructing some intended message in their mind. This person can then give that message physical reality through various movements and configurations of their body parts, called **articulation**. The physical **linguistic signal** can come in various forms, such as sound waves (for spoken languages) or light waves (for signed languages). The linguistic signal is then received, sensed, and processed by another person's **perception,** allowing them to reconstruct the intended message. The entire chain of physical reality, from articulation to perception, is called the **modality** of the language.

Spoken and signed languages

The modality of **spoken languages**, such as English and Cantonese, is **vocal**, because they are articulated with the vocal tract; **acoustic**, because they are transmitted by sound waves; and **auditory**, because they are received and processed by the

auditory system. This modality is often shortened to **vocal-auditory**, leaving the acoustic nature of the signal implied, since that is the ordinary input to the auditory system.

Signed languages, such as American Sign Language and Chinese Sign Language, also have a modality: they are **manual**, because they are articulated by the hands and arms (though most of the rest of the body can be used, too, so this component of modality might best be called *corporeal*); **photic**, because they are transmitted by light waves; and **visual**, because they are received and processed by the visual system. This modality is often shortened to **manual-visual**.

Other modalities are also possible, but full discussion is beyond the scope of this textbook. One notable example is the **manual-somatic** modality of **tactile signing**, in which linguistic signals are articulated primarily by the hands and are perceived by the somatosensory system, which is responsible for sensing various physical phenomena on the skin, such as pressure and movement. This modality can be used for deafblind people to communicate, often by adapting aspects of an existing signed language in such a way that the signs are felt rather than seen. Some examples of such languages include tactile Italian Sign Language (Checchetto et al. 2018) and a tactile version of American Sign Language called Protactile (Edwards and Brentari 2020).

Finally, it is important to note that actual instances of communication are often **multimodal**, with language users

making use of the resources of more than one modality at a time (Perniss 2018, Holler and Levinson 2019, Henner and Robinson 2023). For example, spoken language is often accompanied by various kinds of **co-speech behaviours**, such as shrugging, facial expressions, and hand gestures, which are used for many meaningful functions in the linguistic signal: emphasis, emotion, attitude, shifting topics, taking turns in a conversation, etc. (Hinnell 2020). A full analysis of how language works must ultimately take into account its multimodal nature and the complexity and flexibility of how humans do language.

Terminological note: Signed languages are sometimes called *sign languages*. Both terms are generally acceptable, so you may encounter either one in linguistics writing. *Sign languages* has long been the more common term, but *signed languages* has recently been gaining popularity among deaf scholars.

The study of modality

Because spoken languages have long been the default object of study in linguistics, and because the vocal-auditory modality is centred on sound, the study of linguistic modality is called **phonetics**, a term derived from the Ancient Greek root *φωνή* (*phōnē*) 'sound, voice'. However, all languages have many underlying similarities, so linguists have long used many of the same terms to describe properties of different modalities, even when the etymology is specific to spoken languages. This includes the term *phonetics*, which is now

commonly used to refer to the study of linguistic modality in general, not just the vocal-auditory modality.

This is an important reminder that the etymology of a word may give you *hints* to its meaning, but it does not *determine* its meaning. Instead, the meaning of a word is determined by how people actually use that word. This usage-based meaning can diverge and even contradict historical etymology, especially in scientific fields where our knowledge of the world is constantly evolving.

An example of such a divergence between etymology and current usage for a scientific term can be seen with the English word *atom*, which comes from the Ancient Greek ἄτομος (*átomos*) 'indivisible'. This term was used by Ancient Greek philosophers to represent their belief that atoms were the smallest building blocks of matter. However, more than 2000 years later, we discovered that atoms are in fact divisible, being made up of protons, neutrons, and electrons. Rather than rename atoms, we just kept the old name and accepted that its etymology was no longer an accurate representation of our current scientific knowledge. The same is true for the term *phonetics*.

However, be aware that many linguists still hold biased views about language and linguistics, and they often forget to include signed languages and other modalities when talking about phonetics, or even language in general. Some may even think signed languages cannot have phonetics at all. As linguists have become more knowledgeable about linguistic

diversity and more sensitive to challenges faced by marginalized groups (such as deaf and deafblind people), there has been an ongoing shift towards increased inclusivity in how we talk about language. As with any such shift, some people will remain in the past, while others will be proactively part of the inevitable future.

In this module, we focus on **articulatory phonetics**, which is the study of how the body creates a linguistic signal. The other two major components of modality also have dedicated subfields of phonetics. **Perceptual phonetics** is the study of how the human body perceives and processes linguistic signals. We can also study the physical properties of the linguistic signal itself. For spoken languages, this is the field of **acoustic phonetics**, which studies linguistic sound waves. However, there is currently no comparable subfield of phonetics for signed languages, because the physical properties of light waves are not normally studied by linguists. Perceptual and acoustic phonetics are beyond the scope of this course.

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8.

SPEECH ARTICULATORS

Speech articulators

Overview of the vocal tract

Spoken language is articulated by manipulating parts of the body inside the **vocal tract**, such as the lips, tongue, and other parts of the mouth and throat. The vocal tract is often depicted in a **diagram** that represents the inside of the head as if it were split down the middle between the eyes. Diagrams are conventionally oriented with the nostrils and lips on the left and the back of the head on the right, so that we are viewing the inside of the human head from its left side. The main regions and individual articulators of the vocal tract labelled in the diagram below are defined and described in more detail in the rest of this section and the following sections.
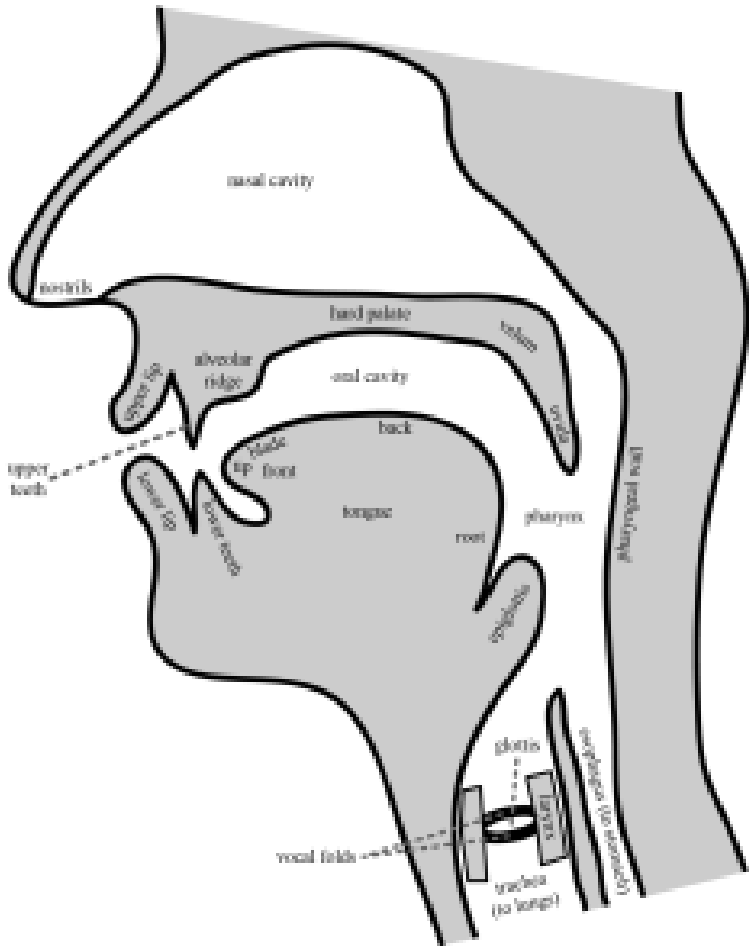
Open spaces in the vocal tract

There are three important open regions of the vocal tract. The **oral cavity** is the main interior of the mouth, taking up space horizontally from the lips backward. The **pharynx** is behind the oral cavity and tongue, forming the upper part of what we normally think of as the throat. Finally, the **nasal**

cavity is the open interior of the head above the oral cavity and pharynx, from the nostrils backward and down to the pharynx.

The bottom of the pharynx splits into two tubes: the **trachea** (also known as the **windpipe**), which leads down to the lungs, and the **esophagus**, which leads down to the stomach. The esophagus is not normally relevant for phonetics, but the trachea is important, since the vast majority of spoken language is articulated with air coming from the lungs, there are ways we can manipulate that airflow when it passes from the trachea to the pharynx.

Phones as a basic unit of speech

The pieces of the vocal tract can be articulated in various ways to create and manipulate a wide range of sounds. In the phonetics of spoken languages, we are primarily interested in studying units of speech called **phones** or **speech sounds**. It is difficult to provide a precise definition of what a phone is, either in general or for a specific spoken language, but roughly speaking, a phone in a spoken language is a linguistically significant sound, which means that can be used as part of an ordinary word in that language. For example, the ordinary English words *spill*, *slip*, *lisp*, and *lips* each contain four phones; in fact, these words have the same four phones, just in different orders (with some slight variation in how they are pronounced).

There are many other sounds we can produce with the vocal tract or even with other body parts, such as burps, finger snaps, etc., which are not typically studied in phonetics, because they

are not known to be phones in any spoken language. However, even though they do not occur in ordinary words, they may still be used to express non-linguistic meaning. For example, in some cultures, snapping fingers can indicate quickness or a desire for attention.

Note that spoken languages may differ in how they use phones and whether they even use the same phones at all. For example, English speakers may use clicking sounds to express disapproval (the soft teeth-sucking *tsk-tsk* click) or to urge a horse to go faster (the loud popping *giddy up* click), but they are not phones in English, because they are not used within ordinary words. However, these same sounds do occur as phones in some other languages, such as Hadza (a language isolate spoken in Tanzania; Sands et al. 1996) and isiZulu (a.k.a. Zulu, a Southern Bantu language of the Niger-Congo family, spoken in southern Africa; Poulos and Msimang 1998).

We have to be careful about what kinds of words we look at to determine the phones of a language, because there are some marginal word-like expressions that can be used while speaking, but which may contain sounds that are not phones in the language. For example, the English word *ugh* is often pronounced with a rough gravelly sound that is otherwise not used in English, and we can say things like *Kaoru noticed their car was making a glzzk-glzzk-glzzk sound*, where *glzzk* is some impromptu sound produced to mimic the noise made by a vehicle in desperate need of repair.

One of the most fundamental distinctions between phones

is whether they are **consonants** or **vowels**. The next sections address how consonants and vowels are articulated and how they are described and categorized in meaningful ways by linguists.

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9.

DESCRIBING CONSONANTS: VOICING

When the vocal folds are open, the flow of air coming up from the lungs passes through freely, and when the folds are held close together, they vibrate as air from the lungs forces its way through them. If you try putting your hand lightly on your throat, and then make a drawn-out [s] sound, Your vocal folds are separated to open the glottis, so you should feel no vibration. But now if you try to make a [m] sound, you will feel a vibration or buzzing feeling. This is due to the vibration of the vocal folds. This vibration is called **voicing** and it is also important when describing consonantal sounds. Some sounds are voiced and others are voiceless. Voiced sounds happen when the vocal cords vibrate and voiceless sounds happen when the vocal folds are wide open and they do not vibrate. When in doubt of whether a consonant is voiced or voiceless produce it while putting your hand on your throat. If you feel the vibration, then it is voiced. If you do not feel a vibration, it is voiceless. For example the [n] sounds should make your vocal folds vibrate while the [p] sound should not.

That is because the [n] sound is voiced and the [p] sound is voiceless.

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10.

DESCRIBING CONSONANTS: PLACE OF ARTICULATION

Describing consonants: Place of articulation

Consonants as constrictions

Consonants are phones that are created with relatively narrow constrictions somewhere in the vocal tract. These constrictions are usually made by moving at least one part of the vocal tract towards another, so that they are touching or very close together. The moving part is called the **active** or **lower articulator**, and its target is called the **passive** or **upper articulator**. Vowels have wider openings than consonants, so they are not usually described with the terms used here.

Active articulators
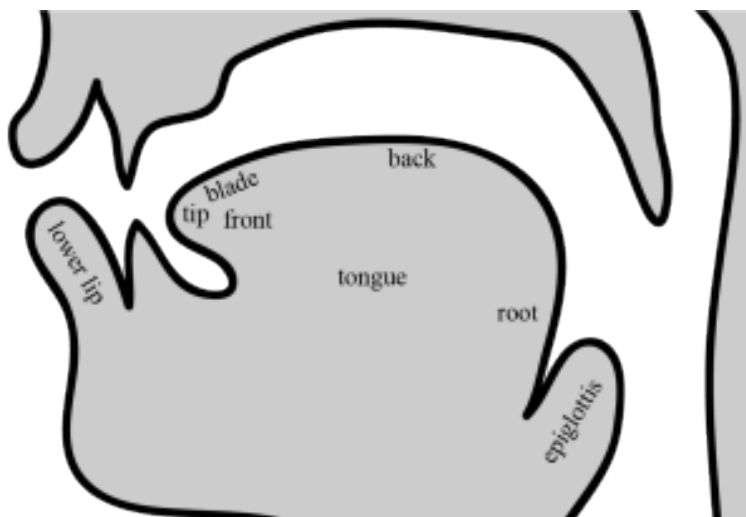
1. the **lower lip**, which is used for the consonants at the beginning of the English words *pin* and *fin*
2. the **tongue tip** (the frontest part of the tongue; also called the **apex**), which is used for the consonants at the beginning of the English words *tin* and *sin*
3. the **tongue blade** (the region just behind the tongue tip; also called the **lamina**), which is used for the consonants at the beginning of the English words *thin* and *chin*
4. the **tongue front** (the tip and blade together as a unit, also called the **corona**); it is useful to have a unified term for the tip and blade together, since they are so small and so close, and languages, and even individual speakers of the same language, may vary in which articulator is used for similar phones; for example, while many English speakers use the tongue tip for the consonant at the

beginning of the word *tin*, other speakers may use the tongue blade or even the entire tongue front; however, while there may be variation in some languages, the distinction between the tip and blade is crucial in others, such as Basque (a language isolate spoken in Spain and France), which distinguishes the words *su* 'fire' and *zu* 'you', both of which sound roughly like the English word *sue*, with the tongue tip used for *su* and the tongue blade used for *zu* (although this distinction has been lost for some speakers under influence from Spanish; Hualde 2010)

5. the **tongue back** (the upper portion of the tongue, excluding the front; also called the **dorsum**), which is used for the consonants at the beginning of the English words *kin* and *gone*

6. the **tongue root** (the lower portion of the tongue in the pharynx; also called the **radix**), which is not used for consonants in English but is used for consonants in some languages, such as Nuu-chah-nulth (a.k.a. Nootka, an endangered language of the Wakashan family, spoken in British Columbia; Kim 2003)

7. the **epiglottis** (the large flap at the bottom of the pharynx that can cover the trachea to block food from entering the lungs, forcing it to go into the esophagus instead), which is not used for consonants in English but is used in for consonants in some languages, such as Alutor (a Chukotkan language of the Chukotko-

Kamchatkan, spoken in Russia; Sylak-Glassman 2014)

Note that while the lower teeth could theoretically be an active articulator (we can move them towards the upper lip, for example), it turns out that no known spoken language uses them for this purpose, so we do not include them here.

Each of the active articulators has a corresponding adjective to describe phones with that active articulator. These adjectives are given in the list below, again from front to back:

1. **labial** (articulated with the lower lip)
2. **apical** (articulated with the tongue tip)
3. **laminal** (articulated with the tongue blade)
4. **coronal** (articulated with the tongue front)
5. **dorsal** (articulated with the tongue back)
6. **radical** (articulated with the tongue root)
7. **epiglottal** (articulated with the epiglottis)

Thus, we could say that the English words *pin* and *fin* begin with labial consonants, while *thin* and *chin* begin with laminal consonants. Note that all apical and laminal consonants are also coronal, so *thin* and *chin* can also be said to begin with coronal consonants.

Passive articulators
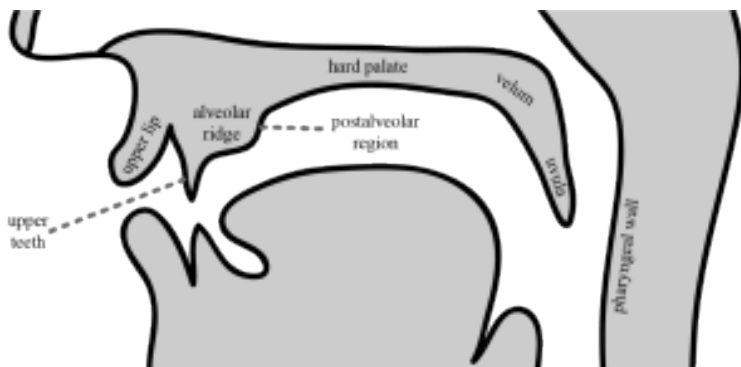
The passive articulators we find in phones across the world's spoken languages are listed below, in order from front to back.

the **upper lip**, which is used for the consonants at the beginning of the English words *pin* and *bin*

1. the **upper teeth**, which are used for the consonants at the beginning of the English words *fin* and *thin*
2. the **alveolar ridge** (the firm part of the gums that extends just behind the upper teeth, recognizable as the part of the mouth that often gets burned from eating hot food), which is used for the consonants at the beginning of the English words *tin* and *sin* (though some speakers may use the upper teeth instead or in addition)
3. the **postalveolar region** (the back wall of the alveolar ridge), which is used for the consonants at the beginning of the English words *shin* and *chin*
4. the **hard palate** (the hard part of the roof of the mouth; sometimes called the **palate** for short), which is used for

the consonant at the beginning of the English
word *yawn*

5. the **velum** (the softer part of the roof of the mouth; also
   called the **soft palate**), which is used for the consonants
   at the beginning of the English words *kin* and *gone*
6. the **uvula** (the fleshy blob that hangs down from the
   velum), which is not used for consonants in English but
   is used for consonants in some languages, such as
   Uspanteko (an endangered Greater Quichean language
   of the Mayan family, spoken in Guatemala; Bennett et al.
   2022)
7. the **pharyngeal wall** (the back wall of the pharynx),
   which is not used for consonants in English but is used
   in languages that have consonants with the tongue root
   or epiglottis as an active articulator (such as Nuu-chah-
   nulth and Archi mentioned earlier)

Each of the passive articulators has a corresponding adjective
to describe phones with that passive articulator. These
adjectives are given in the list below, again from front to back:

1. **labial** (articulated at the upper lip)
2. **dental** (articulated at the upper teeth)
3. **alveolar** (articulated at the alveolar ridge)
4. **postalveolar** (articulated at the back wall of the alveolar
   ridge)
5. **palatal** (articulated at the palate)

6. **velar** (articulated at the velum)
7. **uvular** (articulated at the uvula)
8. **pharyngeal** (articulated at the pharyngeal wall)

Thus, we could say that the English words *tin* and *sin* begin with alveolar consonants, while *kin* and *gone* begin with velar consonants.

Since all consonants have two articulators, they could be described by either of the two relevant adjectives. For example, the consonant at the beginning of the English word *shin* could be described as a laminal consonant (because of its active articulator) as well as a postalveolar consonant (because of its passive articulator).

Note that the term *labial* is ambiguous in whether it refers to the lower or upper lip. In general, this ambiguity is not a problem, so labial consonants include those with the lower lip as an active articulator as well as those with the upper lip as a passive articulator.

Place of articulation

The overall combination of an active articulator and a passive articulator is called a consonant's **place of articulation**, or simply **place** for short. Places of articulation are sometimes described with a compound adjective that refers to both articulators. There are eight locations that are important for the production of English sounds:

Consonants that use both lips as articulators, such as the consonants at the beginning of the English words *mold*,

pin and *bin*, are called **bilabial.** Note that for bilabial phones, both lips are involved roughly equally, with each actively moving towards the other as mutual targets. There are four bilabial sounds in English [p] as in *pat*, [b] as in *bat*, [m] as in *mat*, and [w] as in *with*.

Next are **labiodentals**. Labiodental consonants are articulated with the lower lip against the upper front teeth. English has two labiodentals: [f] as in *fall* and [v] as in *vote*.

Interdental consonants are those produced in such a way that the tongue protrudes between the two sets of teeth, with the tongue blade below the bottom edge of the upper teeth. There are two interdental sounds in most varieties of American English: [θ] as in *thigh* and [ð] as in *thy*.

Alveolar sounds are made with the tongue tip at or near the front of the upper alveolar ridge. The alveolar ridges are the bony ridges of the upper and lower jaws that contain the sockets for the teeth. The front of the upper alveolar ridge, which is the most important area in terms of describing alveolar consonants, is the part you can feel protruding just behind your upper front teeth. From now on, any reference to the alveolar ridge means specifically the upper alveolar ridge. English has eight alveolar consonants: [t] *tab*, [d] *dab*, [s] *sip*, [z] *zip*, [n] *noose*, [ɾ] is the second flap sound in the word *atom*, [l] *loose*, and [ɹ] *red*.

Post-alveolar sounds are made a bit farther back. If you let your tongue or finger slide back along the roof of your mouth, you will find that the front portion is hard and the

back portion is soft. Post-alveolar sounds are made with the front of the tongue just behind the alveolar ridge, right at the front of the hard palate and the body of the tongue closes up the airflow a bit as well, creating an obstruction further back than the alveolar ridge. English has four post-alveolar sounds: [ʃ] as the last consonant in *leash*, [ʒ] as the third sound in *measure*, [ʧ] as the first sound in *church*, and [ʤ] as the first sound in *judge*.

Palatal sounds are made with the body of the tongue near the center of the hard portion of the roof of the mouth (or the 'hard palate'). English has only one palatal sound: [j] which is the first sound in the word *yes*.

Velar consonants are produced at the velum, also known as the soft palate, which is the soft part of the roof of the mouth behind the hard palate. Sounds made with the back part of the tongue body raised near the velum are said to be velar. There are three velar sounds in English: [k] as in *kill*, [g] as in *gill*, and [ŋ] as the last sound in the word *sing*.

Finally, **glottal** sounds are produced when air is constricted at the larynx. The space between the vocal folds is the glottis. English has two sounds made at the glottis. One is easy to hear: [h], as in *high* and *history*. The other is called a glottal stop [ʔ] and this sound occurs before each of the vowel sounds in *uh-oh* or in the middle of a word like *cotton*.

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11.

DESCRIBING CONSONANTS: MANNER OF ARTICULATION

The third aspect of consonant description, in addition to **voicing** (whether a consonant is voiced or voiceless) and giving the consonant's **place of articulation**, is its **manner of articulation**; that is, it is necessary to describe how the airstream is constricted or modified in the vocal tract to produce the sound. The manner of articulation of a consonant depends largely on the degree of closure of the articulators so how close together or far apart they are when the air comes through the mouth.

Stops (also known as plosives) are made by obstructing the airstream completely in the oral cavity. Notice that when you say [p] and [b], your lips are pressed together for a moment, stopping the airflow. Air pressure rises, and it is concentrated in the vocal tract. This concentration of air is then released as a burst of air.

Fricatives are made by forming a nearly complete obstruction of the vocal tract. The opening through which the air escapes is very small, and as a result a turbulent noise is produced. Such a turbulent, hissing mouth noise is called frication, hence the name of this class of speech sounds.

Affricates are complex sounds, made by briefly stopping the airstream completely and then releasing the articulators slightly so that frication noise is produced. They can thus be described as beginning with a stop and ending with a fricative, as reflected in the phonetic symbols used to represent them. English has only two affricates, [ʧ], as in *church*, and [ʤ], as in *judge.* [ʧ] is pronounced like a very quick combination of a [t], pronounced somewhat farther back in the mouth, followed by [ʃ]. It is a voiceless post-alveolar affricate. [ʤ] is a combination of [d] and [ʒ].

Nasals are produced by relaxing the velum and lowering it, thus opening the nasal passage to the vocal tract. In most speech sounds, the velum is raised against the back of the throat, blocking off the nasal cavity so that no air can escape through the nose. So when the velum is lowered and air escapes through the nasal cavity, like it happens with [m], as in *rim*, [n], as in *kin*, and [ŋ], as in *king*. For nasals there is a complete obstruction of the airflow in the oral cavity, but unlike stops, the air continues to flow freely through the nose. For [m], the obstruction is at the lips; for [n], the obstruction is formed by the tongue tip and sides pressing all around the alveolar ridge; and for [ŋ], the obstruction is caused by the back of the tongue

body pressing up against the velum. In English, all nasals are voiced.

Liquids are formed with a severe constriction without fully stopping air from flowing. The first liquid we have in English is the alveolar lateral liquid [l]. In this sound, the front of the tongue is pressed against the alveolar ridge, but unlike in a stop, where the tongue is sealed all the way around the ridge, the sides of the tongue are relaxed letting the air flow freely over them. Liquids are usually voiced in English, so [l] is a voiced alveolar lateral liquid. The other liquid in English is [ɹ]. It involves curling the tip of the tongue back behind the alveolar ridge to make a retroflex sound.

Glides are made with only a slight closure of the articulators (so they are fairly close to vowel sounds), and they require some movement of the articulators during production. [w] is made by raising the back of the tongue toward the velum. [j] is made with a slight constriction in the palatal region using the front of the tongue.

The last manner of articulation is the **flap**. A flap which is sometimes called a tap, is similar to a stop in that it involves the complete obstruction of the oral cavity. The closure, however, is much faster than that of a stop: the articulators strike each other very quickly. In American English, we have an alveolar flap, in which the tip of the tongue is brought up and simply allowed to quickly strike the alveolar ridge before it moves into position for the next sound.

Putting it all together!

We now have three different ways to talk about how a consonant phone is articulated: its voicing, its place of articulation, and its manner of articulation. We can put these three together to give a complete description of the most common consonant phones. There are many consonants that go beyond this three-part description and require a bit more information to be fully specified, but for the purposes of this course, these three categories will be sufficient. You can find all the sounds of English categorized in the table below.

Manner of Articulation	Place of Articulation															
	Bilabial		Labio-dental		Inter-dental		Alveolar		Post-Alveolar		Palatal		Velar		Glottal	
Stop	p	b					t	d					k	g	ʔ	
Fricative			f	v	θ	ð	s	z	ʃ	ʒ					h	
Affricate									tʃ	dʒ						
Flap							ɾ									
Nasal		m					n							ŋ		
Lateral Liquid							l									
Retroflex Liquid							ɹ									
Glide	w	wʰ										j				

State of the Glottis | Voiceless | Voiced

Adapted from:

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12.

DESCRIBING VOWELS

Depending on the dialect, English can present different sets of vowels. For this course we are going to focus on the following 10 vowels which are used by the majority of speakers of American English:

[i] as in heed

[ɪ] as in hid

[ɛ] as in head

[æ] as in had

[ə] is found in unstressed syllables, as in the word ahead – ah[ə]d.

[ʌ] as in hat

[ɑ] as in lock

[ɔ] as in law

[ʊ] as in hood

[u] as in boot

Because vowels are produced with a relatively open vocal tract, they do not have a consonant-like place or manner of articulation. They are also always voiced. This means that the three standard descriptors for consonants (place, manner, and

voicing) are not helpful when we want to describe vowels. In the case of vowels, there are four main ways in which speakers can change the shape of the vocal tract and thus change the vowel they are producing.

- First we have **height**. Vowels differ when raising or lowering the body of the tongue. For example the sound [i] requires the raising of the body of the tongue while the sound [æ] requires the lowering of the body of the tongue.
- Regarding **backness**, sounds like [i] require the advancing of the body of the tongue, but it is retracted in sounds like [u]. Try producing these two vowels and you will see how you need to change the disposition of the body of the tongue in your mouth.
- Regarding the **rounding** of the lips, some vowels like [ɔ] require lip rounding while others do not require rounding like the sound e which is produced by stretching your lips
- **Tenseness.** Vowels that are called tense are said to have more extreme positions of the tongue and/or the lips than vowels that are lax. The production of tense vowels involves bigger changes from a mid-central position in the mouth. That is, they require a more extreme tongue gesture of raising, lowering, advancing, or retracting in order to reach the periphery of the possible vowel space. This means that the tongue position for the tense high

front vowel [i] as in the word *beat* is higher and fronter
than for the lax high front vowel [ɪ] as in the word *bit*.

So in order to familiarize ourselves with the description of
vowels, we can use the following chart.
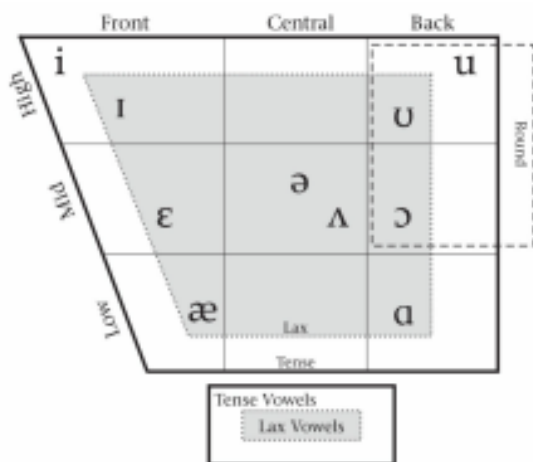
For example, the sound [u] is described as high, back
rounded and tense.

The sound [ɔ] is mid back rounded and lax

The sound [æ] is low front unrounded and lax

And regarding the two vowels that share the central space,
we are going to differentiate them this way, this schwa [ə]
sound is going to be a mid central unrounded lax vowel, and
the [ʌ] sound as in *blood* is going to be a mid-low, central
unrounded and lax vowel, because one is a bit lower than the
other.

Adapted from:

Anderson, C., Bjorkman, B., Denis, D., Doner, J., Grant, M., Sanders, N. & Taniguchi, A. (2022). *Essentials of Linguistics*. Pressbooks. https://ecampusontario.pressbooks.pub/essentialsoflinguistics2/

PART III
MODULE 3: PHONOLOGY

As discussed in Module 2, a linguistic signal is composed of smaller physical units: phones, handshapes, movements, etc. These are not combined in purely random ways. For example, the three phones [m], [i], and [k] can be combined to form the English word [mik] *meek*, but the other five possible combinations are not words of English. Four of these are normally unpronounceable by English speakers: [imk], [ikm], [mki], and [kmi]. However, the fifth, [kim], could easily be integrated into English as a new word. It is just an accident of the history of English that we do not yet have this as an actual word.

Additionally, when some of these physical units are pronounced near each other, they may affect each other's articulation. There are underlying patterns in all languages that determine which combinations of physical units are valid or invalid, as well as what kinds of articulatory changes occur when these physical units are combined. The study of these patterns is called **phonology**.

Adapted from:

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13.

PHONOTACTICS

In oder to provide a concise introduction to phonology, we are going to concentrate on syllables and their structure. A syllable is a speech unit that is used to organize how we speak. Speech can usually be divided up into a whole number of syllables: for example, the word *concern* is made of two syllables: *con* and *cern*.

Syllables are usually made up of a **nucleus** which is usually a vowel (or a set of vowel sounds). And this nucleus can be preceded by an **onset** of composed of a consonant or a consonant cluster, and followed by a **coda**, which can also be composed of a consonant or a consonant cluster. For example, for the English word *stress* which is made up of only one syllable, the onset is composed of the sounds [s] and [t] and the coda is made up of just one sound [s]. For the English word *criminal*, which is composed of three syllables ['krɪ-mɪ-nəl]. The first syllable has a coda made up of two sounds [k] and [ɾ] but it has no coda. The second syllable's onset is just one consonant [m] and it has no sound in its coda. And the final syllable has one consonant in the onset [n] and one in the coda [l].

σ

Onset

Nucleus   Coda

b   e   d
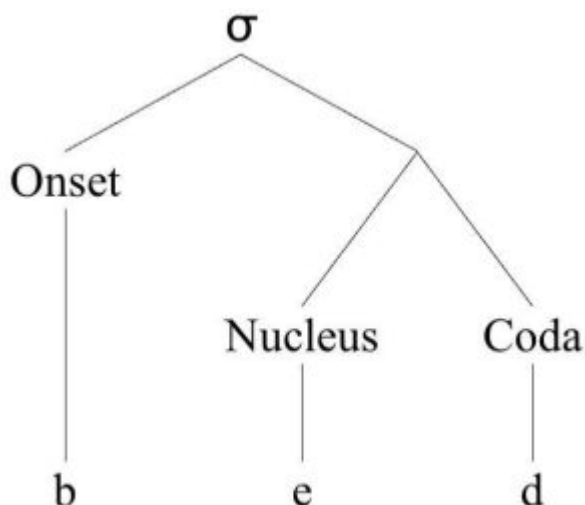
Now the composition of syllables in different languages follows different rules or constraints, meaning that the way each language allows certain sounds to be present in certain positions within a syllable or within a word. Certain physical units cannot be used in some environments at all. Each language has its own set of **phonotactics**, which are language-specific restrictions on what combinations of physical units are allowed in which environments. For example, English has phonotactic restrictions that ban [tl] and [dl] in onsets, but this is not a universal restriction. Plenty of languages allow onsets with [tl] and [dl], such as Ngizim, which has words like [tlà] 'cow' (Schuh 1977), and Hebrew, which has words like [dli] 'bucket' (Klein 2020).

Some phonotactic restrictions may be somewhat looser than others. English generally does not have onsets containing

[pw] or [vl], yet English speakers generally have no trouble pronouncing loanwords like *pueblo* [pwɛblo] and proper names like *Vladimir* [vlædəmir].

Lets see a simple example. In the case of Brazilian Portuguese, words cannot end in a final stop consonant. This means that there are no native Brazilian Portuguese words that end in the sounds [p t k b d g], this is, of course not the case of English, a language that allows for words to end with these sounds as in *book*, or *dog*.

A more complex example. This time in the English language. English usually allows for onsets of syllables of **three consonants** but only if the first consonant is the sibilant [s] followed by one voiceless stop [p t k], and followed by any of these four sounds [l ɹ j w]. Otherwise, only two consonants are allowed to take that position. This restriction allows the structure of words like *strange* [stɹeɪndʒ], or *spleen* [splin], but under these constraints, for an English speaker, a made up word like *shkrom* [ʃkrom] would not sound English-like, while something like *strum* [strum] would. Because the first one does not obey this phonological constraint for English onsets and the second does.

Another example: Japanese tends to avoid consonant clusters so the preferred syllable structure is that of a consonant followed by a vowel, or a CV syllable (CV meaning a combination of a C=consonant + V= vowel). This means that syllables in Japanese can only have one consonant at the onset and none at the coda. Although it is possible to have

a nasal as a coda in syllables, but not any other types of consonants. To update the rule for Japanese syllables, the true pattern is the following: CV(nasal). This pattern applies across the board to all syllables in Japanese words, which indicates that syllables in Japanese are made up of a simple (one sound) onset, the nucleus and, optionally, a nasal sound in a coda. And no other syllables are possible.

Now lets see how these how these constraints interact in language learning. Imagine a speaker of Brazilian Portuguese who is learning English. Remember that Brazilian Portuguese has a constraint that prohibits stop consonants to finish a word. So, when learning English, these speakers need to be able to process and produce these sounds whose positions are illegal in their native language. So once they hear something that is impossible for them to process (like the English word *book* because it ends in a stop consonant) they repair that word as if it was defective (because it is defective if they use the restriction available in their native Portuguese phonology) and they hear and produce a vowel sound after the final stop to make it phonotactically legal to their native phonological restriction. In the case of Brazilian Portuguese speakers, they insert vowel [i].

So English a word like *book* [bʊk] is heard and produced as [bʊki] and a word like bag [bæg] are heard and produced as [bægi].

So, you can see that phonology and phonotactic constraints are used as filters when listening to foreign and second

language speech that does not follow these constraints. Our native language's constraints allow us to reprocess certain sounds to conform to the mental structure we have for our own language or languages.

Now let s see another example. Lets go back to Japanese. Remember that Japanese only allows for CV syllables or CV plus a nasal. This means that syllables can only be composed of one consonant followed by a vowel and optionally followed by a nasal sound. So when presented with English words, Japanese speakers hear and produce the following words.

The English word *stop* [stɒp] is produced as [sɯtɒpɯ]

The English word *trash* [træʃ] is produced as [toræʃɯ]

The English word *fantastic* [fæntæstɪk]is produced as [fæntæsɯtɪkɯ]

In the case of Japanese, the input they hear is reconstructed and vowels are inserted to comply with Japanese constraints. More concretely, in cases where there is no vowel after one of the consonants, the vowel [o] is inserted after [t] and [d], while the high back unrounded vowel [ɯ] is inserted after all other consonants. So an English syllable like [kris] is pronounced as [kɯrisɯ] and [drɪl] is pronounced as [dorɪlɯ].

Of course, the examples provided here are not faithful representations of how native Japanese speakers with no training in English pronounce this words. These are representations of how they would pronounce them if they only applied the syllabic constraint of their native phonology, but we know that they may pronounce some consonant and

vowel sounds different. But for now, we are going to concentrate on how the structure of the syllables change. We will not consider any other changes. So for the assignment activity, lets assume that Japanese speakers can use all consonants and vowels available in English, just make sure you focus on how the structure of the word is affected by these syllabic changes.

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14.

TYPES OF PHONOLOGICAL RULES

In spoken language, one important pattern is how certain phones are pronounced differently, yet are treated as the same conceptual object by speakers. For example, consider the English words atom and atomic. In most varieties of North American English, the consonant phone in the middle of *atom* is pronounced as an alveolar flap; remember that the alveolar flap is symbolized in the IPA by [ɾ]. But in the word *atomic*, the corresponding phone is a voiceless alveolar stop followed by a notable puff of air, symbolized in the IPA as [tʰ], where the superscript [ʰ] represents the puff of air (called **aspiration**). However, these two words are clearly related: *atomic* is built from the word *atom*, both in pronunciation and in meaning. Because of this, it is convenient to think of these two sounds as being the same object on some abstract conceptual level, despite being physically different.

This object is called a **phoneme**, and its various physical realities as phones are called its **allophones**. We can think of a phoneme as a set of allophones, with each one connected

to certain specific positions. So in this case, we might say that the set {[ɾ], [tʰ]} is a phoneme, with [ɾ] and [tʰ] each being allophones of that phoneme, used in different situations, called **environments**.

The most common types of environments require one or more specific phonetic properties immediately to the left, one or more specific phonetic properties immediately to the right, or a combination of both. As with most aspects of linguistics, the environments for allophones can be more complex than what is presented in the simpler cases discussed in this textbook.

By convention, phonemes are often notated with just a single symbol in **slashes** / /, because the number of allophones can get quite large, and it would be too cumbersome to continue listing out all of the allophones as a set. The choice of symbol depends on certain assumptions, but for now, we can represent this phoneme with /t/.

Both of these allophones of /t/ occur between two vowels or syllabic consonants, but the flap [ɾ] is followed by an unstressed vowel or syllabic consonant, while the aspirated [tʰ] is followed by a stressed vowel or syllabic consonant. So we might conjecture that stress is at least partially responsible for determining which allophone to use for /t/.

We can test that conjecture by looking at other words where this phoneme occurs (fortunately, it is often spelled with the letter <t> in English) and seeing which allophone is used. In [ˈmɛɾl] *metal* and [məˈtʰælək] *metallic*, we see the same pattern

as in *atom* and *atomic*, so our conjecture holds. There are other pairs of related words that show the same pattern: [ˈbæɾl] *battle* and [bəˈtʰæljn] *battalion*, [ˈkrɪɾək] *critic* and [kraɪˈtʰiriə] *criteria*, etc.

If we look beyond related words, we see the same pattern. English words with /t/ between two vowels or syllabic consonants tend to have the flap [ɾ] if the second is unstressed but aspirated [tʰ] if the second is stressed. That is, words like *data*, *writer*, and *Ottawa* have [ɾ], while words like *attack*, *return*, and *Saskatoon* have [tʰ]. So we can say that these two allophones are used according to a **phonological rule** that governs their distribution.

Every language has many phonological rules. Phonological rules alter the underlying structure and form of words and sentences. Next, we are going to classify phonological rules according to the kind of process that they involve. Seven major types of processes are discussed here, along with examples from the phonology of English or other languages.

Rules of **assimilation** cause a sound to become more like a neighboring sound with respect to some phonetic or articulatory property. In other words, the segment affected by the rule assimilates or takes on a property from a nearby segment. Rules of assimilation are very common in languages. An example of assimilation is the assimilation in place of articulation of nasals, for example this is easily observable in the pronunciation of the prefix un- in English. Words like *unbelievable*, *unstable*, and *unclear* are often pronounced

[ʌmbəlivəbl̩], [ʌnsteɪbl̩], and [ʌŋkliɹ]. That is, the nasal [n] is often pronounced as a bilabial nasal when it occurs before a bilabial sound, as in *unbelievable*, and as a velar nasal when it occurs before a velar sound, as in *unclear*. This is called Nasal Place Assimilation because the nasal /n/ changes its place of articulation.

Another assimilation process is palatalization. Palatalization refers to a special type of assimilation in which a consonant becomes like a neighboring palatal. For example, when American English speakers say *Did you?* rapidly, they very often pronounce it as [dɪʤu]. The sounds [d] (the alveolar stop from the end of did) and the palatal glide from the beginning of you combine to form the post-alveolar affricate [ʤ]. In this case, the palatal nature of the glide has been assimilated by the stop, making it a post-alveolar affricate. High and mid front vowels such as [i] and [e] also cause this change. The most common types of palatalization occur when alveolar, dental, and velar stops or fricatives appear before a front vowel. So the following are all common types of palatalization: [t] → [ʧ]; [d] → [ʤ]; [s] → [ʃ]; [k] → [ʧ]; [g] → [ʤ]. While there are variants on palatalization, and other sounds can be palatalized, the main things to look for are a sound becoming a palatal or post-alveolar.

Dissimilation. Unlike assimilation, which makes sounds more similar, rules of dissimilation cause two close or adjacent sounds to become less similar with respect to some property,

by means of a change in one or both sounds. An example of dissimilation in Greek is the following: A stop becomes a fricative when followed by another stop. In fast speech specially, the form /epta/ '*seven*' can be pronounced as [efta], and /ktizma/ 'building' can be pronounced as [xtizma] ([x] is a voiceless velar fricative).

In the case of epta, the [p] and [t] sounds share a manner of articulation which is that they are both stop consonants, same as the sounds [k] and [t] sounds. Thus, according to this dissimilation rule, since there cannot be two stops together, the first one must become a fricative consonant.

Phonological rules of **insertion** cause a segment not present at the phonemic level to be added to the phonetic form of a word. An example of this kind of rule from English is voiceless stop insertion. Between a nasal consonant and a voiceless fricative, a voiceless stop with the same place of articulation as the nasal is inserted.

Thus, for instance, the voiceless stop insertion rule may apply to the words dance /dæns/ → [dænts], strength /stɹɛŋθ/ → [stɹɛŋkθ], and hamster /hæmstɹ/ → [hæmpstɹ]

Deletion rules eliminate a sound that was present at the phonemic level. Such rules apply more frequently to unstressed syllables and in casual speech. English examples include the delition of /h/ in unstressed syllables. This deletion rule would apply to a sentence such as *He handed her his hat*

/hi hændəd hɹ̩ hɪz hæt/ to be pronounced as [hi hændəd ɹ̩ ɪz hæt]. Deletion is common in fast speech because it saves time and articulatory effort.

Metathesis. Rules of metathesis change the order of sounds. In many instances, sounds metathesize in order to make words easier to pronounce or easier to understand. In Leti, an Austronesian language, consonants and vowels switch places when a word that ends in a consonant is combined with a word that starts with two consonants. The last two sounds in the first word trade places to avoid having three consonants in a row.

Rules of **strengthening** (also called fortition) make sounds stronger. The rule of English aspiration, as stated below, provides an example:

Voiceless stops become aspirated when they occur at the beginning of a stressed syllable. The pronunciations of pat [pʰæt] and top [tʰɑp] illustrate the application of the English aspiration rule. Aspirated stops are considered to be stronger sounds than unaspirated stops because the duration of voicelessness is much longer in aspirated stops (since it extends through the period of aspiration).

Rules of **weakening** cause sounds to become weaker. The "flapping" rule of English is an example of weakening. The flap [ɾ] is considered to be a weaker sound than [t] or [d] because it is shorter and it obstructs air less. An alveolar stop is

realized as [ɾ] when it occurs after a stressed vowel and before an unstressed vowel.

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15.

CONTRASTIVE DISTRIBUTION AND MINIMAL PAIRS

Minimal pairs

In addition to the individual distribution of a single phone, we are also often interested in the relative distribution of two phones. If they have overlapping distributions, such that there are at least some environments where they both can occur, the two phones are said to **contrast** with each other, and thus, they have **contrastive distribution**.

This relates to the concept of **minimal pair**. In phonology, minimal pairs are pairs of words or phrases in a particular language, spoken or signed, that differ in only one phonological element, such as a phoneme, and have distinct meanings. They are used to demonstrate that two phones represent two separate phonemes in the language.

For example, in English, the phones [p] and [k] occur in many of the same environments, creating pairs such as [pɪl] *pill* and [kɪl] *kill*, [lɪp] *lip* and [lɪk] *lick*, and [spɪl] *spill* and [skɪl] *skill*. Each of these pairs is a minimal pair

that have all the same phones in the same order, except for one position. So [pɪl] *pill* and [kɪl] *kill* both have the form [__ɪl], with [p] in one word and [k] in the other.

The existence of just one such minimal pair is all it takes to prove that two phones have contrastive distribution, so minimal pairs play an important role in figuring out the distribution of phones in a language and how they may be grouped into the same or different phonemes.

However, in many cases, it may be difficult or even impossible to find minimal pairs. In English, the phone [ʒ] is the rarest consonant and has a limited distribution, occurring in words like [ruʒ] *rouge*, [gərɑʒ] *garage*, [vɪʒn] *vision*, and [mɛʒr] *measure*. It is almost never word-initial in English, except in some proper names (perhaps most famously, Hungarian-American actress Zsa Zsa Gabor) and in the neologism [ʒʊʒ] *zhoozh* 'improve the appearance of someone or something with a small change'. This makes it difficult to find minimal pairs where [ʒ] is a crucial phone, especially when comparing it to another relatively rare phone like [ʃ], though there are a few examples of minimal pairs for [ʒ] and [ʃ] involving unusual or rare words, such as [əluʒn] *allusion* versus [əluʃn] *Aleutian* and [mɛʒr] *measure* versus [mɛʃr] *mesher*.

Near-minimal pairs and nonce words

But if no minimal pairs can be found, we usually have to rely on **near-minimal pairs** instead. A near-minimal pair looks almost like a minimal pair, except there are one or more

additional differences elsewhere in the word besides the crucial position. For example, the English pair [plɛʒr] *pleasure* and [prɛʃr] *pressure* form a near-minimal pair for [ʒ] and [ʃ]. In the position of interest, we have [ʒ] versus [ʃ], which seem to be contrastive because nearly all of the rest of the phones are the same in both words, except for [l] versus [r], which prevents these words from being a true minimal pair.

While a single minimal pair is very powerful, a single near-minimal pair is not. We may have simply stumbled upon a weird example where the apparent meaningless difference is actually relevant to the distribution of the phones we are interested in. We cannot immediately determine whether or not a given near-minimal pair is useful, so it is important to find multiple examples. As we collect more near-minimal pairs, we can be more confident that the small differences are incidental rather than crucial to the distribution of the phones in question.

This is where speaker competence can also be useful, by asking them to evaluate **nonce words**, which are words that we make up for one-time use, such as for linguistic experimentation. We can construct nonce words that fill in minimal pair gaps, and if speakers agree that the nonce word is a valid hypothetical word of the language, then we can be more sure that the phones in question do in fact contrast with each other.

For example, rather than looking for more near-minimal pairs for [ʒ] and [ʃ], we could instead take an existing word

with [ʒ] in it, like [beiʒ] *beige*, then create a nonce word that is the same, except replacing [ʒ] with [ʃ], giving us a pair like [beiʒ]-[beiʃ]. Then we could ask English speakers whether the nonce word [beiʃ] could be used as a completely different word with a different meaning from [beiʒ]. Most speakers would agree, so we would be reasonably sure that [ʒ] and [ʃ] do indeed contrast with each other, despite not having a true minimal pair of actual existing English words.

Depending on the structure of the language and what resources we have access to, we may use one or more of these three tools (minimal pairs, near-minimal pairs, nonce words) to determine whether two phones contrast with each other. We would also need to do this work for every pair of phones in the language, but in some cases, we may get lucky, and there may be minimal triplets, minimal quadruplets, or even larger minimal n-tuplets.

For many speakers, English *beet*, *bit*, *bait*, *bet*, *bat*, *but*, *bot*, *bought*, *boat*, and *boot* form a minimal 10-tuplet (a decuplet!), showing simultaneously that the ten vowels [i], [ɪ], [e], [ɛ], [æ], [ʌ], [ɒ], [ɔ], [o], and [u] all contrast with each other. This cuts down on the work needed to demonstrate patterns of contrast in the language. But in many languages, even minimal pairs can be hard to find, so finding near-minimal pairs and testing nonce words may be the only options.

Adapted from:

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PART IV
MODULE 4: MORPHOLOGY

In linguistics, **morphology** is the study of how words are put together. For example, the word cats is put together from two parts: *cat*, which refers to a particular type of furry four-legged animal (🐱), and -s, which indicates that there's more than one such animal (🐱 🐱 ⬛ 🐱).

Most words in English have only one or two pieces in them, but some technical words can have many more, like *non-renewability,* which has at least five (*non-, re-, new, -abil,* and *-ity*). In many languages, however, words are often made up of many parts, and a single word can express a meaning that would require a whole sentence in English.

For example, in the Harvaqtuurmiutut variety of Inuktitut, the word *iglujjualiulauqtuq* has 5 pieces, and expresses a meaning that could be translated by the full English sentence "They (sg) made a big house." (*iglu* = house, *–jjua* = big, *–liu* = make, *–lauq* = distant past, *–tuq* = declarative; this example is from a 2010 paper by Compton and Pittman).

Not all combinations of pieces are possible, however. To go back to the simple example of *cat* and -*s*, in English we can't put those two pieces in the opposite order and still get the

same meeting—*scat* is a word in English, but it doesn't mean "more than one cat", and it doesn't have the pieces *cat* and *-s* in it, instead it's an entirely different word.

One of the things we know when we know a language is how to create new words out of existing pieces, and how to understand new words that other people use as long as the new words are made of pieces we've encountered before. We also know what combinations of pieces are not possible. In this module we'll learn about the different ways that human languages can build words, as well as about the structure that can be found inside words.

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16.

WHAT IS A WORD?

If morphology is the investigation of how words are put together, we first need a working definition of what a **word** is.

For the purposes of linguistic investigation of grammar we can say that a word is the **smallest separable unit in language**.

What this means is that a word is the smallest unit that can stand on its own in an utterance. For example, content words in English (**nouns**, **verbs**, **adjectives**, and **adverbs**) can stand by themselves as one-word utterances when you're answering a question:

(1) a. What do you like to eat?

Answer: cake (noun)

b. What did you do last night?

Answer: sleep (verb)

c. What colour is the sky today?

Answer: orange (adjective)

d. How did you wake up this morning?

Answer: slowly (adverb)

Words are also **syntactically independent**, which means they can appear in different positions in a sentence, changing their order with respect to other elements even while the order of elements inside each word stays the same.

In everyday life, in English we might think of a word as something that's written with spaces on either side. This is an **orthographic** (or spelling-based) definition of what a word is. But just as writing isn't necessarily a reliable guide to a language's phonetics or phonology, it doesn't always identify words in the sense that is relevant for linguistics. And not all languages are written with spaces in the way English is—not all languages have a standard written form at all. So we need a definition of "word" that doesn't rely on writing.

The definition of "word" is actually a hotly debated topic in linguistics! Linguists might distinguish **phonological words** (words for the purposes of sound patterns), **morphological words** (words for the purposes of morphology), and **syntactic words** (words for the purposes of sentence structure), and might sometimes disagree about the boundaries between some of these.

Though words are the smallest *separable* units, that doesn't mean that words are the smallest unit of language overall. As we already saw earlier in this module, words themselves can have smaller pieces inside them, as in the simple cases of *cats* (*cat–s*) or *international* (*inter–nation–al*)—but these smaller pieces can't stand on their own.

To refer to these smaller pieces within words, we use the

technical term **morpheme**. A morpheme is the smallest systematic pairing of both form (sign or sound) and meaning or grammatical function. (We say "meaning or grammatical function" instead of just "meaning" because while some morphemes have clear meanings, other morphemes express more abstract grammatical information.)

Words that contain more than one morpheme are **morphologically complex**. Words with only a single morpheme are **morphologically simple**.

Ask yourself if the word "morphology" is morphologically complex. Can you identify morphemes within this word, systematic pairs of form and meaning? Historically, this word is built from two morphemes borrowed from Classical Greek: *morph-* "shape" and *-ology* "study of". People who know English don't necessarily know Classical Greek, though. Regardless of a word's etymology (the history of a word), the question of whether it is morphologically complex is a question about how people who know that word use it today. A word might be morphologically complex for some people, but morphologically simple for others. Neither of those options is "correct" or "incorrect", they just represent different grammars.

In linguistics *morphology* is the study of word shapes. In biology, *morphology* is the study of the shape of animals and other organisms, and if you do an internet search for "morphology", the first hits often relate to the biological meaning.

Our goal in morphology is to understand how words can be built out of morphemes in a given language. In the this chapter we will first look at the shapes of different morphemes (and morphological processes); in later sections we will review different functions that morphology can have, looking at divisions

between **derivational** morphology, **inflectional** morphology, and **compounding**.

Adapted from:

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17.

ROOTS, BASES AND AFFIXES

Affixes vs roots Morphemes can be of different types, and can come in different shapes. Some morphemes are **affixes**: they can't stand on their own, and have to attach to something. The morphemes *-s* (in *cats*) and *inter–* and *-al* (in international) are all affixes.

The thing an affix attaches to is called a **base**. Just like whole words, some bases are morphologically simple, while others are morphologically complex.

For example, consider the word *librarian*. This word is formed by attaching the affix *-ian* to the base *library*.

We can ignore the fact that 'y' turns into an 'i' when a suffix attaches to *library*. There's a convention of English spelling that 'y' becomes 'i' before an affix; it doesn't reflect any change in phonological (sound) shape.

Librarian can then itself be the base for another affix: for example, the word *librarianship*, the state or role of being a librarian, is formed by attaching the affix *-ship* to the base *librarian*.

There is a special name for simple bases: **root**. A root is the smallest possible base, which cannot be divided, what we might think of as the *core* of a word. Roots in English we've seen so far in this chapter include *cat*, *library*, and *nation*.

If you look at the history of the words *library* and *nation*, they both trace back to Latin (by way of French), and in Latin the relevant words were morphologically complex: *library* traces back to the Latin root *libr-* (meaning

"book"), and *nation* traces back to the Latin root *nat-* (meaning "be born"). When a child first encounters a word like *library* or *nation*, however, the word doesn't come annotated with this historical information! In the minds of most contemporary English speakers, it is likely that *library* and *nation* are treated as simple roots.

Turning back to affixes, an affix is any morpheme that needs to attach to a base. We use the term "affix" when we want to refer to all of these together, but we often specify what *type* of affix we're talking about.

A **prefix** is an affix that attaches **before** its base, like *inter-* in *international*.

A **suffix** is an affix that **follows** its base, like *-s* in *cats*.

Thus, for example, the word *disapproval* is made up of one root (approve) preceeded by a prefix (dis-) and a suffix (-al). Or the word *relentlessly* is made up of one root (relent) and two suffixes (-less) and (-ly).

Prefixes and suffixes are very common, not only in English but also in other languages.

Free and bound morphemes

Another way to divide morphemes is by whether they are **free** or **bound**. A **free** morpheme is one that can occur as a word on its own. For example, *cat* is a free morpheme. A **bound** morpheme, by contrast, can only occur in words if it's accompanied by one or more other morphemes.

Because affixes by definition need to attach to a base,

only **roots** can be free. In English most roots are free, but we do have a few roots that can't occur on their own. For example, the root *-whelmed*, which occurs in *overwhelmed* and *underwhelmed*, can't occur on its own as **whelmed*.

We show that morphemes are bound by putting hyphens either before or after them, on the side that they attach to other morphemes. This applies to bound roots as well as to affixes.

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18.

LEXICAL CATEGORIES

Derivation vs inflection and lexical categories

Morphology is often divided into two types:

- **Derivational** morphology: Morphology that changes the meaning or category of its base
- **Inflectional** morphology: Morphology that expresses grammatical information appropriate to a word's category

We can also distinguish **compounds**, which are words that contain multiple roots into a single word.

The definitions of derivation and inflection above both refer to to the **category** of the base to which morphology applies. What do we mean by "category"? The category of a word is often referred to in traditional grammar as its **part of speech**. In the context of morphology we are often interested in the **lexical categories**, which is to say **nouns**, **verbs**, **adjectives**, and **adverbs**. The rest of this section gives an overview of what lexical categories are, and how we can identify them.

Lexical Categories, aka "Parts of Speech"

Determining the category of a word is an important part of morphological and syntactic analysis. A category of words or morphemes is a group that behave the same way as one another, for grammatical purposes.

You might be familiar with traditional **semantic** definitions for the parts of speech—definitions that are based on a word's meaning. If you ever learned that a noun is a "person, place or thing", or that a verb is an "action word", these are semantic tests. However, semantic tests don't always identify the categories that are relevant for linguistic analysis. They can also be hard to apply in borderline cases, and sometimes yield inconsistent results; for example, surely *action* and *event* are "action" words, so according to the semantic definition we might think they're verbs, but in fact these are both nouns!

In linguistics we're interested in making generalizations about where different categories of words or morphemes can occur, and how they can combine with each other. We therefore define categories based on the grammatical contexts in which words or morphemes are used—their **distribution**. The distribution of different categories varies from language to language. The remainder of this section reviews some of the main distributional tests for lexical categories (nouns, verbs, adjectives, and adverbs) in English.

If you know any other language, think about whether any of these tests can be adapted to identify lexical categories in that language, or if there are other morphological or syntactic

cues that can be used to distinguish lexical categories in that language.

Nouns (N)

- Syntactic tests for nouns:
    - Can follow a determiner
        - As in: *an event* or *the proposal*
    - Can be modified by **adjectives**
        - As in: *a happy event* or *the new proposal*
    - Can be the subject or object of a verb
        - As in: *Events occurred.* or *We made proposals.*
    - Can be replaced by a pronoun
        - As

        in: *Events occurred.* becoming *They occurred.*
    - Do not allow objects (without a preposition).
- Morphological tests for nouns:
    - Have singular and plural forms:

    e.g. *books*, *governments*, *happinesses*
        - Note: The plurals of some abstract nouns can seem odd! Think outside the box to find contexts where they might naturally occur.

Verbs (V)

- Syntactic tests
    - Can combine with auxiliary verbs

(e.g. *can*, *will*, *have*, *be*)

- ◦ Can follow the infinitive marker *to*.
- ◦ Can take an object (without a preposition):
  - ▪ As in: *kick the ball*.
- • Morphological tests
  - ◦ Have a third person singular present tense form with *-s*
    - ▪ As in: (*she/he/it*) *kicks*, *goes*, *proposes*
  - ◦ Have a past tense form, usually (but not always) with *-ed*
    - ▪ As in: (*she/he/it*) *kicked*, *went*, *proposed*
  - ◦ Have a perfect / passive form, usually with *-ed* or *-en*
    - ▪ As in: (*she/he/it*) *has kicked*, *gone*, *proposed*
  - ◦ Have a progressive form with *-ing*.
    - ▪ As in: *kicking*, *going*, *proposing*

Adjectives (Adj)

- • Syntactic tests:
  - ◦ Modify nouns (occur between a determiner and a noun)
    - ▪ As in: *a happy event* or *the new proposal*
  - ◦ Can be modified by *very* (but so can many adverbs!)
    - ▪ As in: *very happy, very new*
  - ◦ Do not allow noun phrase objects (if objects are

possible, they must be introduced in a prepositional phrase)

- There are a handful of exceptions to the generalization that adjectives only take prepositional phrase objects, depending on your variety of English. Noun phrase objects of adjectives are discussed a bit more in <u>Section 6.13</u>.

- Morphological tests:
  ◦ Can often be suffixed by *-ish*
  ◦ May have comparative and superlative forms (e.g. *happier*, *happiest*)

Adverbs (Adv)

- Syntactic tests:
  ◦ Modify verbs, adjectives, and other adverbs (anything but nouns!)
  ◦ Cannot appear alone between a determiner and a noun.
  ◦ Can be modified by *very* (but so can adjectives!)
- Morphological tests:
  ◦ Many (not all) adverbs end in *-ly*

Using derivational affixes to identify category

In addition to the morphological tests above, you can also

use derivational affixes to help determine the category of a word. For example:

- Suffixes like *-ment* and *-ness* always create nouns; the base that *-ment* attaches to is always a verb (if it's a free form), and the base of *-ness* is usually an adjective.
- Suffixes like *-ify* and *-ize* always create verbs; their bases are nouns (if they're free forms).

The property of derivational affixes to not only create particular categories, but also to *attach* to specific categories, is called **selection**. We discuss this more in the following section.

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19.

DERIVATIONAL MORPHOLOGY

Derivational morphology and selection

Derivational morphemes are typically choosy about the types of bases they combine with—another word for "choosy" is *selective*, and so we talk about how derivational affixes **select** the category of their base.

For example, the suffix *-able* combines only with verbs, and always creates adjectives meaning "able to be *verb*-ed": *readable*, *writeable*, *playable*, *employable*, and *googleable* are all possible adjectives in English, even if they don't appear in a dictionary—while the other words in this list probably do show up in most dictionaries, *googleable* might not, because *google* a relatively recent verb (adapted from the name of the company). But as an English speaker I don't need to check the dictionary to find out if something is a possible English word—if I'm talking to someone and I say that something is "googleable", I can be confident that they'll understand me even if they've never heard someone use that verb before.

Here is a very incomplete sample of derivational affixes in

English, with the category they **select** on the left side of the arrow, and the category they **create** on the right side.

(1)	*-tion*	V	→	N
	-able	V	→	Adj
	-en	V	→	Adj
	-ed	V	→	Adj
	-ing	V	→	Adj or N
	-ment	V	→	N
	-ness	Adj	→	N
	-ity	Adj	→	N
	-ous	N	→	Adj
	-hood	N	→	N
	-ize	N	→	V
	-ly	Adj	→	Adj
	-ish	Adj	→	Adj

There are many more than this! You'll see them inside many words if you start paying attention.

Prefixes in English never change the category of the base they attach to, but they express clear meanings, like negation, repetition, order (e.g. *pre-* and *post-*), etc. Examples of English derivational prefixes and the categories they select appear in (2):

(2)	*non-*	N	→	N	*non-issue*
		Adj	→	Adj	*non-distinct*
	un-	V	→	V	*undo*
		Adj	→	Adj	*unhappy*
	re-	V	→	V	*redo*

Derivational morphology can also be even more selective, requiring not only a base that has a certain category, but only attaching to *specific* roots or bases. A lot of derivational morphology in English was acquired from borrowing words from French and Latin; these "latinate" affixes often prefer to combine with each other, and sometimes only with roots that are also latinate. Such affixes are less productive than other affixes, which combine freely with most bases.

Some of the most productive derivational suffixes in English are *-ish*, which can attach to most adjectives, *-ness*, *-able*, and *-ing*.

-ing is particularly productive: it can attach to all verbs in English to form adjectives (traditionally called "participles") or nouns (traditionally called "gerunds"). It is very unusual for a derivational affix to be that productive; usually there are at least a few roots that don't occur with a derivational affix, for whatever reason.

Order of Affixation

Because derivational affixes care about the category of the base they attach to, *and* they can result in change to a new

category for the whole word, the order in which they are added to a word can matter!

Prefixes and suffixes always attach to the outer edge of their base. That means that if a word has only suffixes, or only prefixes, there is only one order those affixes could have attached in. It will never be the case that the suffix that was added last appears closer to the root than suffixes that attached earlier.

Consider the word *foolishly*. This has the root *fool* (a noun), the suffix *-ish* (which attaches to nouns to form adjectives), and the suffix *-ly* (which attaches to adjectives to form adverbs). The only way to build this word is to first attach *-ish* to the root *fool*, and then attach *-ly* to the new base *foolish*.

But if a word has both prefixes and suffixes, then it's slightly more work to figure out what order they attached in. Sometimes the selectional properties of the affixes means that there is only one option. Consider the word *unkindness*. Here we have one prefix and one suffix. So in principle there are two orders in which we could build the word:

- Option 1 would be to first attach *un-* to the Adjective root *kind*, building the Adjective *unkind*, then attach *-ness* to *unkind* to get the Noun *unkindness*
- Option 2 would be to first attach *-ness* to the Adjective root *kind*, building the Noun *kindness*, then attach *un-* to *kindness* to get the Noun unkindness

In both these hypothetical derivations the intermediate base—*unkind* in Option 1 and *kindness* in Option 2—is a possible word of English, so from that perspective both derivations seem equally plausible.

But only one of these options matches the selectional properties of the affixes involved.

- If we look at *un-*, we find that it only attaches to verbs (with a reversal reading, like *undo*) and adjectives (with a negative meaning, like *unkind*). It cannot attach to nouns.
- If we look at *-ness*, by contrast, it attaches to adjectives to *create* nouns.
- So if *-ness* attached first in this word, as in 2, it would turn the adjective *kind* into a noun, and *un-* would no longer have the right kind of base to attach to.

This means that it can only be the order in 1, where *un-* attaches before *-ness*, while its potential base is still an adjective, that is the correct one.

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20.

INFLECTIONAL MORPHOLOGY

So far we've focused on derivational morphology. The next kind of morphology we'll discuss is **inflectional morphology**.

Unlike derivational morphology, inflectional morphology never changes the category of its base. Instead it simply *suits* the category of its base, expressing grammatical information that's required in a particular language.

In English we find a very limited system of inflectional morphology:

- **Nouns**
  - Number: singular vs. plural
  - Case (only on pronouns)
    - Nominative: I, we, you, he, she, it, they
    - Accusative: me, us, you, him, her, it, them
    - Possessive: my, our, your, his, her, its, their
- **Verbs**
  - Agreement: most verbs agree with third person singular subjects only in the present tense (-s), but the verb *to be* has more forms.

- Tense: Past vs. Present
- Perfect/Passive Participle: -ed or -en (Perfect after auxiliary have, Passive after auxiliary be)
- Progressive -ing (after auxiliary be)
- **Adjectives**
  - Comparative -er, Superlative -est (Arguable! Some people might treat this as derivational)

That's all of it! But if we look at other languages, we find more types of inflectional morphology.

One thing about inflectional morphology is that lots of it can be expressed **syntactically** instead of morphologically. So some languages have tense, but express it with a particle (a separate word) rather than with an affix on the verb. This is still tense, but it's not part of inflectional morphology.

The rest of this section gives a general survey of types of inflectional distinctions commonly made in the world's languages, but there are many types of inflection that aren't mentioned here.

Number

Most languages, if they have grammatical number, just distinguish singular and plural, but number systems can be more complex as well.

For example, many languages have **dual** in addition to singular and plural. Dual number is used for groups of exactly two things; we have a tiny bit of dual in English with

determiners like *both*, which means strictly two. You have to replace *both* with *all* if a group has three or more things in it.

An example of a language that distinguishes dual morphologically is Inuktitut, one of the languages spoken by the Inuit people who live in the Arctic region. There is a good deal of dialect variation across the Inuit languages; examples here are drawn from [Inuktut Tusaalangaa](), and represent the dialect South Qikiqtaaluk, spoken in parts of Nunavut that include the city Iqaluit.

(1)	*gloss*	*singular*	dual (2)	plural (3+)
	"pen"	titiraut	titirautiik	titirautit
	"cloud"	nuvuja	nuvujaak	nuvujait
	"computer"	qaritaujaq	qaritaujaak	qaritaujait

The three-way distinction between singular, dual, and plural in Inuktitut applies not only to nouns but also to verbs that agree with their noun subjects. The examples in (2) are from the Inuktitut Reference Grammar produced by Inuit Uqausinginnik Taiguusiliuqtiit.

(2)	first person	singular	anijunga	"I go out"
		dual	anijuguk	"the two of us go out"
		plural	anijugut	"we (three or more) go out"
	second person	singular	anijutit	"you (one of you) go out"
		dual	anijusik	"you two go out"
		plural	anijusi	"you (three or more) go out"
	third person	singular	anijuq	"they (sg) go out"
		dual	anijuuk	"the two of them go out"
		plural	anijut	"they (three or more) go out"

A small number of languages go further and also have a **trial** (pronounced "try-ull"), usually only on pronouns. This is used for groups of exactly three.

A language can also have **paucal** number, used for small groups.

Person

Person distinctions are those between first person (*I, we*), second person (*you*), and third person (*he, she, it, they*).

Some languages make a distinction in the first person plural between a first person inclusive (me + you, and maybe some

other people) and a first person exclusive (me + one or more other people, not you). Anishnaabemowin (Ojibwe), which has about 20,000 speakers, makes this kind of distinction. The pronoun *niinawind* refers to the speaker plus other people but not the person being addressed (that is, "we excluding you"). This is known as the **exclusive** we. The pronoun for **inclusive** we ("we including you") is *giinawind*. The distinction between inclusive and exclusive we is sometimes referred to as **clusivity**.

In Odawa and Algonquin varieties of Anishinaabemowin, spoken near Lake Huron and in Eastern Ontario and Quebec, these pronouns are *niinwi* and *giinwi*, respectively, but make the same contrast in meaning. Cree, which belongs to the same language family as Ojibwe (the Algonquian family), also makes an inclusive/exclusive distinction in the first-person plural. The inclusive form is *niyanân* and the exclusive form is *kiyânaw*. (Ojibwe examples from Valentine 2001.)

Case

Case refers to marking on nouns that reflects their grammatical role in the sentence. Most case systems have ways to distinguish the **subject** from the **object** of a sentence, as well as special marking for **possessors** and **indirect objects**.

Some languages have many more case distinctions than this; usually many of the case forms express meanings that in languages like English we express using prepositions. Estonian and Finnish are known for having especially many cases (14 in

Estonian and 15 in Finnish): the <u>Wikipedia article on Finnish cases</u> is a good source if you'd like to learn more.

Agreement

Agreement refers to any inflectional morphology that reflects the properties of a different word in a sentence, usually a noun.

The most common type of agreement is **verbs** agreeing with their subject, though verbs in some languages might also agree with their object (or might sometimes agree with their object instead of their subject). Verbs usually agree with nouns for their **number** and **person**.

Determiners, **numerals**, and **adjectives** often agree with the noun they modify, usually for **number**, **case**, and **gender** (assuming a language has some or all of these types of inflection in the first place!).

Tense and Aspect

Tense refers to the contrast between **present** and **past** (or sometimes between future and non-future) and is typically marked on verbs.

Aspect is a bit harder to define, but is usually characterized as the perspective we take on an event: do we describe it as complete, or as ongoing? In English we have progressive (marked with *be + –ing*) and perfect aspect (*have + –ed/-en*).

French has a slightly different contrast in the past tense between the *imparfait* and the *passé composé*—these both locate things in the past, but the *imparfait* describes them as

habitual or ongoing (**imperfective** aspect), while the other describes them as complete (**perfective** aspect).

The Mandarin particle le (了) also expresses perfective aspect, describing an event as complete, and zài (在) expresses progressive aspect, describing an event as in progress. But these are not examples of inflectional morphology, because these particles (=small words) are separate from the verb and do not act as affixes.

Terminology for aspectual distinctions can be confusing. In particular, the English perfect is not quite the same as the French or Mandarin perfective—though just as their names overlap, some of their uses are also similar.

Negation

In English we have derivational negative morphology (as in the prefixes *in-* or *non-*), which negates the meaning of a base or root.

Inflectional negation, by contrast, makes a whole sentence negative. In English we express inflectional negation syntactically, with either the word *not* (or its contracted clitic form *n't*). In other languages, however, negation can be expressed by inflectional affixes.

Other inflectional distinctions

What other types of distinctions can be marked in the verbal inflection of a language? Here we review a non-exhaustive set of inflectional distinctions made in some of the languages of the world.

OBVIATION: Algonquian languages, including Cree and Anishinaabemowin, make a distinction between proximate and obviative third person. You might think of this distinction as something similar to the near/far distinction between *this* and *that* in English, where *this* is used for something that is closer to the speaker and *that* is for something farther away. But, like in English, the proximate/obviative distinction is not just about physical distance; it can also allude to distance in time, or within a conversation, to someone that is the topic of discussion (proximate) versus someone that is a secondary character (obviative). The distinction is marked on the verbal morphology, as illustrated below with examples from Cree:

(3)	*proximate*	*obviative*
a.	Regina wîkiwak.	Regina wîkiyiwa.
	"They live in Regina."	"Their friend/someone else lives in Regina."
a.	kiskinwahamâkosiwak.	kiskinwahamâkosiyiwa.
	"They are in school."	"Their friend/someone else is in school."

CAUSATIVES: A causative is a construction that expresses that an event was caused by an outside actor. In English we have a few constructions that express causativity, using verbs like *make*, *have*, and *get*:

(4) a. English causative with *make*:

The tree fell. → I made the tree fall.

b. English causative with *have*:

The actors exited stage right. → The director had the actors exit stage right.

c. English causative with *get*:

The teacher cancelled the exam. → The students got the teacher to cancel the exam.

When a language has a morphological causative, it expresses these types of meanings by adding a morpheme onto the main verb. For example, in Kinande, a Bantu language spoken in the Democratic Republic of the Congo, the verb *erisóma* means "to read", but *erisómesya* means "to make (someone) read".

This is a type of morphology that changes the argument structure of a verb—the pattern of arguments (subjects, objects, indirect objects) that it combines with. Other types of argument changing morphology are applicative or benefactive (to do something *to* or *for* someone) and passive. We discuss the syntax of argument changing in Section 6.11, which also gives an example of a morphological causative in Japanese.

Causative morphology is often classified as derivational, rather than inflectional, because it changes the meaning of a verb. It's included in this section because it fits into the general

discussion of types of morphology you might encounter in the analysis of other languages.

EVIDENTIALS: Many languages use morphology to indicate a speaker's certainty about what they're saying, or the source of their evidence for what they say. This is called evidential marking.

For example, in Turkish there is a distinction between the "direct past" -di, used to mark things you are certain of or that you directly witnessed, and the "indirect past" -miš, used to mark things you have only indirect evidence for.

(5) a. gel-di

    come-PAST

    "came"

 b. gel-miš

    come-INDIRECT.PAST

    "came, evidently"

In English we don't have any grammatical marking of evidentiality. We can still express our evidence or certainty, but we do this with the lexical meanings of nouns, verbs, adjectives, and adverbs. For example, "I saw that…" would express that the source of your evidence is something you saw; "Apparently" would express that you aren't 100% certain, etc.

MODALITY: Many languages express the possibility or necessity of something happening via morphology on the

main verb. This is called modality. Examples of this include categories like the *conditionnel* or the *futur* in French.

GENDER: In English we mark gender on third person pronouns, and we also have some words that have derivational gender suffixes (like –*ess* on *actress* or *waitress*).

By contrast, gender in a language like French is best treated as inflectional: not only do all nouns have a semantically arbitrary gender, determiners and adjectives (and sometimes verbs) show agreement with the grammatical gender of the noun they're associated with to. For example, the noun *chat* "cat" in French is masculine (abbreviated M), and so it appears with a masculine determiner and adjective; the noun *abeille* "bee" is feminine (abbreviated F), so it appears with a feminine determiner and adjective. This is independent of the actual sex of a cat or bee.

(6) a. le   petit   chat
         the.M   small.M   cat(M)
         "the small cat"

     b. la   petite   abeille
         the.F   small.F   bee(F)
         "the small bee"

Many European languages have this type of gender system, which divides nouns into masculine, feminine, and sometimes neuter. It's also found elsewhere in the world: for example,

Kanien'kéha (Mohawk), spoken by about 3,500 people in Ontario, Quebec, and New York, has a gender system that includes masculine, feminine/indefinite, and feminine/neuter.

Other languages of the world have different noun class or noun classification systems, which also divide nouns into somewhat arbitrary classes, but categories that don't match the gender categories used for humans.

For example, the languages in the Bantu family of languages (a subgroup of the Niger-Congo language family spoken across the southern half of Africa, and which includes Kinande, Zulu, and Swahili, among many others) put all humans into one class, but have somewhere between 4 and 10 classes in total, which (just like gender in French) can be reflected by agreement on other words in a sentence.

Algonquian languages, including Cree and Anishinaabemowin, divide nouns into animate and inanimate. Animate nouns are usually those that are alive, whether animals or plants, or spiritually important things like asemaa (tobacco). Inanimate nouns usually refer to physical objects that aren't alive. Sometimes the same noun can be animate or inanimate with slightly different meanings: for example mitig means "tree" when it's animate but "stick" when it's inanimate. There are other nouns that are less predictable: for example, miskomin "raspberry" is animate, but ode'imin "strawberry" is inanimate.

Adapted from:

Anderson, C., Bjorkman, B., Denis, D., Doner, J., Grant, M., Sanders, N. & Taniguchi, A. (2022). *Essentials of Linguistics*. Pressbooks. https://ecampusontario.pressbooks.pub/essentialsoflinguistics2/

21.

COMPOUNDING

Compounds: Putting roots together

The last main "type" of morphology is **compounding**. Compounds are words built from more than one root (though they can also be built from derived words): if you find a word that contains more than one root in it, you are definitely dealing with a compound. Compounding differs from both derivation and inflection in that it doesn't involve combinations of roots and affixes, but instead roots with roots.

English is a language that builds compounds very freely—this is like other languages in the Germanic language family, like German and Dutch. For almost any two categories, you can find examples of compounds in English.

- **Noun-Noun** compounds include:
  - doghouse
  - website
  - basketball
  - sunflower
  - moonlight

- ◦ beekeeper
- ◦ heartburn
- ◦ spaceship
- **Adjective-Noun** compounds include:
  - ◦ greenhouse
  - ◦ bluebird
- **Verb-Noun** compounds include:
  - ◦ breakwater
  - ◦ baby-sit
- **Noun-Adjective** compounds include:
  - ◦ trustworthy
  - ◦ watertight
- **Adjective-Adjective** compounds include:
  - ◦ purebred
  - ◦ kind-hearted
  - ◦ blue-green
- **Noun-Verb** compounds include:
  - ◦ browbeat
  - ◦ manhandle
  - ◦ sidestep
- **Adjective-Verb** compounds include:
  - ◦ blacklist

Compounds and Spelling

In English we don't spell compounds in a consistent way. Some compounds—typically older ones—are spelled without

a space, while others are spelled with a hyphen, and many new compounds are spelled with spaces, as though they are separate words.

We can tell that some sequences of "words" are compounds, though, in a few different ways. First of all, there is a difference in pronunciation. Compounds are always stressed (given emphasis) on their first member, while phrases (sequence of words) get stress on their last member.

So the compounds:

- bláckboard
- gréenhouse
- blúebird

Are pronounced differently than the corresponding phrases with adjectives followed by nouns:

- black bóard
- green hóuse
- blue bírd

Another difference is in the interpretation: a blackboard need not be black, and a greenhouse usually isn't green (though you grow green things in it).

Finally, there's a *syntactic* difference. There's no way to string nouns together in English syntax, without connecting them with prepositions or verbs. So any time you see a string

of "words" in English that all look like nouns, you have to be dealing with a compound.

English really likes building very long compounds out of nouns, though this is something many English users associate with German. In German, unlike in English, compounds are always spelled without spaces. So you get words like:

---

(1)   Donaudampfschiffahrtsgesellschaftskapitän

        Donau-dampf-schiffahrts-gesellschafts-kapitän

        "Danube steam shipping company captain"

The second row in (1) inserts the hyphens in this German compound so that you can see the roots more clearly—but if you look at the English translation, it actually tracks all the same nouns in the German example. English writing has just adopted the convention of writing long or novel compounds with spaces. Structurally, English compounds work just like their German counterparts.

Compounds and Headedness

If compounds have more than one root in them, which root determines the category of the word?

Most compounds—especially new compounds you might invent on the spot—have a **head**. The head of a compound determines its interpretation (a sunflower is a type of flower, a bluebird is a type of bird, etc.) as well as its category.

In English, the head of a compound is always on its right: English is a **right-headed** compound language.

Compounds that have a head are called **endocentric**. This is the same *endo–* morpheme you find in *endo-skeleton*. An animal (like a human) with a skeleton inside of it is endoskeletal, and a compound with a head inside of it is endocentric.

What about the compound equivalent of *exo-skeletal*, animals that have a carapace instead of a skeleton (like insects or crabs)? Compounds that are **exocentric** don't have a head inside of them—they don't describe either of their members.

Some exocentric compounds don't have an interpretive head, but still have what we might call a category head, in that the root on the right matches the category of the whole compound. For example, *redhead* ("person with red hair") is often listed as an exocentric compound, because it does not describe a type of head. Similarly *sabretooth* is exocentric because it doesn't describe a type of tooth. But both of these are noun-noun compounds that are themselves nouns, so their right-hand member is almost a head. A *spoilsport* ("person who spoils other people's fun") is not a type of sport, but it is still a noun.

But other exocentric compounds don't even have a head in this sense. For example, *outcome* looks like a compound of a preposition and a verb, but is a noun. *Dust-up* is a compound of a noun and a preposition, but is a noun. *Tell-all* is a compound of a verb and a determiner (all), but is an adjective.

Finally, there is a special kind of compound usually called **dvandva** compounds. This term comes from Sanskrit, where *dvandva* means "pair". Dvandva compounds can be thought of as "co-headed"—they can be paraphrased with an "and" between the two members. Many dvandva compounds in English involve two roots that only occur in the compound, and that mirror each other's sounds. These are sometimes called reduplicatives.

- zigzag
- helter skelter
- flip flop
- riff raff
- hocus pocus

But we also have some other dvandva compounds:

- bittersweet
- secretary-treasurer
- parent-child (as in "a parent-child bond")
- blue-green (and many other terms for intermediate colours)

Overall, dvandva compounds are less common than other types of compounds in English.

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PART V
MODULE 5: GRAMMAR

What kind of knowledge do we have about the syntax of language? Let's start by considering the sentence in (1):

(1)   All grypnos are tichek.

You might not know what a *grypno* is, or what it means to be *tichek* (because these are made-up words!), but you can tell that this sentence is still the right kind of "shape" for English. In other words, (1) is consistent with the way English speakers put words together into sentences.

Compare this with the sentence in (2):

(2)   *Grypnos tichek all are.

Unlike (1), (2) isn't the right shape for a sentence in English. Even if you did know what a *grypno* was, or what it meant to be *tichek*, this still wouldn't be the way to put those words together into a sentence in English.

Something we can be pretty confident about is that you've never heard or read either of these sentences before

encountering them in this chapter. In fact, most of the sentences you encounter in this textbook are likely to be ones you haven't heard or read in exactly that order before. So that means that your internal grammar of English must be able to generalize to new cases—this is the **generativity** of language.

As someone who uses language—in the case of (1) and (2), as someone who speaks and reads English—you can identify sentences that do or do not fit the patterns required by your internal grammar. In syntax we describe sentences that do match those patterns as **grammatical** for a given language user, and sentences that do not match required patterns as **ungrammatical**.

Grammaticality judgements in syntax

In syntax when we say something is **ungrammatical** we don't mean that it's "bad grammar" in the sense that it doesn't follow the type of grammatical rules you might have learned in school. Instead, we call things ungrammatical when they are inconsistent with the grammatical system of language user.

The evaluation of a sentence by a language user is called a **grammaticality judgement**. Grammaticality judgements as a tool for investigating the linguistic system of an individual language user—there is no way to get a grammaticality judgement for "English" as a whole, for example, only grammaticality judgements from individual English speakers. Sometimes you will see a sentence described as grammatical or

ungrammatical "in English" or another language; technically this is a shorthand for saying that users of the language generally agree about whether it is grammatical or not. In many cases different users of a language disagree about the status of a particular example, and this tells us something about **syntactic variation** in that language!

We are often most interested in examples that are **un**grammatical, because they tell us about the limits on building sentences in a language. The convention in linguistics is to mark ungrammatical examples with an **asterisk** (*) at the beginning of the sentence, sometimes called a **star** (slightly easier to say). Whenever you see that symbol in front of an example in this chapter, it indicates that the example is ungrammatical in the linguistic sense.

Sometimes we want to indicate that a sentences is weird because of its meaning, rather than its syntax. In these cases we use a hashtag symbol (#) instead of a star.

For example, consider an example like (3):

---

(3)   #The book pedalled the bicycle harmoniously.

This sentence is the right *shape* for English, it just doesn't make any sense. So we would say that it's grammatical but semantically odd, and that's what the hashtag symbol indicates.

Most of the sentences we will consider in this chapter are ones that many English speakers (but not all) share similar

judgements about. If you disagree with any of the judgements reported here, you can take the opportunity to think about what that tells you about your own grammar, and whether the difference could be explained using the tools we develop here, or if it shows that we would need to revise our theory of syntax in other ways!

The goals of syntactic theory

Our goal in syntax is to develop a theory that does two things:

1. predicts which sentences are grammatical and which ones are ungrammatical, and
2. explains observed properties of grammatical sentences.

But we also want to build a theory that can be used to explain not just properties of English, but properties of *all* human languages. In much of this chapter we'll focus on the syntax of varieties of English, because that's a language that's common to everyone who reads this textbook, but we will often have opportunities to see how other languages show us the scope of variation for syntax in human languages.

What kind of theory do we need to make these kinds of predictions? If languages were **finite** we could simply list all the good sentences and be done. But any language user can generate sentences that no one has ever encountered before, and other people can understand those sentences, so what we "know" when we know the syntax of a language must be more

than just a list of grammatical sentences. In the next section of this module, we'll see that what we know about syntax can't be just about the order of words, it has to be something about their grouping (**constituency**) as well.

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22.

WORD ORDER

A starting point: basic word order

If you think about hearing or seeing a sentence, or if you think about reading a sentence that's been written down, a really obvious property is that words and morphemes come in a particular order. Indeed, the only difference between the grammatical and ungrammatical sentences we saw in the previous chapter repeated below in (1), is that the words appear in different orders.

(1) a. All grypnos are tichek.

     b. *Grypnos tichek all are.

Fixed vs. flexible word order

   The relevance of word order for grammaticality is particularly strong for a language like English, which has relatively **fixed word order**. There isn't much flexibility in English to change the order of words in a sentence, without either changing the meaning or making the sentence ungrammatical. Many other languages also have relatively fixed

word order, including French, Chatino, and Choktaw, but lots of other languages have much more flexible word order. In Latin, Anishinaabemowin, Kanien'kéha, and ASL, to name just a few, word order is relatively flexible, and determined by stylistic factors or by the topic or focus of the sentence.

What is the basic order of words in English sentences? Based on the grammatical sentences in (2) and the ungrammatical ones in (3), see if you can come up with any generalizations about where the **verb** appears in English.

(2) a. Amal ate chocolate.

 b. Beavers build dams.

 c. Cats chase mice.

 d. Daffodils bloom.

 e. Eagles fly.

(3) a. *Amal chocolate ate.

 b. *Build beavers dams.

 c. *Chase mice cats.

 d. *Bloom daffodils.

 e. *Fly eagles.

These sentences are all **statements**,

not **questions** or **commands**: they state a fact about the world, something that could be *true* or *false*. Looking at (3b-e), and comparing them with the grammatical sentences in (2), we can make the generalization that the verb cannot be the *first* word in an English statement.

What about (3a)? In (3a) the verb isn't the first word, but the sentence is still ungrammatical. We might try to explain that by saying that the verb also can't be the *last* word in a statement—except that the verb does come last in (2d) and (2e), which are both grammatical. So a more accurate generalization would be to say that the verb in an English sentence has to come after at least one **noun**, and that it *can* be followed by a second noun, but doesn't have to be.

We could write this generalization as a kind of formula or template: the grammatical sentences in (2) have the order **N V (N)** (the parentheses around the second "N" mean that it is optional).

Another way to describe word order involves talking not just about categories like nouns and verbs, but grammatical functions like **subject** and **object**. Word order in English doesn't just require that *any* noun come before the verb, it must be the noun that corresponds to the subject. Similarly, if the verb is a **transitive** verb with an object, the object noun must come after the verb. This is why *Chocolate ate Amal.* is a grammatical sentence of English (though with a somewhat implausible meaning), but cannot express the same meaning as (1a) (*Amal ate chocolate*).

If you aren't sure about terms like "subject", "object", and "transitive", read the rest of this section and then come back and re-read the last paragraph. If you feel you are comfortable with those terms, it's still a good idea to review the definitions given here, to make sure that you understand the terms in the same way they're used in this textbook.

Key grammatical terminology

This section reviews some key grammatical terminology that you might be familiar with from elsewhere (often from language classes). This vocabulary is important for describing the basic structure of phrases and sentences, and we'll use it frequently throughout this chapter.

Sentence

A string of words that expresses a complete **proposition**. For statements (as opposed to questions or commands), a proposition is something that can be *true* or *false*. A sentence is a **clause** that stands on its own as an utterance.

Clause

A clause is a combination of one subject and one predicate. Some clauses occur *inside* other clauses, though (see **complex sentence** below), and so not all clauses are independent sentences.

Predicate

A predicate is the state, event, or activity that the sentence attributes to its **subject**.

The word "predicate" is used in two ways. Sometimes it is used to refer to a single head or word (usually a verb or an adjective), but other times its used to describe everything in the sentence other than the subject (for example, a whole **verb phrase**). In this chapter we use it in the first sense, to refer to a word that combines with a subject and (sometimes) one or more objects.

Arguments

Arguments are phrases that correspond to the participants or actors involved in a sentence's predicate. They are typically **noun phrases**, but it's possible to have arguments of other types (usually prepositional phrases or whole clauses).

In the following sentences the arguments are in **bold** and the predicate is *italicized*.

---

(3) a. **Vanja** *loves* **chocolate**.

  b. **The children** *gave* [**the kitten**] [**a toy**].

  c. **Everyone** is *excited*.

CLASSIFYING PREDICATES

Predicates can be classified by their **transitivity**, which is the *number* of arguments they take. (This is also sometimes called the **valency** of a predicate.) The words for transitivity are based on the *number of objects* a predicate takes.

Intransitive

An intransitive predicate takes one argument (the subject); no object.

Transitive

A transitive predicate takes two arguments (subject and direct object); one object.

Ditransitive

A ditransitive predicate takes three arguments (subject, direct object, and indirect object); two objects.

CLASSIFYING ARGUMENTS

Arguments can be classified in at least two ways: their position in the sentence, and how they're related to the predicate (are they the actor, the thing acted upon, etc). For now we'll focus on the **position** of arguments, with diagnostics specific to English.

Subject

Subjects almost always appear *before* the predicate in English, and control agreement on the verb. If the subject is a pronoun, it is in nominative case (*I*, *we*, *you*, *he*, *she*, *it*, *they*)

Direct object

Objects usually appear *after* the verb in English. If the direct object is a pronoun, it is in accusative case (*me*, *us*, *you*, *him*, *her*, *it*, *them*)

Indirect object:

With ditransitive verbs, the indirect object is often the recipient of the direct object. The indirect object is often (not

always) marked by "to" (or another preposition); if it is a pronoun, it is in accusative case (but in languages that have dative case, often in dative case)

CLASSIFYING SENTENCES

Now that we've looked at grammatical terminology relating to predicates and arguments within sentences, let's talk about terminology for sentences and clauses as a whole. First, we can classify them according to their **function**—whether they are used to make a statement, ask a question, or give a command.

Declarative

Declarative clauses are statements, things that can be true or false.

Interrogatives

Interrogative clauses are questions. Questions come in two general types:

- Yes-No questions, like: *Did Romil watch a movie?* and
- Content questions, like: *What did Romil watch?*

Imperatives:

Imperative clauses express requests or commands. For example: *Open the door (please)!*

Alternatively, we can classify sentences according to their **structure**; that is, according to whether they contain one

clause or more than one clause, and (if more than one clause) how the sub-clauses are related to one other.

Simple sentence

A sentence is **simple** if it contains only one clause. All the sentences we have seen so far have been simple sentences.

Compound sentence

A **compound** sentence has at least two clauses, linked by a conjunction (*and*, *or*, or *but*). For example: *[Danai laughed] and [Seo-yeon cried].*

Complex sentence

A **complex** sentence is one that contains a subordinate embedded clause—a clause inside a clause. This is an example of recursion! For example: *Seo-yeon knows [that Danai laughed]* .

Variation across languages: order of Subject, Object, and Verb

Having reviewed terminology relating to predicates and their arguments, we're now in a better position to talk about variation across languages in terms of basic word order—the order found in simple declarative clauses, in the absence of any special emphasis or topic.

English is **Subject-Verb-Object** (SVO). This is one of the most common word orders in the world's languages, found in about 35.5% of languages (Dryer, 2013). Other languages with this basic word order include most of the Romance languages, ASL, both Mandarin and Cantonese, and Nahuatl. (This word order is usually referred to as "SVO" even though not all

clauses have objects; in a sentence without an object, the order would just be SV.)

The most common basic word order is Subject-Object-Verb (41% of languages, according to Dryer 2013); for example, Japanese and Korean are both SOV languages, as is Haida.

Even though SVO and SOV are very common orders, all the other logically possible orders for subjects, objects, and verbs are also attested in the world's languages.

Basic Verb-Subject-Object order is found, for example, in Irish and the other Celtic languages, as well as in Anishinaabemowin. Orders where the object comes before the subject (VOS, OVS, OSV) are less common, but nonetheless found in a few languages.

As we noted before, even though most languages have a basic word order (the order found in neutral declarative sentences), in many languages this order is much more flexible than it is in English.

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23.

STRUCTURE WITHIN THE SENTENCE

From words to phrases

Beyond the order of words, all human languages appear to group words together into **constituents**. The generalizations about which sentences people find grammatical and which ones they find ungrammatical don't refer to purely linear properties like "fourth word in a sentence", but instead to **phrases** in particular **structural positions**. In the rest of this section we'll explore what it means to be a phrase in more detail; in the next section we'll start talking about structural positions.

A **phrase** is a set of words that act together as a unit. Let's look at the example in (1) to see what this means:

(1)   All kittens are very cute.

What other groups of words can appear in the same position as the words **all kittens** in this sentence?

(2) a. **Puppies** are very cute.

b. **The ducklings that I saw earlier** are very cute.

c. **These videos of a baby panda sneezing** are very cute.

...and so on. It turns out that lots of different groups of words can go in this position—but not all of them! What all these examples have in common is that we've replaced [all kittens] with another group of words that includes at least one **plural noun**: *puppies* or *ducklings* or *videos*. If we swap in a singular noun, the sentences would be ungrammatical, as we see in (3).

(3) a. *****The puppy** are very cute.

b. *****The duckling that I saw earlier** are very cute.

c. *****This video of a baby panda sneezing** are very cute.

...but if we change the plural verb *are* to the singular *is* they become good again (this is **subject agreement** inflection):

(4) a. **The puppy** is very cute.

b. **The duckling that I saw earlier** is very cute.

c. **This video of a baby panda sneezing** is very cute.

It turns out that the groups of words that we can easily substitute here are all ones that have a **noun** in them. But it's not enough to just have *some* noun in the group of words at the front of the sentence, as the examples in (5) show. (5a)

is ungrammatical even though the string of words at the beginning includes the pronoun *I*—and this sentence is ungrammatical whether we try the form *is* or *are* or even *am*. In (5b) the sentence is ungrammatical even though we have the compound noun *baby panda*, again no matter what form of the verb we try.

---

(5) a. ***That I saw earlier** {is / are / am} very cute.

     b. ***Of a baby panda** {is / are} very cute.

What distinguishes the grammatical sentences in (1), (2), and (4) from the ungrammatical sentences in (5) is that in (1), (2), and (4) the group of words at the beginning of these sentence are **noun phrases** (remember that the sentences in (3) were ungrammatical just because they had the wrong agreement inflection). Noun phrases are groups of words that not only contain a noun, but where the noun is the "most important" element in some sense.

By "most important" we mean that it's the noun that determines an important part of the meaning of the subject, but also that it's this noun that determines the category of the whole phrase, which determines where the phrase can go in relation to other phrases. The noun is the **head** of the phrase, the same kind of **headedness** we saw in the section on compounds, but applied to words in a phrase instead of to morphemes in a word.

The head of a phrase also determines what else can go in the

phrase; in particular it determines whether the phrase contains an **object**—though for heads that aren't verbs, we usually use the more general term **complement**. Recall from the discussion of grammatical terminology that we classify verbs by their **transitivity**—that is, by how many objects they take. Each verb has an opinion about whether and how many objects it allows. By contrast, there's no verb that cares whether it's modified by an adverb (and also no verb that cares whether it has a subject or not, because all clauses in English require subjects). The technical term for this is **selection**: heads **select** their complements, both whether a complement is required or allowed, and what the complement's category has to be.

Headedness is important to the grammar of **all** languages, not just English. The right kinds of generalizations in syntax are never about single words like nouns or verbs, but instead about phrases like noun phrases or verb phrases.

Importantly, phrases can contain other phrases *of the same type* inside of them. So for example, the noun phrase [*these videos of a baby panda*] contains a second noun phrase inside it, [*a baby panda*].

The ability of a structure to contain another structure of the same type inside itself is called **recursion**. This is another key property of natural language grammars—even though there is some debate among linguists about whether all human languages exhibit recursion, everyone agrees that many or most languages do, and that one of the things we need to explain

about our human language capacity is that all humans can acquire a language with recursion.

Variation across languages: Word order within phrases

As we've already seen, languages vary in their word order, but this variation isn't random—it isn't the case that anything goes in word order.

This isn't just true for the order of major constituents in a sentence (subjects, objects and verbs), but also for the order of elements inside phrases; in particular, the order of heads and what they select (their object or complement).

In English it is always the case that heads *precede* their complements. This is true of verbs and their objects, prepositions and their noun phrase complements, and nouns and their prepositional phrase complements.

---

(6) a. I [VP ate(V) [NP an apple].

b. [PP to(P) [NP Toronto]

c. [NP picture(N) [PP of a robot]

In contrast to English, Japanese is an **SOV** language. And in Japanese, heads always *follow* their complements. In other words, heads in Japanese don't appear in the middle of their phrases like in English, but instead always at the *end* of their phrases.

(7) a. Watasi-wa [VP [NP *ringo-o*] **tabe-ta**.]

I-TOPIC apple-ACC eat-PAST

"I ate (an) apple."

b. [PP [NP *Tokyo*] **e**]

Tokyo to

"to Tokyo"

c. [NP [PP *robotto* *no*] **shasin**]

robot of picture

"picture of (a) robot"

This is the *reverse* of the order we get in English.

Technically words like *e* ("to") in Japanese would be **postpositions** instead of **prepositions**, and sometimes the more general term **adpositions** is used for both languages like English and languages like Japanese. These terms are parallel to **suffix**, **prefix**, and **affix** in morphology.

The ability of **heads** to either precede or follow their complements is called **head directionality**. A language can be **head initial** like English, or **head-final** like Japanese. If you're analyzing an unfamiliar language, and need to figure out its word order, one of the first questions you should ask is whether it appears to be head initial or head final.

In later sections of this chapter we'll see other ways to derive

differences in word order, involving differences in the **movement** (or *transformations*) available in a language's grammar.

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24.

FUNCTIONAL CATEGORIES

From lexical categories to functional categories

Previously in the Morphology module, we reviewed the **lexical categories** of nouns, verbs, adjectives, and adverbs. As we've started looking at phrases and sentences, however, you may have noticed that not all words in a sentence belong to one of these categories. Consider the sentence in (1).

(1)   The spaceship will arrive in orbit very soon.

Spaceship is a noun, and it is the head of the noun phrase [*the spaceship*] (we can tell because it could be replaced by a pronoun like *it*). But what category is *the*? Similarly, in this sentence *arrive* is a verb, *orbit* is a noun, and *soon* is an adverb, but what categories do *will*, *in*, and *very* belong to?

Words like *the*, *will*, *in*, and *very* belong to **functional** categories, which can be thought of as the grammatical glue that holds syntax together. While lexical

categories mostly describe non-linguistic things, states, or events, functional categories often have purely grammatical meanings or uses.

Some of the most important functional categories that we'll use in this chapter are described in this section. In some later sections other functional categories will be introduced—as we develop a syntactic theory, a lot of the action comes in identifying new grammatical functions, and figuring out how they map onto structure.

Determiner

You may be familiar with the **definite article** *the* and **indefinite article** *a(n)*, as in *the book* or *a cat*.

(2) a. the book

b. a cat

In English, these occur in noun phrases before the head noun, as well as before any numbers or adjectives, as we see in the examples in (3):

(3) a. the three red books

b. a large angry cat

In fact, determiners are usually the very **first** thing in a noun phrase, and you can only have one of them (unlike adjectives,

which you can pile up). If you try to have more than one, the result is ungrammatical, as we can see in (4)—for me it's not grammatical to say *a the book* or *the a cat*.

(4) a.   *a the book

b.   *the a cat

This distribution doesn't apply only to *the* and *a(n),* though. There are a bunch of other elements that occur in exactly the same places, with exactly the same restrictions. These other things aren't articles in traditional grammar, so we use the label **determiners** for this larger functional category.

Some other determiners:

- Demonstratives (*this, that, these, those*)
- Some **quantifiers** (*every, some, each, most,* etc.)

Test for yourself that these occur in the same places in noun phrases as *the* and *a(n)* do—and that some other words expressing quantities (like *all* and *many*) and numbers do not.

Possessors in English expressed by possessive pronouns or by noun phrases marked with *'s* also appear in the same position as determiners, and are also in complementary distribution with them, as shown in (5).

(5) a.   **my** book

 b.   **[a friend from school]'s** cat

 c.   *the [a friend from school]'s cat

 d.   *[a friend from school]'s the book

Notice that the marker *'s* attaches to the whole phrase, rather than to the head noun *friend*; this makes it a **clitic** rather than an affix, and makes it different from possessor marking typically found in languages with genitive case.

Possession in English can also be marked with a prepositional phrase, which would come after the noun and not be in complementary distribution with determiners: *the cat [of my friend from school]*.

Not all languages have definite and indefinite articles, but most languages have some kind of determiners. If you know a language other than English, try to figure out whether there's a class a words that occur outside adjectives and numbers that might be determiners—these could come first, as in English, but might instead come after the head noun, especially if other things in the noun phrase also come after the noun.

Pronouns

Pronouns are a special functional category that can replace a whole noun phrase. The set of pronouns in the variety of English most Americans speak is limited to the following,

where each row lists the nominative, accusative, and possessive forms of the pronoun:

- First person singular: I / me / my
- First person plural: we / us / our
- Second person: you / you / your
- Third person singular inanimate: it / it / its
- Third person singular feminine: she / her / her
- Third person singular masculine: he / him / his
- Third person animate singular / general plural: they / them / their

Many English speakers have a dedicated second person plural like *y'all* or *yous*; for some English speakers, *you guys* may also have the distribution of a second person plural pronoun, though for other people this might be an ordinary noun phrase. Across different varieties of English, many people have different case forms for some of the pronouns listed above as well.

Try taking a moment to figure out what pronouns exist in your English grammar: do you use a distinct second person plural like *y'all*? Would you use a different form for any of the pronouns listed above?

Most languages have pronouns, but in some languages pronouns aren't used as often as they are in English; when using those languages, people may usually leave noun phrases out entirely, rather than replace them with pronouns.

While pronouns are a functional category, in this textbook we will treat them as still belonging to the same category as nouns (abbreviated N).

Auxiliaries

Auxiliaries are like verbs in that they can be present or past tense, and can show agreement, but they always occur alongside a lexical main verb. For this reason they're sometimes called "helping verbs".

For example, in the **progressive** in English we see the auxiliary *be*, alongside a main verb that ends in the inflectional suffix *-ing*:

(6)   The bears **are** *dancing*.

In English declarative sentences, auxiliaries occur after the subject and before the main verb.

If an English sentence is negative, at least one auxiliary will occur to the left of negative *not /n't*:

(7)   The bears **aren't** dancing.

In a Yes-No questions in English, at least one auxiliary appears at the front of the sentence, before the subject:

(8)   **Are** the bears dancing.

The auxiliaries in English are:

- *have* (followed by a past participle, in the perfect)
- *be* (followed by a past participle in the passive, and a present participle in the progressive)
- *do* (used in questions and negation when there's no other auxiliary)

Importantly, these can all also be used as main lexical verbs! They're auxiliaries only when there's also another verb in the clause that's acting as the lexical verb. If *have* expresses possession, or *be* is followed by a noun or adjective instead of a verb, these are main verb uses.

In English there is also a class of **modal** auxiliaries. These only occur as auxiliaries in modern English, and are different from the other auxiliaries in that they don't agree with the subject. The modal auxiliaries are:

- will
- would
- can
- could
- may
- might
- shall (archaic for many people)
- should
- must

Sometimes lists of modals include *ought* (as in *You ought not do that.*)*need* (as in *You need not go*) and *dare* (as in *I dare not try*), but these aren't used as modals very frequently by most English speakers today.

You can test for yourself that these have the same distribution with respect to subjects, negation, and in questions as the auxiliaries *be*, *have*, and *do*.

Prepositions

Prepositions express locations or grammatical relations. They are almost always followed by noun phrases (though a few prepositions can occur by themselves)—in other words, they are almost always **transitive** and **select a noun phrase complement**. Prepositions can sometimes be modified by words like *very* or *way*. Those modifiers, the preposition, and the following noun phrase, all group together into a **prepositional phrase** constituent.

Some prepositions:

- on
- up
- beside
- through
- outside
- in
- above

- to
- of
- with
- for
- without

Outside is an example of a preposition that can occur without a following noun phrase, in a sentence like *They're playing **outside***.

Other functional categories

A few other functional categories that you will encounter in this chapter are **degree** words like *very* and *way*, which always modify adjectives or adverbs; **numbers**, which occur between determiners and adjectives, and which as a syntactic category also include words like *many* and *few*; and **conjunctions**, which include only *and*, *or*, and *but*, and connect two phrases of the same category.

Functional categories as "closed class"

Even though there are lots of different functional categories, they're different from lexical categories in that it's much harder to add new words to an existing functional category than it is to come up with new lexical items. So I can coin new nouns

(like *grypno*) and new adjectives (like *tichek*) very easily, but it's more difficult to add, say, a brand-new determiner or auxiliary to a language.

Even though it's harder, though, it's definitely not impossible! Consider the functional category of pronouns. There are lots of new pronouns that people have proposed as nonbinary pronouns. These **neopronouns** are sometimes harder to get the hang of than new lexical nouns are (which is one of the signs that pronouns are more of a closed class than nouns are) but it's very possible to become a fluent user of a new pronoun with a bit of practice.

Prepositions: lexical or functional?

Prepositions are sometimes treated as a lexical category instead of as a functional category. For one thing, you might have noticed that prepositions can occur in compounds, which is something more typical of roots that belong to lexical categories. On the other hand, prepositions form a more closed class than nouns, verbs, adjectives, or adverbs, and they are often used to express purely grammatical information. In this course, we will continue to treat prepositions as functional elements—though the distinction between functional and lexical elements won't be relevant very often.

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PART VI
MODULE 6: PRAGMATICS

In this module, we look at sentential meaning from the perspective of how it is influenced by and how it influences the context. The study of how context affects meaning is called **pragmatics**. In the first half of this chapter, we will look at the conversational logic of how implicatures arise. We will look at the foundational work of philosopher Paul Grice — the Cooperative Principle — and evaluate it as a theory. We will look at the basic principles of conversational logic, and examine what differences various languages and cultures exhibit in terms of conversational rules.

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25.

AT-ISSUE VS. NON-AT-ISSUE MEANING

Let's revisit the issue of what we mean by *meaning* from Chapter 7 (Semantics). In Chapter 7, we learned how (3) concerns linguistic meaning, while (1) and (2) do not.

(1)   In Japanese culture, what does it **mean** when a tea stalk floats vertically in y

	takai	mishin-o	katte-mo	tsukaikata-ga	wakarana
	expensive	sewing.maching-ACC	buy-even.if	how.to.use-NOM	understar
(2)	'There is no point in buying an expensive sewing machine if you don't know how to use it' (Japanese)				

(3)   *Ode'imin* and *strawberry* **mean** the same thing.

We learned that the notion of *meaning* in (3) can be thought of in one of two ways: the sense of the word, or the denotation of the word. So when we say that *ode'imin* in Ojibwe and *strawberry* in English "mean the same thing", that can be interpreted as (i) '*ode'imin* and *strawberry* have the same sense; Ojibwe speakers and English speakers have the same lexical semantics for the term in their heads' or (ii) '*ode'imin* and *strawberry* have the same denotation; these words both point to the same fruit in the actual world'. We found that thinking about meaning in terms of their sense was very useful for thinking about the lexical meaning of words,

and thinking about meaning in terms of their denotation was helpful for analysing how a lot of quantificational meaning works, like when we say **Three** *strawberries are red* or **Every** *strawberry is red*.

Recall the other use of *meaning* that we introduced in Chapter 7:

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(4)   I said coffee is just as tasty as tea, but I didn't **mean** it.

We mentioned briefly in Chapter 7 how *meaning* in this sentence is used to express something about the speaker's sincerity. This use of *meaning* is not about the sense of the words or the sentence, considering *Coffee is just as tasty as tea* still has sense, even if the speaker wasn't sincere about it. So this is not the same kind of "meaning" as the one mentioned in (3) — but it's still related to language. This type of meaning concerns what you are doing in a conversation when you produce an utterance. This person is referring to some sort of commitment that they made during the discourse when they said "coffee is just as tasty as tea", and now they wish to retract it. In this chapter, we will discuss what exactly is happening when you have a conversation with someone.

Here is another sort of *meaning* we will explore in this chapter. Consider (5).

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(5)   What do you **mean**, Mounissa bought 10lbs of strawberries?

Here, it's not very likely that the speaker is asking about the literal meaning of this sentence when they say, "What do you mean?" — the compositional sense of the sentence is pretty clear: an individual named Mounissa exchanged some amount of money for strawberries, and these strawberries weighed 10lbs total. Instead, a natural understanding of what is meant by *meaning* here is about the **implicature** the sentence carries. Recall from Chapter 7 that an **implicature** is a non-entailment that is suggested by a sentence, based on the context. So in (5), if you know that Mounissa loves jam, *Mounissa bought 10lbs of strawberries* might imply that Mounissa is making strawberry jam — lots of it. Importantly, an implicature is not an entailment, so the implicature of any particular sentence can change depending on the context. So in another world, maybe Mounissa isn't making strawberry jam; maybe she's making a bunch of strawberry lemonade at a farmer's market. In this chapter, we will continue to explore what implicatures are, and how they arise in a conversation.

In this textbook, we will call the "literal", "surface" meaning of a sentence the **at-issue** meaning of the sentence. The main, literal meaning of the sentence is the at-issue meaning, because that's the main "issue" being discussed. "Issue" here just means 'topic of discussion', and not something negative like 'problem'. In Chapter 7, we largely discussed at-issue meaning.

The meaning that is not a part of the "surface" meaning of the sentence can be called the **non-at-issue** meaning of the sentence. So implicatures are a type of non-at-issue meaning.

In declarative sentences, a good diagnostic for the at-issueness of a piece of meaning is to negate the sentence using "it is not the case that...". Let's see what happens to the various meanings produced by the sentence in (6) when you negate it in (7).

---

(6) (Context: Mounissa is at the market, looking for ingredients to make jam with.)

Mounissa will buy the discounted strawberries.

a. **At-issue meaning:** 'Mounissa will buy the discounted strawberries.'

b. **Non-at-issue meaning (possible implicature):** 'Mounissa likes strawberries.'

c. **Non-at-issue meaning (presupposition):** 'There are discounted strawberries.'

---

(7) It is not the case that Mounissa will buy the discounted strawberries.

a. **No longer means:** 'Mounissa will buy the discounted strawberries'

b. **Still can mean:** 'Mounissa likes strawberries.'

c. **Still can (and must) mean:** 'There are discounted strawberries.'

Sentential negation ("it is not the case that...") targets the at-issue meaning. The negated sentence in (7) can no longer mean

'Mounissa will buy the discounted strawberries'. In fact, it means the exact opposite: the event in which Mounissa buys the discounted strawberries will *not* take place. The at-issue meaning that was present in (6) necessarily gets canceled in (7).

The negation does not necessarily cancel the implicature, however: It's possible for Mounissa to not buy discounted strawberries *and* simultaneously like strawberries still. Non-at-issue meaning cannot be the target of sentential negation. It's certainly possible that Mounissa does *not* like strawberries in (7), but what matters is that the implicature we got from the positive sentence in (6) *can* still be true in (7).

Given the above diagnostic, we can conclude that **presuppositions** are non-at-issue, too. Recall from Chapter 7 that presuppositions are what's assumed to be true already when a sentence is uttered. In (6), the definite determiner *the* triggers the presupposition that discounted strawberries exist. Sentential negation cannot negate presuppositions. In fact, (7), which is the negated version of (6), still *necessarily* assumes that there are discounted strawberries. That is, even if you negate the original sentence, the presupposition of that sentence "survives". When you negate a sentence, its implicature possibly disappears, but never its presupposition.

In linguistics, you might also encounter the term **truth-conditional meaning** and **non-truth-conditional meaning** outside of this textbook, to refer to at-issue meaning

and non-at-issue meaning, respectively. We find that it's a little less confusing to call e.g., presuppositions

"non-at-issue meaning" rather than "non-truth-conditional meaning", because presuppositions are still related to the truth of the sentence (because a presupposition is what has to be *true* before the sentence is uttered).

In this chapter, we will explore what kinds of non-at-issue meanings there are in language, what their differences are, and how they come about in conversations.

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26.

CROSS-COMMUNITY DIFFERENCES IN DISCOURSE

Imagine a time where you were in a conversation with someone with a cultural background different from yours. Have there been times where miscommunication happened? See the example told by the author of the following paragraph: As someone who immigrated to the United States from Japan at the age of 6, I certainly had experiences where American conversational rules felt really different from Japanese conversational rules. One of things I remember learning "how to do" in English is sarcasm. Something I noticed was that Americans (in my 9-year old perspective) said blatantly false things, often to be funny, sassy, or mean. I distinctly recall one summer — I must've been 9 or 10 — where we visited a friend in Japan, and in a conversation with this friend, I used this new discourse tactic that I was so proud to have acquired. *waa, kore cho: okaidoku-da-ne* 'Wow, that is such a good deal!' I said in Japanese, pointing at super expensive jewellery in a magazine. I will never forget the confused look on my Japanese friend's

face. Studies support my anecdotal experience: Ziv (1988) found that American students are more sarcastic than Japanese students (see also Adachi 1996).

There are different conversational rules for different language communities. What counts as a 'friendly' interaction? What counts as 'polite'? Linguists who have done anthropological work have found imperatives (commands like "cut down that branch!") can vary in terms of their perceived politeness from culture to culture: they may be more commonly perceived as rude in Australia than in China, for example (Wierzbicka 2003). In Canadian English, *Why don't you close the window?* could be a perfectly polite request, but according to Wierzbicka, the literal equivalent of this in Polish — *Dlaczego nie zamkniesz okna* — would imply stubbornness on the part of the addressee (e.g., 'why haven't you closed the window yet like you should?! it's the right thing to do!'). In ordinary conversational contexts, being honest is usually assumed to be one of the most important principles of conversation (Grice 1975), but what counts as "being honest" may vary from community to community. In some communities, any falsehood — including fiction — is considered a "lie" (Danziger 2010).

When we study pragmatics, we need to be aware that there are cultures and conversational norms beyond your own. Encountering unfamiliar discourse rules in a language that you may not have encountered before may give rise to feelings of surprise, and that's OK — but we hope that you will use your

linguist mind to prevent this surprise from turning into negative judgments about other cultures and languages. Remember, all forms of language are valid!

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27.

SEMANTICS AND PRAGMATICS IN THE LEGAL DOMAIN

Before we talk more about non-at-issue meaning, let's consider why it's important for us to study linguistic meaning, and how what we are learning about meaning in this textbook might have an impact on our lives.

One immediate way in which linguistic meaning has an impact on our lives is how meaning affects the law. This can range from how a legal contract is to be interpreted to how statements are to be interpreted in court. Oftentimes, we as humans are good at using context cues to figure out the intended meaning.

One interesting legal case from 1960 (Frigaliment Importing Co. v. B. N. S. Int'l Sales Corp.) concerned a dispute over the meaning of the word *chicken* in a contract. The contract stated an agreement that the defendant would send the plaintiff some chicken. The plaintiff thought that *chicken* in the contract meant '(young) stewing chicken', but the defendant thought it meant 'chicken' more generally.

So when the defendant sent the plaintiff (mature) frying chicken, the plaintiff claimed this was a breach of the agreement in the contract. One of the issues in this case was that in the poultry trade language community, *chicken* indeed is used to refer to young chicken. What had to be decided in court was whether it was also possible for it to have the general 'chicken' interpretation in this particular context: was the term *chicken* ambiguous? The court ruled in favour of the defendant: it was reasonable for *chicken* to be interpreted in the general sense because it had been used that way at least once during the negotiation (among other factors).

In another case in 2017 (State of La. v. Demesme), the supposed ambiguity was with the word *dog*. Plaintiff Warren Demesme was being questioned for a suspected crime by the police, and during the questioning Demesme asked for legal counsel, saying "Why don't you just give me a lawyer dawg". This was not taken to be a request for a lawyer, and Demesme was therefore not given a lawyer at the time. Demesme sued. In the view of the prosecution, "Why don't you just give me a lawyer dog (dawg)" was non-sensical or at least ambiguous. The claim was that *dog* could be interpreted as 'canine'. According to the Louisiana Supreme Court, it was possible for the interrogator to think that Demesme was requesting a canine lawyer. However what Demesme meant, of course, was *dawg*, a second-person form of address like *dude*. Ultimately, the court ruled in favour of the state of Louisiana and decided that what Demesme said did not count as a

request for legal counsel. What we learned in Chapter 7 tells us yes, *dog* is in principle ambiguous. However, you may have the intuition that the ruling in this case feels unreasonable. This chapter will help us explain why this feels that way. It should also be flagged that Demesme is Black and spoke in a dialect of English called African American English during his conversation. This case also relates to the discussion from Chapter 2 (Language and Power) and how someone's preconceived ideas about groups of people can affect how utterances are perceived and interpreted, often unfairly.

This chapter will also discuss implicatures and how they arise in discourse. Another legal case, Bronston v. United States (1973), gives us insight into why it is important for us to study how implicatures are created. This case from 1973 involved Samuel Bronston, who was a movie producer who filed for federal bankruptcy protection. During this process, he was being asked in court about his financial history. Here is how the conversation between the examiner and Bronston went.

(1)	Examiner:	Do you have any bank accounts in Swiss banks, Mr. Bronston?
	Bronston:	No, sir.
	Examiner:	Have you ever?
	Bronston:	**The company had an account there for about six months, in Zürich.**
	Examiner:	Have you any nominees who have bank accounts in Swiss banks?
	Bronston:	No, sir.
	Examiner:	Have you ever?
	Bronston:	No, sir.

The relevant part of this conversation is the bolded statement made by Bronston. He was asked whether he ever had a (personal) Swiss bank account. His answer to this was "The company had an account there". If you are not familiar with this case, you probably inferred what the court inferred from this statement: that Bronston's *company* had a Swiss bank account, but *Bronston* himself never personally did. The conversational logic is that if it was true that Bronston himself had a Swiss account, he would've said so. But he didn't, so what he said — that the company had a Swiss account — must have been the most truthful and most informative thing he could say.

There's a plot twist to this story: Bronston actually did have a personal Swiss bank account. When this fact was revealed later, there was a debate as to whether Bronston had

committed **perjury**: lying under oath in court. The catch here is that the literal words Bronston uttered in the conversation in (1) contain no lies: it's actually also true that his company had a Swiss bank account. It is also the case that the sentence *The company had an account there for about six months, in Zürich* does not *entail* that Bronston himself didn't have a Swiss account. This is merely an implicature. What he did was refrain from giving other relevant, truthful information, which misled the court to believe that the answer to "Have you (personally) ever had a Swiss bank account" was "No."

What do you think? If someone misleads the addressee to believe something false because of an implicature they created, does that count as lying? In ordinary cases, such as in regular everyday conversation, it's certainly true that this still feels like deception. In this legal case, the United States Supreme Court decided that this did NOT count as perjury. The decision was based on the fact that Bronston genuinely believed his response to be true. It was not actually clear if he intended to mislead the examiner. The Supreme Court held that it was the *examiner*'s responsibility to recognise that Bronston was avoiding answering the question that was posed, and to get the relevant answer by asking follow-up questions.

There are other cases, however, in which people have been held accountable for implicatures they created. For example, in Dahan v. Haim (2017), which was a small claims dispute in Israel, a landlord put up an ad for an apartment online. The prospective tenant showed interest in the apartment. (2) is

what this potential tenant texted to the landlord (the text was originally in Hebrew).

(2)   Good Morning 😊 interested in the house 🕺 👯‍♀️👌🏻💦 ◇ 🎤 just need to discuss the details...When's a good time for you?

Based on this message, the landlord inferred that this person (and their partner) was going to rent the apartment, and removed the ad online. After some conversation about when the contract could be signed, the potential tenants disappeared and fell out of touch. Because of this, the landlord sued them claiming **reliance**: a type of contract law that says you can file suit for damages if someone doesn't follow through with a deal that you both have agreed on.

The Judge decided that the emojis (among other factors) conveyed optimism. Although this wasn't a binding contract, the Judge decided that it was reasonable for the plaintiff (the landlord) to conclude that the couple intended to rent the apartment. The message in (2) doesn't literally say that they will be renting the apartment. It doesn't entail that; it just strongly implies so. In this case, the defendant was held accountable for this implicature.

As we can see from these legal cases, it very much matters in real life what sorts of implicatures a speaker creates. This is a good reason for us to study not just **semantics** but also **pragmatics** — how meaning is used in context — and the mechanism of how non-at-issue meaning like implicatures

arise in discourse. In this chapter, we will explore what different kinds of non-at-issue meanings there are in language.

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28.

THE COOPERATIVE PRINCIPLE

The Cooperative Principle

In this section, we will discuss the conversational logic behind why certain implicatures arise in discourse. Let's start with the following example in (1).

(1)	Aya:	Did Raj feed the cat and clean the litterbox?
	Bo:	He fed the cat.
	Aya:	(Infers: 'He didn't clean the litterbox.')

Terminologically, the ***speaker/signer*** creates an **implicature** or they **imply** that content. The ***addressee*** makes an **inference** or they **infer** that content.

We use ***speaker/signer*** and ***addressee*** in this chapter to discuss the dichotomy of "producer of utterance" vs. "person at whom the utterance was directed". Where we are referring to the producer of an utterance in a *spoken* language in

particular, we will use *speaker*. Where we are referring to the producer of an utterance in a *signed* language in particular, we will use *signer*. When we are referring to 'producer of utterance' in a more general way not specific to modality, we will use *speaker/signer*. Outside of this textbook, you may encounter just "*speaker*" being used to mean 'producer of utterance (not specific to modality)'. Some signed language users do not have a problem with this use of "*speaker*", but many signed language users think a more modality-inclusive term should be used. Some other alternatives for this include: *utterer/addressee*, *addressor/addressee*, *author/addressee*, *sender/perceiver*, *producer/perceiver*, *sender/receiver*, *sender/recipient,* and *communicator/audience*.

   The basic idea of why we get this implicature in this context is that *if* Raj had fed the cat *and* cleaned the litterbox, Bo would've said so. He didn't in this case, so Aya can infer that only *Raj fed the cat* is true, and that *Raj cleaned the litterbox* is false. Here is how this implicature would be calculated by Aya:

1. I asked Bo if Raj fed the cat and cleaned the litterbox.
2. I assume that Bo would only tell me things that are true.
3. I assume that Bo would give me the maximally informative answer to my question.
4. Bo could've answered "Raj fed the cat and cleaned the litterbox", "Raj fed the cat", "Raj cleaned the litterbox,"

or "Raj didn't feed the cat or clean the litterbox".

5. If the actual facts were that Raj fed the cat AND cleaned the litterbox, then the following answers would be logically true statements: "Raj fed the cat and cleaned the litterbox," "Raj fed the cat," and "Raj cleaned the litterbox".

6. However, if Raj actually fed the cat AND cleaned the litterbox, "Raj fed the cat and cleaned the litterbox" would be the more informative thing to say than "Raj fed the cat" or "Raj cleaned the litterbox".

7. In actuality, Bo only said "Raj fed the cat." This must be because if he said "Raj fed the cat and cleaned the litterbox," it would be a false statement.

8. Therefore, it must be the case that only *Raj fed the cat* is true, and that *Raj cleaned the litterbox* is false.

This way of analysing how implicatures arise in discourse is called the **Cooperative Principle**, proposed by philosopher Paul Grice. He proposed that one way of explaining how we get implicatures in a conversation is to think that there are implicit conversational principles that discourse participants follow. According to the Cooperative Principle, the major underlying assumption that we make in a conversation is that all discourse participants are acting in a way to accomplish conversational goals. For example, let's say that the topic of discussion was "How much money should we spend on our

cat's birthday party?". *If* everyone in the conversation agrees that the goal is to figure out a reasonable cost for the party, then all discourse participants assume that everyone in the conversation is acting in a reasonable way and uttering things in order to accomplish this goal. This is what is meant by "cooperation" in the Cooperative Principle. Specifically, Grice described four **maxims** (or general rules of conduct) that might be the basis of many conversations: the Maxim of Quality, Maxim of Quantity, Maxim of Relation, and Maxim of Manner. The idea is that if these are the conversational rules that people follow (and if people assume that other people follow these rules too), then there is an explanation of why certain implicatures arise in discourse.

You will notice that the maxims are stated as imperatives (e.g., "do this!", "don't do that!"). These are *not* meant to be prescriptive "do's" and "don't's". They should be taken as a way to describe someone's pragmatic knowledge in a language. It's similar to how phonological rules can be stated like "turn voiceless consonants into voiced consonants!" or "don't voice the consonant if you already have a voiced obstruent in the morpheme!". Grice at one point describes the Cooperative Principle as something that is "REASONABLE for us to follow" and something that "we SHOULD NOT abandon" (Grice 1975, p.48; emphasis his). Sometimes this is misinterpreted to mean that the Cooperative Principle is a set of prescriptive rules, something along the lines of "if you don't follow these rules, you are not a good language user".

However, that is not what he meant. A better interpretation of the Cooperative Principle goes something like this: *I*F discourse participants have a common immediate goal in the conversation, THEN it is in their best interest to follow something like the Cooperative Principle (Grice 1975, p.49). Grice pondered that this type of assumption may be an extension of cooperative transactions in general, not limited to language: if you and I agreed to get a car fixed together, it would be in our best interest to act in a cooperative way to accomplish this goal (Grice 1975, p.48).

Of course, what counts as "cooperative" in a conversation might be different depending on what kind of conversation it is (Grice 1975, p.48): what if you are fighting? Or writing a letter? Or making a witness statement in court? For the sake of exemplifying how the Cooperative Principle works, our examples in this chapter will be "ordinary" conversations (e.g., casual conversations between friends, family, or roommates). But after you are done reading or listening to this chapter, you are encouraged to think further about how the Cooperative Principle might work differently in other types of discourse!

Speaking of variation, we have seen already that conversational rules can vary from community to community, meaning that what counts as "cooperative" might vary depending on who the interlocutors are (not just the discourse genre). We will study the Cooperative Principle as applied to various linguistic communities, and you are also encouraged to think about how conversational rules might differ in your own

culture(s)! The linguist way of thinking about the Cooperative Principle is that it is subject to variation within and across language communities.

Keeping all of this in mind, let's take a look at the four maxims that Grice described.

The Maxim of Quality

Grice observed that discourse participants seem to follow a conversational rule about being honest. He stated this rule as the **Maxim of Quality**: in a conversation, you say what you believe to be true, and only say what you have sufficient evidence for. For your convenience, our previous example is reproduced below as (2).

(2)	Aya:	Did Raj feed the cat and clean the litterbox?
	Bo:	He fed the cat.
	Aya:	(Infers: 'He didn't clean the litterbox.')

This maxim says that the fundamental assumption that you make in discourse is that no one is lying in the conversation. Aya gets the the inference from Bo's statement in (2) partially because she assumes he would only say true things. Their logic is that Bo must have not said *Raj cleaned the litterbox* because it would be false to say so.

If the Maxim of Quality is violated, someone would be overtly lying in the discourse. Imagine for example that the conversation in (2) took place, except that Raj never fed the cat (or clean the litterbox for that matter). Bo is being blatantly uncooperative in this conversation in this case. When a maxim is **violated** in a conversation, it gives rise to the intuition that something has gone wrong in the discourse. In this case, the objective in the conversation was to figure out if Raj fed the cat and if Raj cleaned the litterbox, but now Aya incorrectly thinks Raj did feed the cat. This does not help with the objective of the conversation, hence, something has gone wrong. Note that if Bo is a good liar, Aya might not realise that something has gone awry in the discourse during the conversation. But if it was revealed later that Raj didn't feed the cat, Aya would certainly feel that the conversation she previously had with Bo was not a cooperative one: a maxim was violated.

In English and many languages, failure to *try* is what is considered a maxim violation. That is, if you were not *trying* to follow Quality at all, knew the statement was false but uttered it anyway, that is what is considered a violation. Let's assume for a moment again that Raj actually didn't feed the cat. If Bo *truly* thought that Raj fed the cat, saying "He fed the cat" would technically not be a violation under the Cooperative Principle. English users likely wouldn't wouldn't accuse Bo of "lying" because Bo truly had the belief that he was telling the truth (Carson 2006). Bo said something false but didn't lie.

What is considered a maxim violation can vary from

language to language. In Mopan / Mopan Maya (an indigenous language of the Mayan family in Eastern Central America, spoken by Mopan people), falsehoods are characterised as *tus* 'lying' regardless of whether the speaker was aware of the falsehood at the time of utterance or not (Danziger 2010). So in Mopan, if Raj didn't feed the cat but Bo said he did with the sincere belief that he did so, Bo's utterance would still be considered a *tus*. It should be noted that *tus* has a negative connotation, much like the word *lie* in English: in Mopan, there is moral disapproval of falsehoods (Danziger 2010). This parameter for the Maxim of Quality in Mopan has interesting implications for how fiction is treated in the language/culture. Consider the following anecdote from a linguist who studied this phenomenon (Danziger 2010):

"One or two prosperous Mopan families have since the 1980s owned electrical generators and VCRs. But it has always been difficult in remote Mopan communities to find tapes to play on them. When I left the village after my first long stay (and before I had begun researching issues of truth and lies in Mopan), I was asked to bring back videotapes for entertainment when I returned. I did so. The first commercial tape which I supplied was Walt Disney's The Jungle Book. It was received with enthusiasm, as I had hoped it would be—it is colorful and amusing and because of the rainforest setting proved very interpretable even to older and monolingual Mopan people. But it does show some troubling scenes. In

this film, a baby is abandoned in the forest and taken by wild beasts— and they don't eat him. Later, the boy develops the disturbing habit of playing happily with jungle cats and other wild animals. Perhaps most alarming of all, in one choreographed scene Mowgli not only touches but actually dances with Kaa the snake. In Southern Belize constrictors are unknown, but the region is home to snakes which harbor some of the world's fastest-acting and deadliest poisons. At last one day a good friend asked me doubtfully if all of this were really true. When I answered that of course it was not, I was surprised at her shocked reaction. She seemed to think that if this story was not true, it could only be considered tus "lies". I discovered that this conclusion holds true for all areas in which narrative output must be assessed or evaluated in Mopan. While narratives in various media offer fascinating plots and themes, no classificatory distinction is made in Mopan between stories involving supernatural creatures and those involving actual accounts of events in the speaker's own life. If stories are discovered not to be true, they are not excused as fictions, they are condemned as tus." (Danziger 2010, p.213)

In summary, the Maxim of Quality is paraphrasable as "don't lie" and "make sure you have enough evidence for what you're saying", which is a maxim common to a lot of languages — but what counts as a lie (= a violation of the maxim) may vary from community to community.

The Maxim of Quantity

Grice also observed that discourse participants seem to follow a conversational rule about how much information they should give when trying to meet conversational goals. He stated this as the **Maxim of Quantity**: in a conversation, don't be more informative than is needed by the purpose of the conversation, and don't be less informative than is needed by the purpose of the conversation, either. You need to be as informative as is required. **Informativity** is generally measured based on entailment relations. This definition of informativity is given below. Take p and q to be variables for sentences.

(3)	If *p entails q* (and *p* and *q* are not the same sentence), then *p* is more informative than *q*.

By this definition, *Panks is a Siberian Forest Cat* (=p) is more informative than *Panks is a cat* (=q), because p entails q and they are not the same sentence. Let's go back to our original example, reproduced below as (4).

(4)	Aya:	Did Raj feed the cat and clean the litterbox?
	Bo:	He fed the cat.
	Aya:	(Infers: 'He didn't clean the litterbox.')

The relevant entailment relation is between *Raj fed the cat* and *Raj fed the cat and cleaned the litterbox*. The latter

sentence entails the former; so, *Raj fed the cat and cleaned the litterbox* is more informative than *Raj fed the cat.*

To understand how this maxim works, imagine in (4) that Bo knew that Raj actually fed the cat AND cleaned the litterbox, and still said what he said ("He fed the cat."). This would be a violation of the Maxim of Quantity, because the statement *He fed the cat* is underinformative: the more informative thing to say in this situation would be *Raj fed the cat and cleaned the litterbox.* If Aya found out after the conversation in (4) that Raj actually cleaned the litterbox too, Aya would likely feel that Bo was being uncooperative in the conversation they had ("Why didn't you tell me he cleaned the litterbox too, if you knew?!"). Bo didn't make a false statement, but the true statement that he did make wasn't the most informative one. This also is the case in Bronston v. United States (1973) from Section 8.3: Bronston was not being maximally informative in the courtroom, which is why he was accused of being deceptive.

The flip side of this is being OVERinformative. For this, imagine this version of the previous discourse:

(5)	Aya:	Did Raj feed the cat and clean the litterbox?
	Bo: ??	Yes, he fed the cat, he cleaned the litterbox, he brushed the cat, he trimmed the cat's claws, he told the cat what a good boy he was, he pet the cat, he napped with the cat...

Assume that Raj actually did all of the things that Bo said

he did. This means that Quality is not being violated. What IS being violated is Quantity. This time, he gave more information than what was requested by Aya's question. A simple "Yes (he fed the cat and cleaned the litterbox)" would've sufficed to meet the objective of the conversation.

Note that depending on what other linguistic and extra-linguistic factors there are, withholding information is not necessarily seen as "uncooperative". Consider the translation of the following conversation in Malagasy, an Austronesian language spoken in Madagascar (Keenan (1976) does not provide the original utterances in Malagasy, just the English translations):

(6) A: Where is your mother?

B: She is either in the house or at the market.

If you are an English user, because of the disjunction *or,* you may have drawn the inference that speaker B does not have the specific information pertaining to their mother's whereabouts: if speaker B knew exactly where she was, they would've said so. In Malagasy, that type of inference is unlikely. For Malagasy users, information that isn't already publicly known to everyone is highly valued, meaning that having exclusive knowledge about something is highly regarded (Keenan 1976). Because this cultural value, speaker A is more likely to infer something like 'B is superior to me at this moment' in this kind of conversation (Prince 1982). Even if speaker B knew

that speaker A actually knew the whereabouts of their mother, the conversation in (6) would *still* not be considered uncooperative because speaker A would have the understanding that speaker B is saying what they are saying to accrue social currency.

The Maxim of Relation

Another one of Grice's observation was that discourse participants seem to expect each other to stay on topic during a conversation. He described this as the **Maxim of Relation**: make your contributions to the conversation relevant to what is being discussed. Consider the following conversation in (7).

(7)	Aya:	I used to take piano lessons when I was little. What sorts of extracurricular activities did you do as a kid?
	Bo:	Nice. When I was little, I used to go to weekly swimming classes.

This is a perfectly normal and cooperative conversation, because Aya brought up the topic of what things they did in their childhood. Bo responds with something that is related to this topic: what he did as a child, which in this case is *take swimming classes*. The Maxim of Relation is being followed.

Contrast this with Bo's reply in (8), which for some people is a slightly more surprising turn in the conversation.

| (8) | Aya: | | I used to take piano lessons when I was little. What sorts of extracurricular activities did you do as a kid? |
| | Bo: | ?? | When I was little, my favourite food was chicken nuggets. |

Assuming that Bo is not lying, Bo has said something truthful, thus Bo is following the Maxim of Quality. We don't get the sense that he is oversharing or undersharing, and he has at least said something about his childhood, which is to some extent informative — so Quantity doesn't seem like the main maxim being violated either. The main reason that (7) might feel odd to some adult English users is because Bo is off topic. The topic under discussion is "what extracurricular activities did you do as a child", so to stay on topic you would minimally name events, not stative properties like what your favourite food was. This in this context would be a violation of the Maxim of Relation.

If you find yourself thinking things like 'Well, maybe Bo means that he took cooking classes, or that he didn't do any extracurriculars at all?', that is a valid inference you are trying to draw. Section 8.5 will clarify why you feel the impulse to make sense of Bo's utterance.

The Maxim of Manner

Grice's fourth and final observation was that discourse

participants seem to have an expectation about *how* they say things in a conversation too, not just *what* they say. He described this as the **Maxim of Manner**: be as clear, brief, and as orderly as possible when you make your contributions in a conversation. Consider the following conversation (Note: the hand-washing instructions are adapted from this CDC guideline).

(9)	Aya:	How do I properly wash my hands?
	Bo: ??	Dry your hands using a clean towel or air dry them. Scrub your hands for at least 20 seconds. Lather the backs of your hands, between your fingers, and under your nails. Rinse your hands well under clean, running water. Lather your hands by rubbing them together with the soap. Wet your hands with clean, running water. Turn off the tap, and apply soap.

Bo's instructions are truthful, in that each step he listed indeed are things you do when you wash your hands. His contribution is also appropriately informative, and relevant to the question that was asked by Aya. However, Bo said the instructions in a funny way: he didn't list the steps in order. So the oddness of Bo's utterance mainly comes from a violation of the Maxim of Manner. For Bo to conform to the Maxim of Manner, we would of course have to change the order in which he presented each step:

(10)	Aya:	How do I properly wash my hands?
	Bo:	Wet your hands with clean, running water. Turn off the tap, and apply soap. Lather your hands by rubbing them together with the soap. Lather the backs of your hands, between your fingers, and under your nails. Scrub your hands for at least 20 seconds. Rinse your hands well under clean, running water. Dry your hands using a clean towel or air dry them.

The Maxim of Manner essentially says that the way that you present the information should not get in the way of transmitting the information. So under the scope of this maxim are things like the order in which you present information, whether your statement is ambiguous, which words you choose, how quickly you speak or sign, and how loud you speak (for spoken languages). The Maxim of Manner sees quite a bit of cultural variation. For example, what is considered to be an appropriate "manner" of speaking may depend on things like cultural expectations about expressions of emotion (Wierzbicka 2009), and different values attached to veiled speech (Ameka & Terkourafi 2019). For example, in some African cultures it is not necessarily considered "uncooperative" to make one's utterance obscure, long-winded, and vague (Ameka & Terkourafi 2019).

Other possible maxims

Note that the above four maxims are not meant to be an

exhaustive list of maxims. Grice himself speculated that there are probably more than just these four maxims in language (Grice 1975, p.47).

One of the maxims that Grice mentioned, but did not elaborate on, is the **Maxim of Politeness**. Some researchers think this maxim is needed (Kallia 2007, Pfister 2009), while others think it is not necessarily a maxim (Brown & Levinson 1987) — but there is a general consensus that politeness is something that has relevance in discourse. Some languages, like Japanese, Korean, and Thai, have specific affixes you must use for expressing politeness! Pfister (2009) has proposed the following as the Maxim of Politeness: Do not impose on the addressee (avoid unnecessary imposition), and show approval of the desires and actions of the addressee. To not "impose" means to not force the other person to do what they don't necessarily want to do (e.g., not asking them to take you to the airport on their day off). To "show approval of the desires and actions" means to show that what the other person wants is desirable (e.g., complimenting their haircut).

Adapted from:

Anderson, C., Bjorkman, B., Denis, D., Doner, J., Grant, M., Sanders, N. & Taniguchi, A. (2022). *Essentials of Linguistics*. Pressbooks.

https://ecampusontario.pressbooks.pub/
essentialsoflinguistics2/

PART VII
MODULE 7: VARIATION

This module explores sociolinguistic variation and how it has been analyzed. We'll be introduced to the concept of the linguistic variation, we'll see how to analyze data from a variationist sociolinguistic perspective, and we'll survey some of the major social factors that correlate with sociolinguistic variation.

Adapted from:

Anderson, C., Bjorkman, B., Denis, D., Doner, J., Grant, M., Sanders, N. & Taniguchi, A. (2022). *Essentials of Linguistics*. Pressbooks. https://ecampusontario.pressbooks.pub/essentialsoflinguistics2/

29.

WHAT IS VARIATIONIST SOCIOLINGUISTICS?

Why do some US English speakers say *eh* at the end of their sentences while others opt for right? In what contexts is one person more likely to say *eh* or more likely to say *right*? What kinds of information about someone can we glean if we hear them say *eh*? Or *right*? Or even *innit*? Have these patterns changed over time? These are variationist sociolinguistic questions. **Variationist sociolinguistics** is a methodological and analytical approach to understanding the relationship between language and its context of use. We call it sociolinguistics because both social and linguistic (e.g., grammatical, structural, articulatory) factors, are equally important; sociolinguistics, unlike many formal approaches to language, does not focus on an idealized grammar (sometimes called 'competence') but rather analyzes language in use (sometimes called 'performance'). We call it *variationist* sociolinguistics because it's concerned with the *variable* nature of language in use. In this chapter we will see how variationist sociolinguistics has analyzed the interplay

between language variation, the development of linguistic systems, and the social meaning of language.

Adapted from:

Anderson, C., Bjorkman, B., Denis, D., Doner, J., Grant, M., Sanders, N. & Taniguchi, A. (2022). *Essentials of Linguistics*. Pressbooks. https://ecampusontario.pressbooks.pub/essentialsoflinguistics2/

30.

LANGUAGE VARIES

There is substantial variation in language: both within and across language varieties. We'll see some examples of both of these kinds of variation and I'll introduce one of the central concepts used in variationist sociolinguistics: the linguistic variable.

All languages exhibit variation

Many linguistic approaches to the study of language are concerned with language variation. As you've read about in other modules, theories about how language works rest on evidence that comes about by contrasting the way something is said or signed in two or more different languages, dialects, or varieties.

Language, dialect, variety. Colloquially, the term **dialect** is used to refer to ways of speaking that people perceive to be substandard, low status, associated with working class, non-prestigious, geographically-isolated, or some derivation or aberration from a 'standard' version of the language. The linguistic fact though is that everyone has a

dialect. Rather than think about languages and dialects in a hierarchical way, linguists think about dialects as subdivisions of a language. Sometimes, linguists might talk about the "standard dialect" but it's important to emphasize that no dialect, not even what we might call the "standard dialect" is objectively (linguistically) superior to any other dialect of the language. Another term, '**variety**' doesn't have the same negative connotations that 'dialect' has, and so we'll usually use that to refer to subdivisions of a language in this chapter.

For example, consider the Icelandic and Danish sentences in (1) and (2). Both sentence express the same meaning.

	Ég	(*ekki)	spurði	ekki	[af hverju	Péter	(*ekki)	hafði	ekki
	I	(*NEG)	asked	NEG	[why	Peter	(*NEG)	had	NEG
(1)	'I didn't ask [why Peter hadn't read it]' (Icelandic)								

(2)	Jeg	(*ikke)	spurgte	ikke	[hvorfor	Peter	ikke	havde	(*ikke)
	I	(*NEG)	asked	NEG	[why	Peter	NEG	had	(*NEG
	'I didn't ask [why Peter hadn't read it]' (Danish)								

Obviously some of the lexical items and morphemes differ between (1) and (2) – as expected given that they come from two different languages. At the same time, you can see similarities between them – also as expected since these two languages are quite closely related (they are both North Germanic languages). One syntactic difference between the two examples is the order of the negative marker and the main verb in the embedded clause (*hafði ekki* 'have not' in Icelandic and *ikke havde* 'not have' in Danish). If we were looking at this data like a syntactician, we might look at (1) and (2) and use the two different word orders (i.e., VERB-NEG vs. NEG-VERB). We'll call this **cross-linguistic variation**: different ways of doing the same thing in different languages or varieties.

But within a single language or variety – or even a single person – the specific realization of abstract structures (like word order) can vary. Consider the rhyming couplet in (3) from Shakespeare's *Romeo and Juliet* (386, 670).

(3)	Juliet:	Saints do not move, though grant for prayers sake.
	Romeo:	Then move not while my prayers effect I take.

Example (3) shows the same word order variation that we see in (1) and (2) but here, the two different ways of doing the same thing appear within the same language! And while technically spoken by two different characters, the two sentences were written by the same person! This isn't that surprising though because Early Modern English allowed for both options: an Icelandic-like/Romeo-like VERB-NEG order and a Danish-like/Juliet-like NEG-VERB order. Within this one rhyming couplet, we see **sociolinguistic variation**: two or more ways of doing the same thing within a language, variety, and individual.

What's a linguistic variable?

When we approach language from a variationist sociolingistic perspective, we call the choices between a set of options that mean the same thing a **linguistic variable**. The individual options that people choose between in the course of language use, we call **variants**. Linguistic variables exist in all languages and varieties, in all modalities, and at all domains of language from the phonetic to the pragmatic. A linguistic variable is an abstract set; there's nothing out there in the world that we

can point to and be like "hey, that's a linguistic variable!". We only ever see or hear the abstract variable as one of its concrete variants. Let's have a look at some examples of linguistic variables from different languages and different domains of language.

An example of a phonetic-phonological variable involves variation between the presence and absence of a sound segment. In Beijing Mandarin, open syllables (i.e., syllables without a coda) can variably be rhotacized (i.e., produced with a rhotic coda). For example the word meaning 'bag' can be said with the open syllable variant (包 *bao* [paw]) or the rhotic coda variant (包儿 *baor* [pawr]) (Zhang 2008). We also find linguistic variables in the morphophonological domain of languages. Standardized English contains a categorical alternation with the indefinite article between *an* and *a* with *an* occurring prior to a vowel and *a* occurring elsewhere (cf. *an apple* vs. *a pineapple*). However, in contemporary London English, especially among immigrant youth of color, the pre-vocalic context exhibits variation between *an* and *a*; both *an apple* [ənæpl] and *a apple* [əʔæpl] are possible (Gabrielatos, Torgersen, Hoffmann, and Fox 2010).

We can also find morphosyntactic variables in languages. In North Baffin Inuktitut, transitive constructions can variably occur with ergative alignment or antipassive alignment. These alignment types differ in terms of the morphological case that arguments have and the kind of agreement that appears on

verbs. With ergative alignment, as in (4a), the object is marked with absolute case (which appears as a null morpheme *-ø*) and the verb agrees with both subject and object (which appears as the morpheme *-jara*). With antipassive alignment, as in (4b), the object is marked with an oblique case (it occurs with the morpheme *-mit*) and the verb agrees only with the subject (which appears as the morpheme *-vunga*) (Carrier 2020).

(4a)	surusiq-ø	taku-jara
	child-ABS	see-PART.Sub1SG.Obj3SG
	'I see a child' (North Baffin Inuktitut)	

(4b)	naarraajim-mit	taku-vunga
	frog-MOD.SG	see-IND.Sub1SG
	'I see a frog' (North Baffin Inuktitut)	

Languages can also have linguistic variables with variants that differ in multiple ways, across different domains. For example, in Tagalog, the meaning of adjectives can be intensified with

several variants that differ lexically, morphologically, and morphosyntactically from each other variant, as in (5) (Umbal 2019).

(5a)	**sobra**-ng	sakit	ng	tainga	ko
	INT-LINKER	painful	GEN	ear	1p.sg.pos
	'My ears are **very** painful' (Tagalog)				

(5b)	**bagay**	**na**	**bagay**	sa	iyo
	suitable	**NA**	**suitable**	DAT	2p.sg
	'It is **very** suitable for you' (Tagalog)				

(5c)	**napaka**-ganda	ng	*transit*	natin	dito
	INT-beautiful	GEN	transit	1p.pl.pos	here
	'Our transit here is **very** beautiful' (Tagalog)				

(5d)	ang		liit	ng	*opportunity*
	NOM		small	GEN	opportunity
	'The opportunity is **very** small' (lit. "how small of an opportunity")				

One variant, in (5a), uses a free morpheme *sobra* (similar to English *very*, *really* etc.). Reduplication of the adjective in (5b) and affixation of the morpheme *napaka* (5c) are two morphosyntactic variants. Finally, the exclamative construction in (5d) is a fourth, syntactic, variant.

These are just a small handful of examples of linguistic variables in different languages and in different domains of language. All languages have variation like this in all the different parts of a language's grammar.

What *isn't* a linguistic variable?

Whatever domain of language a linguistic variable exists in, the variants 'do the same thing' in some way. This should give you a good idea about what a linguistic variable is, but before moving on, it's important to point out a couple of linguistic concepts that are similar to but are not linguistic variables: 1) synonyms and 2) categorical alternations.

Synonyms are a concept that is often confused with linguistic variables – and for good reason: some synonyms can be linguistic variables, but not all of them! Synonyms are pairs or sets of words that share the same or similar meaning like *car, automobile, ride, horseless carriage, jalopy, hooptie* and *paddock basher*, which all denote those four-wheeled, motor-powered vehicles that many people drive. These options certainly seem like two or more ways of doing the same thing but critically, different synonyms are generally not interchangeable in the same way that variants of linguistic variables are. Languages have only very few **absolute synonyms**. The different options may have different connotations or social meanings that make one option much more suitable than another option. For example, *jalopy*, *hooptie*, and *paddock basher* connote that the vehicle is old or run-down; ride might be used in informal contexts and automobile in formal contexts. Some options may also only appear in particular regional or social varieties. For example, *jalopy* is an older North American English term (you'll find it used several times in Jack Kerouac's *On The*

Road, written in the late 1940s), *hooptie* is typically associated with Black English (having been the topic of the 1989 hip-hop song, 'My Hooptie' by Sir Mix-a-Lot), and *paddock basher* is a term mostly only found in Australia, referring to a car only suitable to drive around on a farmer's field (which, non-coincidentally, is referred to as *paddock* there). Some of these options have become obsolete: you might only hear *horseless carriage* today if you're watching something like *Downton Abbey*. Because of the differing connotations or limited regional and social usages, synonyms like these are not generally interchangeable in the same way as linguistic variables. However, sometimes they can be! Critically, if the choice between options systematically co-varies with social and/or linguistic constraints, synonyms can be analyzed as linguistic variables. For example, in English adjectives of positive evaluation like *cool*, *awesome*, *sick*, *neat*, and *great* have been found to correlate with linguistic and social constraints (Tagliamonte and Pabst 2020).

As you've already seen in previous chapters, languages are full of **categorical alternations**. Categorical alternations are a second concept that can be easily confused with linguistic variables. Now it's true: categorical alternations represent variation within a language and the options are indeed two or more ways of doing the same thing. However, they depend strictly on the linguistic context that they appear in. In other words, the choice between the options is **deterministic**. A linguistic rule like Canadian Raising (the nucleus of the /aɪ/

and /aʊ/ diphthongs is raised to [ʌ] before voiceless consonants) in Canadian English is an example of a categorical alternation: if we know what phoneme comes after the vowel then we know if the nucleus will be [a] or [ʌ]... it's predictable! This differs from linguistic variables because a variable can be realized as its different variants *even within identical linguistic contexts*!

That said, even though linguistic variables are not deterministic they also aren't random! Instead, linguistic variables are **probabilistic** in nature. To use the wording of one of the foundational studies in variationist sociolinguistics, there is *order* amid the heterogeneity (Weinreich, Labov, and Herzog 1968: 100). The choice between different variants of a linguistic variable is subject to probability given many different possible **conditioning factors** (also called **constraints**). Like with categorical alternations, these conditioning factors can include aspects of the linguistic context. So think about (6).

(6) I'm *fishin'* this *morning*.

You've probably noticed that the end words like *fishing* and *morning* that end with -*ing* sometimes get pronounced as [ɪn] instead of [ɪŋ]. That's another linguistic variable! Like all linguistic variables though, the choice between [ɪn] and [ɪŋ] isn't random. In most varieties of English, the [ɪn] variant is more likely to occur in verbs (like *fishin'*) than in nouns (like *morning*). That's a conditioning factor for this variable! However, where the *socio-* comes into variationist sociolinguistics – and why the

analysis of linguistic variables is so important to the field –
is that these conditioning factors also include social factors as
well. In other words, whether someone uses [ɪn] or [ɪŋ] in a
particular moment depends on social facts about the speaker/
signer, their **interlocutors** (the other people in the
conversation), and other aspects of the sociocultural context
of the interaction. By counting and quantifying variants of a
linguistic variable, social facts, in addition to linguistic facts,
can be uncovered.

Source of linguistic constraints. You might be
wondering... where do these linguistic constraints on variation
come from? Why is [ɪn] more likely to occur in a verb than
in a noun? These constraints have many different sources for
different variables but some are rooted in historical structural
patterns found in earlier versions of the language. Believe it or
not, there's good evidence that the reason English speakers are
more likely to use [ɪn] in a verb than in a noun today goes all
the way back to a pattern in Old English, spoken between the
5th and 11th centuries CE! The modern *-ing* morpheme came
about through the coalescence (or merger) of two different
grammatical morphemes found in Old English: *-ende*, which
marked the present participle (*I am teaching today* > Old
English *tǣcende*) and *-ung* the verbal-noun marker (*Teaching
is fun* > Old English *tǣcung*). In the Middle English period,
these two morphemes started to merge together as *-ing* but
the alveolar nasal found in the Old English present participle
marker stuck around as a variant! As the morphemes merged,

people lost track of the older categorical 'alveolar-in-verbs and velar-in-nouns' pattern and both variants were used with verbs and nouns. However, traces of the old pattern are still apparent in the form of a conditioning factor!

There are many different types of linguistic variation. Some variation distinguishes varieties from each other (cross-linguistic variation), other variation exists within a single variety or person (sociolinguistic variation). Variation within a single variety between variants of what we call linguistic variables is subject to probability given social and linguistic conditioning factors that favour or disfavour certain options.

Adapted from:

Anderson, C., Bjorkman, B., Denis, D., Doner, J., Grant, M., Sanders, N. & Taniguchi, A. (2022). *Essentials of Linguistics*. Pressbooks. https://ecampusontario.pressbooks.pub/essentialsoflinguistics2/

31.

LANGUAGE CHANGES

Language is constantly changing. Speakers of English today do not speak like the authors of *Beowulf* (c. 700 CE) or *The Canterbury Tales* (c. 1400 CE) or *Hamlet* (c. 1600 CE) just in the same way that speakers of Japanese today do not speak like the authors of the *Kojiki* (c. 700 CE) or the *Genji Monogatari* (c. 1000 CE). In some ways, English and Japanese speakers today do not even speak the same way that people spoke English or Japanese a century ago or even just a few decades ago. English, Japanese, and really all languages have changed and continue to evolve.

Language change is important for variationist sociolinguistics because language variation will always be present during language change. It's not like one day in the early sixteenth century all English speakers woke up and went "hey, you know what? I think I'll start putting my negative marker BEFORE my verbs like they do in Danish embedded clauses instead of after like they do in Icelandic embedded clauses!" Rather, the linguistic change from *move not* to *do not move* happened gradually. Over time people began using the new *do not VERB* option more and more and using the

old *VERB not* option less and less. During this period both options were possible – the two options were variants of a linguistic variable. Sometimes we have **stable variation** where two or more variants are present but one isn't replacing the other. So while not all examples of linguistic variation involve language change in progress, all examples of language change in progress involve a period of sociolinguistic variation. Studying changes in progress is sociolinguistically informative because changes in progress guarantee the presence of linguistic variables. But linguistic change is interesting in its own right because language change is also intimately linked with social factors and with social change.

Analyzing language change. Perhaps the most obvious way to analyze a linguistic change is to consider language use at one period of time and compare it to language use at a different period of time. If we notice differences in the frequency of use of variants of a linguistic variable between the earlier data and the more recent data, this is a good indication that a change has taken place or is taking place. This approach, examining data that represent the same community at two different times, is called **real time** analysis. This approach is great when we have older data available to us. But what about when we don't? Good news: There's still a rigorous way to analyze change in data that comes from a single time period! We can compare older and younger people! This is called **apparent time** analysis and it rests on the observation that individuals' grammars stabilize in late adolescence. This means that

(typically) we use language in basically the same way we did when we were about 18. We can certainly learn new words after this age, and we might adjust some aspects of our grammar in the direction of the community we live in, but by and large, the patterning of linguistic variables we had at 18 will stick with us through our lifespan. By considering the pattern of linguistic variables in the language use of people of different ages, we can make inferences about linguistic change.

In addition to the distinction between stable variation and language change, sociolinguists also distinguish two kinds of language change. **Changes from above** are linguistic changes that take place above the level of social awareness (i.e., language users are aware of them). A change from above typically takes the form of the adoption of a prestigious or standardized variant from outside of the community. A classic example of a change from above is the importation of '*r*-fulness' to New York City English (Becker 2014). From the 18th century into the early 20th century, NYC English was generally *r*-less. Words like *cart* and *star* would have standardly been pronounced something like [kʰɒət] and [stɒə]. However, by the middle of the 20th century, the norms of General American English, including its *r*-fullness, began to influence New Yorkers' speech. The new, prestigious *r*-full variant (like [kʰɒɹt] and [stɒɹ]) began to compete with the older (and increasingly stigmatized) *r*-less variant, slowly spreading and advancing through the community.

On the other hand, **changes from below** are changes that

represent the operation of articulatory or grammatical pressures within a linguistic system that people are generally not aware of. For example, in Canadian English the vowel in the word *goose*, which would be transcribed as the high, back, rounded vowel [u] in a dictionary, has been gradually moving toward the front of the vowel space to something more like [ʉ] or even [y]. Chances are, any given speaker of Canadian English would be unaware that their *goose* vowel is more front than older Canadians' *goose* vowel!

Just as all languages exhibit variation, all languages also change over time. Because change involves variation, variationist sociolinguists often examine changes in progress in addition to stable variation.

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32.

LANGUAGE CONVEYS MORE THAN SEMANTIC MEANING

All kinds of information about people are revealed through the ways they express themselves linguistically. Much of that information goes beyond the semantic and even pragmatic meaning of the sentences they sign/speak. All kinds of social meanings are revealed through language! Some of this social meaning relates to how language functions in relation to social structures and power. For example, different **forms of address** – that is, labels we use to refer to our interlocutor – in many different languages reflect the social ranks of those involved in the interaction or the social circumstances of the interlocutor. For example, in Canadian English, referring to someone as *sir* or *buddy* reveals several sociological facts including how the speaker perceives the addressee's gender, how the speaker perceives the power dynamic between themself and the addressee, and how the speaker perceives the formality of the interaction. In fact, language doesn't just reflect these things but also works to enact this kind of

sociocultural significance. Imagine you're at a café and you witness a dispute between a male-presenting customer and a barista. At first, the barista refers to the customer as *sir* and says "*sir*, I know you're upset but generally we don't add steamed milk to iced coffees." But, after a few minutes of being yelled at and insulted by the unruly customer, the barista exclaims "listen *buddy*, it's time for you to leave!". This change in form of address, from *sir* to *buddy*, signals a change to the interactional context. The barista signals that they will no longer tolerate being treated poorly and along with that they abandon the general expectation of politeness and formality that comes along with the 'customer is always right' mandate of most service work.

Beyond forms of address, many languages encode information about social structure into pronominal reference. Many Indo-European languages make a distinction between familial/informal/lower rank and formal/polite/higher rank second person, singular pronouns. This is often referred to as a T/V distinction on the model of French's distinction between familial *tu* and formal *vous*. Romance languages like French, Slavic languages like Russian, and Germanic languages like German (and even Old and Middle English!) mark this distinction. If you do not know a language that marks this kind of distinction, its social significance may not seem particularly... significant! But for people who do use languages with such distinctions, the real life consequences of language as it relates to social power is clear. Consider this quote from

a French woman of Algerian immigrant roots, speaking about her experience growing up with racist policing in France:

"I encountered racism with the police every time I went out at night. They controlled our identity with tommy guns, speaking with lots of racial insults, and using *tu* instead of *vous*. I understand now why young people hate the police, because those controls are very degrading." (D. Tazdait, quoted in Olson 2002: 177)

Ms. Tazdait places the use of *tu* rather than *vous* on the same level as the symbolic violence of racial insults and the physical violence of being threatened at gunpoint.

Language can also tell us something about the cultural values of its users. For example, both what we discuss and with who is culturally-determined. What counts as a **taboo subject** (i.e., an inappropriate topic of discussion) differs by culture and context. In Euro-American culture, it is often considered taboo to talk about sexuality and death around children for example. Connected with this is how we interact: conversational styles (including the amount of interactional overlap, tolerance for interruptions, eye-contact expectations, etc.) are also culturally variable. It's critical for linguists and language-pathologists to be aware of the culturally-specific nature of interactional norms because too often English and Euro-American norms are interpreted as universals and thus, differences from those norms can be misinterpreted as deficiencies. For example, in their exploratory study of First Nations English, language-pathologists Jessica Ball and B. May

Bernhardt (2008) note that where silence from a child is often interpreted as an indication of a lack of knowledge, rudeness, or shyness in Euro-American interactional norms, for many First Nations children, their silence is a sign of respect to elders. As one of Ball and Bernhardt's participants says:

"I think in general, if I'm talking to someone who's older than I am, if they come to visit me or I go to visit them, I tend to listen a lot. I value what they have to share with me, I listen to their stories." (Ball and Bernhardt 2008: 581)

A teacher or language-pathologist who trains a child in accordance with Euro-American norms might unwittingly be harming the child's connection with their family's culture.

Contextual information is another kind of social meaning that is revealed through language and linguistic variation. **Contextual style** is intimately connected with the formality of the interactional context. This formality relates to 1) the familiarity of two interlocutors with one another, 2) the social similarity/difference and power relations between them, and 3) the context of the interaction. Conversations between friends who share common experiences and identities are more likely to have a casual style whereas conversations between strangers of unequal social rank and who share little common ground are more likely to be formal. This varies on a continuum. But what do we mean by formal and casual language? There are several aspects of conversation that are linked with formality including the frequency of use of different variants of linguistic variables. Variants that are

standardized tend to be more frequent in formal contexts and variants that are not standardized tend to be more frequent in casual contexts.

A 1958 study by the anthropologist John Fischer was one of the first demonstrations of this correlation. His analysis, which was part of a larger study of child-rearing in semi-rural New England (co-investigated with Ann Fischer), examined the frequency of use of the two variants of the *-ing* variable in English (standardized [ɪŋ] and non-standardized [ɪn]) among 24 children under age 10. Fischer recorded some of these children speaking in three contexts: during a formal psychological test, during a semi-formal, structured interview, and during an informal, unstructured interview. Fischer reports on the use of the variants of *-ing* by one boy in these three contexts. In the most formal context, the psychological test, the boy used the standardized variant [ɪŋ] 97% of the time, in the formal interview, his use of [ɪŋ] dropped to 49%, and in the most casual context, the informal interview, he used [ɪŋ] only 37% of the time. Fischer even speculates that among his friends, the boy's rate of the standard variant would be even lower. This adjustment to the frequency of use of variants in different contexts is called **style shifting**.

Since Fischer's study, style shifting has been found across different social cohorts, different places, and different languages. Contextual style, as a sociolinguistic factor, was further refined and theorized by William Labov in his 1966 book *The social stratification of English in New York City*, a

foundational text for variationist sociolinguistics. Labov's idea was that the formal-casual continuum correlates with the standardized-non-standardized continuum because both of these more directly correlate with the amount of self-monitoring that takes place while speaking/signing. In more formal situations, we pay more attention to the details of the language we use and when we are paying more attention to the language we use, we are more likely to avoid features of our language that are stigmatized. In other words, we're more likely to speak/sign the way we have been socialized to think we *should* be speaking/signing when we are paying attention to our language. In casual contexts, we pay less attention and are less likely to conform to the standard.

Different styles. The understanding of style described by Labov is called the **attention-paid-to-speech model** but there are other motivations for style shifting too. We might style shift in response to our interlocutor (more formal with a stranger and more casual with friend) or even in response to people who might be eavesdropping on our conversation. This is called the **audience design model**. We might also shift to a more or less casual style or we may use a higher or lower frequency of variants of a variable associated with different social factors to achieve certain interactional goals or to express and highlight different aspects of our identity. This is called the **speaker design model**.

Finally, sociodemographic information is also revealed in language use and linguistic variation. By sociodemographic

information, we mean the traits that we share with the social cohorts that we belong to. The language we use, just like the clothes we wear, the activities to do, the places we go, and the things we own, marks our social identity. The use and frequency of use of linguistic variables correlates with a huge array of social factors including age, social class/status, race, ethnicity, gender, education, place, caste, sexuality, social network, and local communities of practice, among other aspects of our identities, both macrosociological and microsociological. Later in this chapter, we'll look at four of these factors in detail: place, social status, gender, and ethnicity.

Our language use and variation within our languages reveals aspects of the social structures and sociocultural norms that those languages are embedded within as well as sociodemographic information about the interlocutors and facts about the interactional context.

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33.

SOCIOLINGUISTIC CORRELATIONS: PLACE

If you sit back and think about how different people speak or sign the same language in different ways, the first social distinction that comes to mind just might be region or place. As dialectologists have been aware of for a long time, people from different places tend to have different regional varieties. Egyptian Arabic and Syrian Arabic are distinct; Continental French, Quebec French and Moroccan French are distinct; Spanish in Mexico, in Puerto Rico, and in Spain are all distinct. Within one nation there are also dialect differences, Acadian French (a variety spoken in the Maritimes) differs from Laurentian French (a variety spoken in Quebec, Ontario, and Western Canada); New York City English differs from Chicago English; nêhiyawêwin (Plains Cree) differs from nîhithawîwin (Woods Cree). In some cases, a particular variety has been put on a pedestal as the 'standard' and most prestigious representation for the language. However, the standardization of one variety over another is never about the linguistic nature of the variety and is always rooted in power structures and politics. A stereotypical feature of standard

British English is the deletion of non-prevocalic *r* (or '*r*-dropping') as in *dark* [dɑːk] and *car* [kɑː]. This "Queen's English" (note the explicitness of power and politics right there!) is perceived as the standard, prestigious, and most posh way of speaking for people in, for example, Brixton and Hammersmith. However, the same phonological feature, deletion of non-prevocalic *r*, which is also common in New York City English, is perceived as non-standard, low-status, and lacking prestige in Williamsburg and Greenwich Village. Same linguistic process, diametrically different perceptions!

Do you say 'soda' or 'pop'? 'Cottage' or 'cabin'? In 2013, the most read piece published by the *New York Times* was "How Y'all, Youse and You Guys Talk", an interactive 'dialect quiz' that asked readers a series of questions about the lexical items they used for various concepts (e.g., 'a large, wild cat, native to North America', 'a small road parallel to a highway', 'a small gray bug that curls up into a ball when touched'). Upon completion, readers were given a map pinpointing the quiz's best guess at their location (within the United States) based on their responses. The piece highlighted the diversity of regional varieties of American English. Of course, regional variation exists within languages other than English too. For example, the words BIRTHDAY, STRAWBERRY, and PIZZA (among many others) have several regional variants in ASL (Lucas, Bayley, and Valli, 2003). You can see four regional variants of BIRTHDAY in this YouTube video .

Taking this example further, it's safe to say that r-dropping is strongly associated with London English and New York City English (regardless of its other local associations). This association comes about through **indexicality**, the semiotic concept that a sign (in our case, a linguistic feature) points to (think, *index* finger ☞) some meaning. For example, some words, called 'deictics', can only have meaning within specific context: what *tomorrow* refers to is going to change in 24 hours! This is referential indexicality. But language also makes use of non-referential indexicality: linguistic features can index **social meanings** like place! Indexicality like this arises through the process of **enregisterment** or the linking of a particular feature of language with some cultural expectation. For example, according to the prevalent Euro-American gender ideology, there are two genders and those two genders behave differently. The result of mapping language to this "ideological schema" (Johnstone 2009) is that some linguistic features come to be gendered (i.e., they index masculinity or femininity). For instance, among Canadian English speaking adolescents, the intensifying adverb *pretty* as in *pretty cool* tends to index masculinity, whereas the intensifying adverb *so* as in *so cool* tends to index femininity (Tagliamonte 2016: 91). The same thing happens with place. The cultural expectation is that people in different places are different, and the result of mapping language to that expectation is that some linguistic features come to have regional associations.

Settler Colonialism and Canadian English. General

Canadian English is perhaps the geographically most widespread homogeneous regional variety of any language. It is spoken by people from the Ontario-Quebec border in the east to Vancouver Island in the west (roughly 3800 kilometers!). The geographic size and shape of regional varieties depends on a wide-range of factors like physical geography, infrastructure, and political borders. In the case of Canada, we can point to historical migrations and colonialism.

Canadian English is typically traced back to early European settlers of southern Ontario who arrived from the United States as refugees of the American Revolutionary War. Over the decades, these "Loyalists" and their descendants migrated westward and took with them the same variety of English.

But that's not the whole story. Typically when two languages come into contact, borrowings happen and the languages change in convergent ways. But the fact that Toronto English and Vancouver English are extremely homogeneous only came about because this contact-induced change *didn't* happen despite the huge diversity of Indigenous languages spoken across this same area. For example, there's no trace of contact with Nishnaabemwin in Toronto English and no trace of contact with hən̓q̓əmin̓əm̓ or Sḵwx̱wú7mesh sníchim in Vancouver English (though a pidgin trade language called Chinook Jargon, which incorporated elements of Chinookan, Wakashan, Salishan, and, eventually, Indo-European languages, did exist on the west coast until the late 19th century).

Why? Settler colonialism. Settler colonialism is a type of colonialism. Its goal is the acquisition of land for the purpose of permanent repopulation of settlers from the parent state to the colony. In Canada (as well as the United States, Australia, New Zealand and elsewhere), settler colonial expansion required not just the displacement of Indigenous peoples but also their erasure. Through physical and cultural genocide, the settler colonial state of Canada has actively worked to erase Indigeneous peoples cultures, and languages from this land. The homogeneity of Canadian English is an insidious testament to settler colonialism (see Denis and D'Arcy 2018).

Within the Canadian context, probably the most well known enregistered feature of Canadian English is the pragmatic marker *eh*. Today, the Canadian indexicality of *eh* is ubiquitous. You can buy t-shirts, mugs, and magnets with *eh* on them, often accompanied with other national symbols like a red maple leaf. In fact, *eh* is so closely linked with Canada that when the Government of Canada created a Twitter account ([@Canada](#)), its very first tweet was [".@Canada's now on Twitter, eh!"](#) But just because a linguistic feature is enregistered as a feature of a regional variety, that doesn't mean that that linguistic feature is actually used all that much! *Eh* has several different uses in Canadian English but in one of its most common uses, it is a variant of a linguistic variable, together with other pragmatic markers like *right*, *you know*, and *you see*. When analyzed through the Principle of Accountability, *eh*'s frequency of use is eclipsed by

these other variants. That said, this varies in different regions. In an analysis of oral history recordings of Canadian English speakers born between the 1860s and 1930s in Southern Ontario and Southern Vancouver Island, British Columbia, Denis (2020) finds that *eh* represents less than one percent of tokens of this variable on Vancouver Island but 12% in Southern Ontario.

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34.

SOCIOLINGUISTIC CORRELATIONS: SOCIAL STATUS

You probably have an intuition about social class and a hierarchy of status in society that is linked with the unequal distribution of wealth and power. You probably also recognize that this inequity is not arbitrary and intersects with other social factors. At the same time, social class is less tangible than other social facts about people like their age, their gender, and their ethnicity. In Euro-American society since the Industrial Revolution, people have been categorized into three groups: 'upper class', 'middle class', and 'lower class'. The implied hierarchy of these traditional categorizes reflects the distribution of wealth and power: the 'upper' or ruling class holds the most and the 'lower' or working class holds the least. Sociological definitions of social class look to objective measures like property ownership, wealth, income, and occupation and subjective measures like life chances, prestige, and reputation in categorizing class membership. In the Canadian context, social class seems that much more

intangible because, while we are largely a middle class society, when we consider those at the bottom of the social class hierarchy, there are important interactions and intersections with both geography and other social factors, especially race and ethnicity. Geographically speaking, there tend to be specific areas both within cities and in remote areas that are socioeconomically less advantaged. With respect to race and ethnicity, Black, Indigenous, and other people of colour (especially those who have immigrated recently), are also, on aggregate, in a more socioeconomically precarious situation.

While social class can be a fuzzy concept, it's still an intuitive reality. To investigate the role of social class as a conditioning factor of linguistic variation, we need to come up with ways of 'diagnosing' or measuring it. Often times, someone's occupation (or sometimes their parents' occupations), their education, their income, or their residence can be used as an indication of their social class. In William Labov's (1966) study of variation in the English spoken in the Lower East Side of Manhattan, he made use of three parameters to categorize people into different social classes: occupation, education, and income. Labov examined many different linguistic variables in his data and found extensive correlations between the frequency of use of different variants and an individual's social class, according to his measure. For example, the frequency of use of the [ɪn] variant of *-ing* exhibited **social stratification**. Participants in the working class speakers have the highest rate of this variant, upper class speakers use [ɪn] the least, and

people in the middle of the social class spectrum are somewhere in-between with respect to *-ing*.

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35.

SOCIOLINGUISTIC CORRELATIONS: GENDER

Our gender is a social acquisition that comes about through socialization over our lifetime (and sometimes even prior to our start of life... I'm looking at you 'gender reveal' parties). Sex on the other hand is something that is assigned to us based on aspects of our (usually external) biology at birth. You've probably heard that "gender is the socially-constructed counterpart of biological sex" (Cheshire 2002: 427). That's only half true though: binary sex is also a social construct (see Eliot 2011 and Fausto-Sterling 2012). Although sex is colloquially spoken about as a biological binary, its anatomical, endocrinal, and chromosomal criteria all exist on continua; the two discrete categories of 'male' and 'female' are split at a socially-constructed and fuzzy boundary. For cisgender people, their gender identity (i.e., as a man, as a woman, as masculine, as feminine) is (largely) consistent with the sex that they were assigned at birth (i.e., male, female). For transgender people, their gender identity differs from the sex they were

assigned at birth and often differs from the gender identity they were socialized into earlier in life. For nonbinary and genderqueer people, their gender identity does not (always) map to the spectra of masculinities and femininities. In cultures across the world, gender is not restricted to a binary (e.g., two-spirit people in some Indigenous communities in North America and hijras in India).

Understanding the distinction between gender and sex is important because past variationist sociolinguistic research often collapsed the difference. As Eckert (1989: 246–7) observed over 30 years ago: "Although differences in patterns of [linguistic] variation between men and women are a function of gender and only indirectly a function of sex …, we have been examining the interaction between gender and variation by correlating variables with sex rather than gender differences." Eckert's main point here is that although variationists frequently talk about two groups based on 'sex differences', the linguistic difference between men and women is not a biological fact but a social one: men do not use certain variants in a certain way because of their particular anatomy, hormones, and chromosomes but because they have been socialized into using language 'like a man'. In the early years of the field, little attention was paid to the complexity of gender and the normative binary was taken for granted. Moreover, participants in earlier variationist work were typically categorized based on their **gender presentation** (i.e., how the

researcher perceived the participant's gender) rather than their self-identification.

Gender and vocal pitch. One aspect of spoken languages that seems to have a clear link to our anatomy is vocal pitch. People with larger, heavier vocal folds have lower pitched voices because their vocal folds require more energy to vibrate and thus, vibrate less quickly than smaller, lighter vocal folds (which on average produce higher pitched voices). However, even this seemingly biologically-based difference is also socially-sustained. Prior to puberty, when endocrinal changes trigger the larynx to grow differentially depending on a person's specific combinations of hormones, all children's vocal folds are anatomically roughly similar. And yet, as early as age four, boys and girls (consciously and unconsciously) conform to the norms of masculine and feminine speech: boys manipulate their vocal tract to produce more masculine-sounding voices and girls manipulate their vocal tract to produce more feminine-sounding voices (Sachs et al. 1973).

The complexity of gender helps to explain well-observed gendered-patterns of variation. These patterns have been found over and over again in so many studies that Labov (2001) codified them as *principles of linguistic change*. (There is one, pretty big, caveat here though: the vast majority of the studies where the pattern has been found represent languages embedded in Euro-American culture!)

- Principle I: In stable variation, women use more of the

standardized variant than men do.

- Principle Ia: In changes from above, women favour the incoming prestige variant more than men.
- Principle II: In changes from below, women are most often the innovators.

Principles I and Ia are named as such because they similarly involve women using more of the overtly prestigious variant. An example of Principle I in action can be seen in Figure 10.5 from Wolfram's (1969) study of *th*-stopping in Black English in Detroit. This is a stable variable that involves the variable realization of /θ/ as [θ] or [t] in words like *think* [θɪŋk~tɪŋk] and *with* [ʍɪθ~ʍɪt]. Figure 10.5 shows the frequency of the non-standard [t] variant of variable *th*-stopping among men and women across four different social classes. Critically, even in the face of social stratification, men have a higher rate of the non-standard variant [t] than women who favour the standard form [θ].

One proposed explanation for Principles I and Ia appeals to (Euro-American) gender ideologies (in interaction with social class). Eckert and McConnell-Ginet (2013: 253) identify two character tropes on the extremes of the gender binary that serve as imaginary reference points in the performance of femininity and masculinity. You can think of these as extreme stereotypes of the 'ideal' woman and 'ideal' man; no real woman or real man exists who fit these stereotypes, but their characteristics serve as a baseline for expressions of normative

femininity and masculinity. First is the *girlie-girl*: "her body is small, delicate, she moves gracefully, she smells faintly of delicate flowers, her skin is soft, she is carefully groomed from hair to toenails. She dresses in delicate fabrics, she smiles, she is polite, and she speaks a prestige variety. Wealth refinement is central to canonical femininity". Think early-era Taylor Swift. On the other end of the binary is the *manly-man*: "grounded in the physical – in size and strength, in heavy and dirty work, in roughness, toughness, and earthiness. The stereotypical man is working class." Think *Born in the U.S.A.*-era Bruce Springsteen. In general, these are the gender ideals against which men and women are evaluated, socialized into, and often consciously and unconsciously conform to. But what is feminine about prestige language? For one, as we saw above, people in higher social classes use more standard variants and wealth refinement is a central aspect of canonical femininity. Moreover, Deuchar (1989) suggests that standard language can protect "the face of a relatively powerless speaker without attacking that of the addressee". In the context of patriarchal male dominance, standard speech functions, in some ways, as a survival strategy.

At the same time, further expectations are put on women's language. In one of the most influential papers on the sociocultural study of language and gender, Robin Lakoff defined **the double bind**: women are socialized not just to use standard language but powerless and tentative language... to talk 'like a lady'. But, in Lakoff's (1972: 48) words, "a girl

is damned if she does, damned if she doesn't." Her tentative, powerless language will be seen as a reflection on her (in)ability to participate in serious discussion but if she resists and subverts this expectation, she runs the risk of being deemed unfeminine.

Double bind in action. Check out this satirical list of 'Non-Threatening Leadership Strategies for Women" to see examples of the double-bind in action. My favourite is #9!

In a study based in Norwich England, Peter Trudgill (1972) compared people's actual frequency of use of standard and non-standard variants with those people's own perceptions of how standard or non-standard they thought their speech was. The majority of women in the study over-reported their use of the standard. Trudgill concluded that women are more linguistically standard because they are more status-conscious than men. But it would be an error to assume that only women are linguistically status-conscious, the only ones adjusting their language in reaction to these norms and ideas of standardness. Men too are status-conscious but in reaction to canonical masculinity. Most of the men that Trudgill interviewed believed they were more non-standard than they actually were! Men of all social classes and backgrounds make use of non-prestigious working class language and white men often adopt features of non-prestigious Black language in the name of **covert prestige**. The use of these linguistic forms indexes the toughness and physical dominance that class and racial ideologies assign to working class and Black men –

characteristics of the canonical masculinity that is desirable to all men.

So an appeal to gender, class, and racial ideologies offers an explanation for Principles I and Ia: that women tend to use more standard variants and men tend to use less in stable variation and in changes from above. But Principles I and Ia contrast with Principle II, which essentially notes that women deviate from the standard (i.e., they innovate away from the current norm) more than men when no one is looking! Labov (2001: 293) calls this the **gender paradox**: "women conform more closely than men to sociolinguistic norms that are overtly prescribed, but conform less than men when they are not". The complexity of gender again offers explanation. The gender paradox is true only in the aggregate: only when we collapse all men and all women together does the pattern emerges. But it is not categorically true: there are women who deviate more from the standard than some men, and vice versa.

Penelope Eckert demonstrated this idea in her groundbreaking work on linguistic variation among adolescents in a suburban Detroit-area high school (see Eckert 1989, 2000). Like just about every high school across North America, this high school had two major cliques. First, were the 'jocks'. The jocks included the athletes of the school, as you might imagine, but the group was a bit broader. They included the students who were involved in all school-oriented activities: sports, band, academic societies, and school council. Jocks generally express overt respect for the hierarchical system

of the school and the authority of their teachers and principals. The other group, the 'burnouts', were anti-school and their interests fell outside of school (things like sex, drugs and rock 'n' roll!). The 'burnouts' were also overtly anti-authority. These two groups can be understood as two different **communities of practice**: groups that share common interests, concerns, and goals. While the jocks embody middle class ideals and the burnouts embody working class ideals, a student's social class and community of practice did not always align. That is, there were working class jocks and middle class burnouts.

Regardless of group, the boys in Eckert's study expressed their group identity through their actions, like being on the football team for the jocks or, for the burnouts, 'cruising' (getting in a car and driving in and around downtown Detroit, maybe getting out and going to a bar or a rock concert). Girls on the other hand relied on projecting an image to express their identity. Jock girls must be friendly, outgoing, all-American, clean cut, and preppy, while burnout girls need to be tough, urban, and 'experienced' (that is, sexually active). This plays out linguistically as well as can be seen when we look at the patterns of variation in the school around the five variables of the **Northern Cities Chain Shift**.

Chain shifts. Chain shifts are a kind of change that affects several linguistic features in a systematic and serial way. A common kind of chain shift is a vowel chain shift, like the Northern Cities Chain Shift. The idea is that once one vowel

starts to move away from its older position, other vowels are pushed or pulled around the vowel space to accommodate: just like when you pull at one link of a chain, all the subsequent links move too. The Northern Cities Chain Shift, found in urban areas across New York state, Michigan, Illinois, and elsewhere, involves a change in both the height and backness of five vowels. The vowel in BAT [æ] moves higher, so it sounds more like [ɛ]; the vowel in BOT [ɑ] shifts forward and is pronounced more like [æ]; the vowel as in BOUGHT [ɔ] lowers to sound more like [ɑ] (note though that in Canadian English, these two vowels have merged); the vowel in BUT [ʌ] moves back and sounds more like [ɔ] and the vowel in BET [ɛ] moves back and sounds more like [ʌ]. Each of these changes triggers the next one, so there is a chronological order to the changes. BAT started to move first, followed by BOT, then BOUGHT, then BUT, and most recently BET began to move.

And here's the solution to the gender paradox: 'women' (and 'men') are not a cohesive, homogenous group! It's the subset of "non-conformist" women (like the burnout girls here) who are the leaders of changes from below. The difference between men and women, on aggregate, is not about status consciousness, but the fact that women are more status bound. While men's status depends on their accomplishments, possessions, and institutional status (i.e., what they do/have), women are evaluated on their symbolic capital (i.e., who they are/appear to be). Both men and women accumulate symbolic capital, but it is "the *only* kind that

women can accumulate with impunity" (Eckert 1989: 256). The upshot is there is a wider range of linguistic differentiation (reflecting social category distinctions) among women than among men. Women "maintain more rigid social boundaries, since the threat of being associated with the wrong kind of person is far greater to the individual whose status depends on who she appears to be rather than what she does" (Eckert 1989: 258).

You'll notice that this section has said nothing about the language use of transgender, nonbinary, and gender diverse people. For decades the linguistic practices of transgender, nonbinary, and gender diverse people were either ignored or studied only because they subverted exceptions of previous theories of language and gender (Konnelly 2021). Most, if not all, of this research was also conducted by cisgender linguists. However, over the last decade or so, transgender and nonbinary linguists have begun to study language within their own communities and from a far more affirming perspective (Zimman 2020). Some of this work has shown how linguistic variation can be used as a means of constructing a nonbinary identity. Gratton (2016) looks at the the use of variable *-ing* by two Canadian English speaking nonbinary people in two different contexts: one, a safe queer space and the other, an unfamiliar, non-queer space. Gratton finds that in the safe, queer context both speakers use each of the two variants around 50% of the time. However, in the non-queer spaces where they express legitimate fear of being misgendered, the

two speakers diverge sharply from each other. One speaker, in reacting to the threat of being misgendered as a woman, used a very high rate of the masculine-associated [ɪn] variant, while the other speaker, reacting to the threat of being misgendered as a man, used a very high rate of the feminine-associated [ɪŋ]. Gratton (2016: 56) argues that it's not the case that these two speakers are attempting to align with cis-masculinity or cis-femininity respectively – they are both non-binary! – but rather, they "utilize resources that they associate with cis-normative masculinity [and femininity] ... in order to distance [themselves] enough from cis-normative femininity [or masculinity respectively] that they [are] not misgendered as such." In this way, both linguistic variation provides both speakers a means of "perform a non-binary identity" (Gratton 2016: 57).

Adapted from:

Anderson, C., Bjorkman, B., Denis, D., Doner, J., Grant, M., Sanders, N. & Taniguchi, A. (2022). *Essentials of Linguistics*. Pressbooks. https://ecampusontario.pressbooks.pub/essentialsoflinguistics2/

36.

SOCIOLINGUISTIC CORRELATIONS: ETHNICITY

Like gender, ethnicity is socioculturally and sociolinguistically complex. Language and ethnicity are intricately linked and often co-constitutive. That is to say, each is often circularly defined; divisions between languages are often defined with reference to divisions between cohesive cultural groups that use those languages and ethnic groups are often defined with respect to the language that the group uses (e.g., think about how Czech and Slovak are mutually intelligible but understood as distinct languages, spoken by distinct ethnic groups). Around the world, people tend to live in close proximity to other members of their ethnic group. This is true both in places where that ethnic group is indigenous or in contexts of colonialism and diasporic migrations. This means that people often – but certainly not always – have social networks that are ethnically homogeneous. The linguistic consequence of this is that, because we tend to use language in the same way as the people we interact with

most, **ethnolects** of many languages have emerged. Ethnolects are varieties of an ambient (standardized) community language used by a minoritized ethnic group. That's not to say that the ambient standard doesn't also have ethnoracial associations though! In North America for example, while people tend to assume that the ambient standards of Canadian English, Quebecois French, American English, and ASL are ethnically-neutral, they are ideologically associated with whiteness and European settlers.

I don't have the space to dive into the complex intersections of language, ethnicity, race, and prestige but what I want to do is demonstrate the importance of linguistic variation with respect to ethnolects. The Lumbee Tribe of North Carolina is an Indigenous group in the United States and in fact, with 45 000 members, the Lumbee Tribe is the largest Indigenous group that lives east of the Mississippi River. The majority of Lumbee people live in Robeson County, North Carolina, a multiethnic area: 40% of residents are Lumbee, 35% are Anglo-American, and 25% are African American (Wolfram, Daugherty, Cullinan 2014). These three groups, though living in close proximity, each live mostly selectively-segregated within the county. The Lumbees' political situation is thorny; they have state-recognized Indigenous status in North Carolina but are not federally recognized with formal tribal status by the US Government. For almost a century and a half, the Lumbees have been unsuccessfully petitioning for full federal recognition. A major roadblock for the Lumbees'

petition has been their language history. Knowing one's ancestral language is a key piece in demonstrating descent and is key to federal recognition. However, the Lumbee people's ancestral language was taken from them very early on in the settler-colonial history of North America (they were documented as speaking English as early as 1730!). In an effort to combat this mitigating factor, a group of sociolinguists have been documenting the uniqueness and time depth of the Lumbee English ethnolect to help provide evidence of Lumbee Tribe's culturally distinctive language that will satisfy the settler-colonial state.

Many of the lexical, phonological, and morphosyntactic characteristics of Lumbee English are shared by their Anglo-American and African American neighbours, or by nearby Appalachian English or North Carolina's Outer Banks English. However, Lumbee English is composed of a unique mix. For example, the /aɪ/ phoneme in Lumbee English is raised and backed to [ɑɪ], something shared with Outer Banks English but none of the others; while Lumbee English's 'for to' complementizer (e.g., *I want for to get it*) is shared with Appalachian English, but no others; and, Finite *be* (e.g., *she bes there*) is only shared with their Anglo-American neighbours. There are also a few features that are completely unique and point to the Lumbees' long history of use of English. One of these is perfective *be*. Until the mid-seventeenth century or so, standard English exhibited a categorical alteration between *be* and *have* as markers of

perfect aspect depending on the main verb of the sentence. Eventually, in most varieties of English, perfective *be* was lost, but in German, a language closely related to English, the alternation still happens, as in (6).

(6a)	Sie	**hat**	ihren	hund	mitgebracht
	she	**has**	her	dog	brought
	'She has brought her dog' (German)				

(6b)	Sie	**ist**	gegangen
	she	**is**	gone
	'She has gone' (German)		

In Lumbee English, like in German, many main verbs retain perfective *be* both in present and past tenses as in the examples in (7) from Wolfram (1996: 9) and Dannenberg (1999: 67).

(7a)	If I**'m** got a dollar, I**'m** got it.	[have got]
(7b)	I**'m** told you all that I know.	[have told]
(7c)	We **were** got a few white folks up here.	[had got]
(7d)	I don't have to ask if you **were** been there.	[had been]
(7e)	It **was** had a blue dot on it.	[had had]

While perfective be in the present tense is shared with a small handful of other isolated English-speaking communities (none near Robeson County), perfective *be* in the past tense appears to be completely unique to Lumbee English. The presence of perfective *be* in Lumbee English suggests that the language has been in use within the community for a very long time: at least as long ago as when perfective *be* was more generally common among English speakers.

Lastly, several linguistic variables in Lumbee English demonstrate further evidence of its uniqueness. Both consonant cluster reduction and *was/were* levelling are variables shared by Lumbee English and their African American and Anglo-American neighbours. But for both variables, Lumbee English exhibits a unique pattern of conditioning factors.

Variable consonant cluster reduction involves variation between complex codas and reduced codas. So a word like *disk* may variably be realized as [dɪsk] or [dɪs] and a word like *grilled* might be realized as [gɹɪld] or [gɹɪl]. There are two

important linguistic conditioning factors that correlate with this variation. First is the morphological complexity of the word: is the word monomorphemic like *disk* and *mist* or bimorphemic like *grill-ed* and *miss-ed*? Second is the following segment: is the next sound a vowel, a consonant, or a pause? The three varieties spoken in Robeson County differ in terms of how these factors interact and which variant is favoured in specific contexts. For example, Lumbee English patterns with African American English and differs from Anglo-American English in one way: in both Lumbee English and African American English the reduced variant is less likely to occur in monomorphemic words that appear before vowels like in *rest* [ɹɛst] *easy*. At the same time, Lumbee English patterns with Anglo-American English and differs from African American English in another way: in Lumbee English and Anglo-American English, the reduced variant is more likely in bimorphemic words that come before pauses like *she's blessed* [blɛs] (Torbet 2001: 381).

Like with consonant cluster reduction, *was/were* levelling, the variable realization of *were* as *was*, as in *we were/was* and *they weren't/wasn't*, is shared by everyone in Robeson County. However, only in Lumbee English does the polarity of the sentence constrain the variation (such that affirmative sentences favour levelling to *was* and negative sentences disfavour levelling) (Wolfram and Sellers 1999: 103).

The evidence for the uniqueness and long history of the Lumbee ethnolect of English is strong. If a unique ancestral

language is a requirement for purposes of federal recognition by the US Government, it seems that Lumbee English should qualify as such. Unfortunately, although in November 2020 the Lumbee Recognition Act of 2019 was passed in the House of Representatives it failed to pass in the Senate. However, in April 2021, a bipartisan group of lawmakers from North Carolina introduced new bills to try again.

Want to know more?

The *Language & Life* project, a team of linguists and videographers based out of North Carolina State University, have been producing fascinating, accessible, and linguistically-informed documentaries about different American language varieties for over almost three decades now. Many of their documentaries focus on ethnolects: Signing Black in America focuses on Black ASL, Talking Black in America focuses on Black English, and Voices of North Carolina considers the wide diversity of spoken varieties in the state including ethnolects. Each of these are available to watch for free on YouTube.

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essentialsoflinguistics2/

This is where you can add appendices or other back matter.