U-Lingua

The Undergraduate Linguistics Association of Britain's Quarterly Magazine

Hot off the Press

Behind the Bookshelves

Beyond the Page

Through the Ages

A Hands-on Approach

Words, Words, Words

Curiouser and Curiouser

Anatomy of a Linguist

ULaB

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WIKITONGUES, INC.

Editor's Letter

It is my privilege to be writing to you as the new Editor-in-Chief of *U-Lingua*, and to have the opportunity to introduce you to this latest issue put together by our new editorial team. I'd like to thank those of you who have been on this journey with us and have watched us grow as a publication, as well as to welcome our new readers – thank you for giving us a try! Of course, the magazine could not have come together without the hard work of our team, who have prepared an array of thought-provoking articles for you, and who deserve the most heart-felt gratitude.

Issue 5 explores what language means to those who use it, be it as a symbol for independence, a cultural heritage, a tool to connect with others, or a means to optimise business strategies. The team has seen an addition of four Columnist roles, to engage readers more directly with discussions about the practical implementations of linguistics – accessibility of linguistics; dealing with the nitty-gritties of a linguistics degree; the translations of Chopin's letters; the meaning of words. With this broadened approach we hope to take the magazine in a new direction, reaching a wider range of readers, to offer a more comprehensive glimpse of the frontlines of linguistic research and application. I hope you enjoy reading this issue as much as I did, and that you turn the final page knowing what your language means to you.

S. C. Jat
Editor-in-Chief, *U-Lingua*
University of Cambridge

Since Issue four of *U-Lingua* we held our very first online ULAB conference, which was a great success! It was three days packed with student presentations, social events, workshops and plenary talks. I'd like to say a huge thank you to the Local Committee at Aberdeen, especially the 2021 Local Chair, Beatrix Livesey-Stephens, whose hard work made this all possible. On the last day of the conference, we endured a 5 hour AGM (my fault, very sorry), at which we made some major changes to the constitution, elected a new National Committee and voted for Edinburgh to host the 2022 ULAB conference. Since then the new ULAB Committee and Subcommittees have been working on a number of projects, including compiling the proceedings for the 2021 conference, publishing the very first Issue of the Journal of the Undergraduate Linguistics Association of Britain, discussing possibilities for doing linguistics outreach in schools, hosting an epic online pub quiz, and of course creating this Issue of *U-Lingua*. We're still working on setting our goals for ULAB for the upcoming academic year, so if you have any ideas for projects that you would like to see us carry out, please don't hesitate to contact us - we'd love to hear from you!

Finally, I'd like to thank the AGM attendees for re-electing me as National Chair. I'm so excited to be working with ULAB again this year, and I promise that the 2022 AGM will brie shorter than that of 2021!

Cliodhna Hughes
National Chair, *Undergraduate Linguistics Association of Britain*
University of Edinburgh

Preparations are already underway for our conference next year, to be hosted at the University of Edinburgh. We are so grateful that you all chose our university to host, and we look forward to the prospect of seeing you there next spring! Edinburgh is a beautiful city with so much to offer and we hope to bring together the ULAB community there after two years without an in-person conference, but we are nonetheless preparing for the possibility of an online or hybrid conference. We are also looking at what lessons can be learned from the amazing ULAB 2021 conference at Aberdeen. I am so proud of the students and staff who are already so enthusiastic to make this conference unforgettable. A huge thanks to all the students who have come forward and joined the local committee to make this possible, and a special thanks our Vice-Chair Caitlin Wilson, our Secretary Darja Prudcenko, and our Treasurer Elif Yildiz. We are ecstatic to see you all whether online or face-to-face and share everything Edinburgh and our university have to offer.

Riley Crouch
Local Chair, *Undergraduate Linguistics Association of Britain*
University of Edinburgh

MEET THE EDITORIAL TEAM OF U-LINGUA

STEPHANIE JAT

Editor-in-Chief

Steph is originally from Hong Kong and is doing her MPhil (by Thesis) in Linguistics at Pembroke College, Cambridge. After spending too many hours doing UKLO puzzles, she decided to try her hand at the undergraduate degree and decided she loved it enough to commit. Her main interests lie in stylistics and its interaction with linguistic theory, specifically in the interface between poetic license and grammaticality. When not reading, she can be found pretending she's on Bake-Off, lost on a hike, or living her X-factor dreams from the safety of her living room.

ELIF YILDIZ

Section Editor

Elif (she/her) is a third year linguistics undergraduate student at the University of Edinburgh. Her areas of interest are typology, syntactic theory and cross-linguistic variation. She is the editor of the *Hot off the Press* section, which brings current affairs and linguistics together. When not reading the news, she can be found trying to increase her non(yet!)existent spicy food tolerance.

ALESSANDRA TERRANOVA

Section Editor

Alessandra is a second-year Cognitive Science undergraduate at the University of Edinburgh. Currently her areas of interest are semantic typology, computational linguistics and phonology, but she changes her mind too easily. She edits *Behind the Bookshelves*, the section connecting students to the wider world of academia.

KITTY LIU

Section Editor

Kitty is a second-year undergraduate studying Linguistics at the University of Cambridge. She is particularly interested in semantics and pragmatics, historical linguistics, and functionalism. She edits the *Through the Ages* section in *U-Lingua*, which centres on historical linguistics and language typology.

Cara McSherry

Columnist

Cara (she/her) has just finished her undergrad in Spanish & Linguistics at the University of Edinburgh. She's mainly interested in language-in-context, especially in the ways that people think and feel about their languages and how that shapes different power dynamics; she also feels passionately about elevating the status of minority languages, particularly Scots. Young, dumb and full of linguistics puns, she's the columnist for *A Hands-On Approach* where she'll be offering up advice and how-to guides on various linguistics-related topics as well as some fun and challenging puzzles.
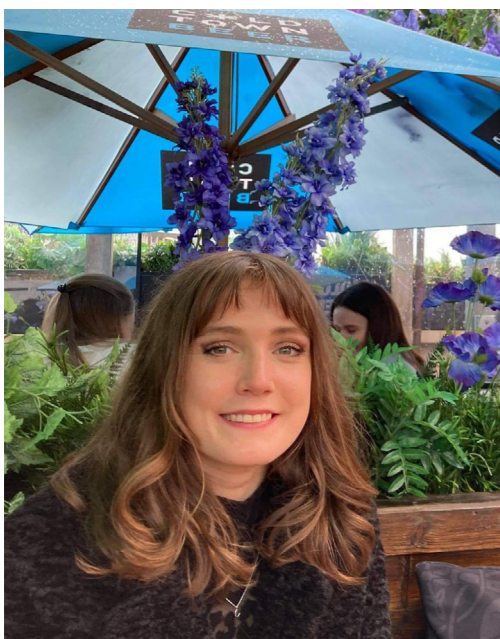
Olivia Szczerbakiewicz

Columnist

Olivia is the Columnist of the *Words, Words, Words* section of *U-Lingua*. She is a fourth-year English Language and Literature student at the University of Edinburgh. She is particularly keen on applications of cognitive linguistics and stylistics to literary texts, as well as the intricacies and differences in translation. In her free time, she can be found conducting odd research for and typing away at her novel about late Soviet era Poland.

Caitlin Wilson

Columnist

Caitlin (she/her) is a fourth year undergraduate at the University of Edinburgh. Her areas of interest are theoretical syntax and language preservation. She runs the outreach column *Curiouser and Curiouser* that aims to answer students' burning questions about what it's like to study Linguistics.

Tom Williamson

Columnist

Tom is an MPhil (by Thesis) in Linguistics at the University of Cambridge, where his research crosses a divide between psycholinguistics and cognitive science, mixed in with some semantics, pragmatics, and philosophy of language. He completed a BA in Linguistics and Philosophy at Lancaster University, where he studied a range of topics from the philosophy of mind and cognitive linguistics to evolutionary psychology and logic. In *Anatomy of a Linguist*, he'll be sharing his thoughts and opinions on some of the most pressing issues in linguistics today, ensuring that the content remains understandable and engaging.

Xinmei Sun

Editorial Designer

Xinmei has just finished her BA in English Language and Applied Linguistics at the University of Nottingham. Her research interest lies in cognitive linguistics and its applications in Critical Discourse Analysis (CDA). She is also interested in experimental methods in reader response research in CDA. She enjoys musical theatre, crime fiction and hiking. Her role on the editorial team mainly involves formatting and styling each issue of *U-Lingua*.
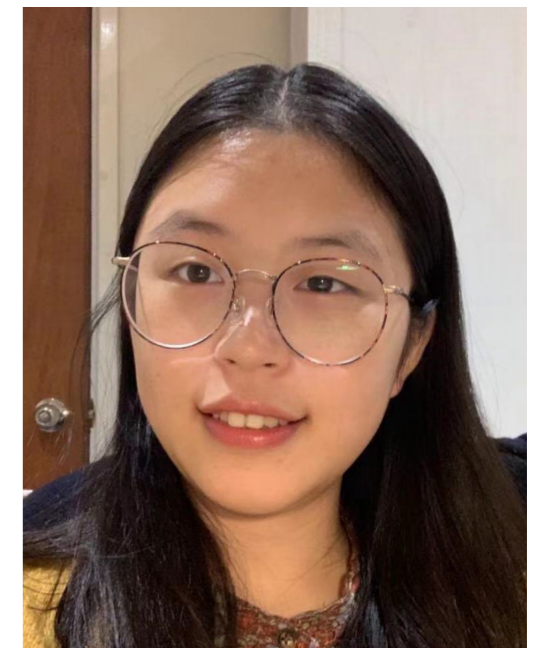
HOT OFF

THE PRESS

Cymru am byth?
Independence on the Welsh Language

Charlotte Slocombe
MPhil in Theoretical and Applied Linguistics, University of Cambridge.

CYMRAEG

Welsh: an oppressed people historically and an oppressed language now. Cymraeg, the Welsh language, is part of the Celtic language family which greatly differs from the Germanic language family that English resides in[1]. Despite its interesting and ancient history, Cymraeg is in trouble. With around 870,000 speakers in 2020, making up just 28% of the Welsh population[2], Cymraeg is considered vulnerable. The number of speakers and the prestige of Cymraeg itself has been inexorably linked to Wales' status as an annexed country of the UK. But with the discussion of independence growing stronger in Scotland and nearly a century passing since the Republic of Ireland broke free, could the future of Wales be similar? Will there be a time when Great Britain no longer exists? And what impact could independence have on Cymraeg?

Understanding the current political system in relation to Cymraeg requires an understanding of the turbulent history between Wales and England. Wales became formally ruled by England in 1536 under Henry VIII[3]. Henry VIII's father, Henry VII, was born in Pembroke castle[4] and possibly spoke Cymraeg (although there is no definitive evidence to say so). The English rule meant a suppression of Welsh culture inevitably impacting the language. From 1536, Cymraeg was banned from Welsh courts[5] in favour of English and all monoglot Welsh speakers were barred from holding public office. By making English the language of the courts, English had greater esteem and was considered more prestigious, breeding the conception of English speakers appearing wealthier and more highly educated than the Cymraeg-speaking countryfolk.

The legal oppression of Cymraeg was paired with its social oppression. As late as the early 20th Century, the Welsh Not was implemented in Welsh schools[7]. If a child was caught speaking Cymraeg during the school day, a wooden board would be hung around the child's neck and passed on to another child if that other child was similarly caught. At the end of the day, the child with the board would be beaten or punished in a similar fashion[8]. Whilst this did not kill Cymraeg entirely, it significantly reduced the number of speakers and acted to lower its status further by deterring generations of young speakers. Only in 1993, not even 30 years ago, under the Welsh Language Act did Cymraeg receive equal status to English in the UK[6].

And now, despite 500 years of English-speaking in Wales, Cymraeg perseveres. As does the bid for independence. Currently, it is estimated that 1/3 of Welsh people would vote to leave the UK in a referendum[9], the highest poll in recent history despite not yet reaching the 50% threshold. It appears that younger voters are the leading force in Wales' attempt at independence with 58% of voters aged 16-34 years polled in favour of leaving[10]. Influential factors in the rise of pro-independence voters include the handling of Brexit and the COVID-19 pandemic by the English government. Although, the efficient rollout of the vaccine is likely to mask the failings of the government in the handling of the pandemic in the eyes of the near-sighted voter.

Wales is not the only Celtic country which sought independence from the UK. The Republic of Ireland became a Free State in 1922[11] and was declared a republic in 1949 when it left the British Commonwealth[12]. As in Wales, the influence of English on Gaeilge, the language of Ireland, was detrimental. The perception of Gaeilge speakers was "poor, rural, and old-fashioned" compared to English being the language of "wealth and influence", according to Philip Buckley, Irish historian at the University of Cambridge. Despite the centenary of the Irish Free State being just a year away, the language has still not recovered. UNESCO placed Gaeilge in the "definitely endangered" category with 77,000 speakers in 2011[13]. Even having left the oppressive force of the UK, the damage to Gaeilge was done.

Without further, considerable intervention, Gaeilge may not recover.

Could Cymraeg be on the same path as Gaeilge? Perhaps not. With Welsh-language schools being constructed and set to teach in Cymraeg from nursery to A-Level[14], the possibility for a more bilingual country is not impossible. Still the main issue faced by languages usurped by a dominating language is yet to be dealt with. In both the Republic of Ireland and Wales, English has become the established language of law, education, and socialising[15] leaving no circumstance in which Cymraeg or Gaeilge is needed. Without creating robust and consistent opportunities to use Cymraeg, for example Cymraeg-only workplaces, the gradual fall to extinction is not off the table. Perhaps a surge in nationalism from the growing conversations around Welsh independence could spur on a desire to reignite the language. But this would require a great effort on the part of the Welsh government. *Cymraeg 2050* is a manifesto aiming to reach the uptake to 1 million Cymraeg speakers in the next 30 years[16]. This may be the key to saving the language, a lifeline that was not given to Gaeilge. On the other hand, without creating new spaces for Cymraeg to fill, it could become a language that children learn in school and never used beyond that, much like French in the English educational system.

The future of Cymraeg is as yet unknown. Could nationalism coupled with *Cymraeg 2050* be the driving force breathing life into a dying language? Or has the 500 years of English speaking in Wales been detrimental enough to kill the language completely? Perhaps we are the generation that will watch the gradual decline of Cymraeg and Gaeilge or maybe their magnificent resurrections. Ultimately, if the fight to save Cymraeg requires Wales becoming independent from the UK then I stand with the Welsh and proclaim *Cymru am byth.*[17]

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Politics of Language Use in Taiwan:

A Case Study of Political Implications for Language Vitality

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The situation of Taiwan's Sinitic languages remains a largely unturned stone in Western linguistics, in part because of a sociopolitical history that suggests that language use in Taiwan has always been inseparable from regional politics. Few are interested in untangling the question of why several of the so-called 'Chinese dialects' can and should be considered distinct languages, particularly in diasporic regions, and especially when the issue of self-determination is involved. Matters of Taiwanese linguistics, therefore, will likely emerge as "the next big thing" as Beijing fights to tighten its grip on the island, just as Cantonese has repeatedly garnered linguistic attention during peak protests in Hong Kong.

For the purposes of this article, I use the term Taiwanese Southern Min to refer to what is often called "Taiwanese" (台語), the language that was brought to the island by Han Chinese groups who immigrated to Taiwan during the Qing dynasty. Today, this group accounts for about 70-73% of the population of Taiwan, and Taiwanese Southern Min is the most widely spoken language on the island, after Mandarin.[1] Not only is this name considered by scholars to be the most linguistically accurate term, but it also avoids alienating the other languages to which Taiwan is home, such as Taiwan Hakka and the Austronesian ("Formosan") languages indigenous to the island.

This article traces the resurgence of Taiwanese Southern Min back to the election of Democratic Progressive Party (DPP) seats in 1987 and the push for democratization of Taiwan that ensued. I will look at several studies from recent decades as evidence of the tangible effects that the public and political positioning of the language has had on speaker practices diachronically and, consequently, on the vitality of the language.

Following the establishment of the Republic of China on the island of Taiwan in 1945, the Kuomintang (KMT) government began promulgating the National Language Movement (NLM), which was designed to forcefully promote and standardize Mandarin as the language of all sectors of society.[2] The banning of Taiwanese languages in schools, media, and public settings coincided with the enforcement of martial law for the better part of the years from 1949-1987, effectively eradicating all non-Mandarin languages from public use.

Statistics from the NLM illustrate the detrimental effect this period had on the Taiwanese languages. By the end of the 40-year "Mandarin-Only" regime, fewer than 10% of the population of Taiwan over six years old was not able to speak Mandarin.[3] Taiwanese Southern Min had, by all measures, undergone a rapid language shift, the process by which speakers replace normal usage of their native language with another, more dominant language. Languages undergoing shift are often characterized by having "fewer and fewer users generation after generation and the uses to which these languages are commonly put are not only few, but, additionally, they are typically unrelated to higher social status (prestige, power)."[4] The state of Taiwanese Southern Min during this period fits this description, as the language lost all domains to Mandarin, from schools, the workplace and social settings to the home; by one 1996 survey, 86.9% of elementary-age students from Taiwanese Southern Min-speaking families reported speaking Mandarin at home instead of their mother tongue.[5]

The decline of Taiwanese Southern Min began to slow in 1987, when members of the Democratic Progressive Party (DPP) won seats in Taiwan's government, the first time an opposing party would be legally organized since the KMT were given control of Taiwan after WWII. Martial law was quickly lifted following this election, and a slow but steady DPP-spearheaded democratization movement began, which included an awareness and recognition of language rights.

With the rise of the DPP and its Taiwanese Southern Min-speaking voter majority, the language began making public appearances in campaign speeches and political platforms to assert a Taiwanese identity that was distinct from Mainland China, clearly manifested through use of a uniquely Taiwanese language that was intentionally non-Mandarin. The resulting reclamation of Taiwanese Southern Min in the political context as the default "voice"[6] of the DPP-spearheaded movement for democratization has, in turn, altered public perception of the language.

Institutionally, the politicization of Taiwanese Southern Min as the language of the DPP actually delayed the passage of some productive language preservation initiatives, like the National Languages Development Act (NDLA) that put Taiwanese Southern Min, Taiwan Hakka, and the Austronesian languages on an "equal" national playing field.[7] For a decade before its enactment, the bill was continuously blocked by opponents who believed it to be a DPP attempt to mobilize its Taiwanese Southern Min-speaking constituency.

Socially, however, the increasingly positive political representation of Taiwanese Southern Min has had undeniable effects on the language's vitality. The political debates, campaigns, and highly publicized discourse in the language have catalyzed a shift in speakers' perceptions of and attitudes towards the language that is traceable through generations and correlated with age. For older generations who experienced the language suppression of the NLM and internalized the notion that their languages were shameful and worthy of punishment, a strong negative association remains prevalent.[8] But in a 2003 study on how national ideological shifts regarding Taiwanese Southern Min have affected parents' child-directed language behaviors, it was reported that the subsequent generation – those who went to school during the NLM but raised children afterwards – were aware of the increasingly popular notion that their children's ability to speak their family language was important. Participants of this group pointed to the former president Lee Teng-hui's use of the language in speeches as political endorsement of its value, and a reason to depart from Mandarin exclusivity and reclaim use of Taiwanese Southern Min in familial and social domains.[9]

Members of younger generations have also adopted the newer, more highly valued perceptions of Taiwanese Southern Min that have been politically promoted since democratization efforts began. A study of elementary-age students enrolled in school post-1987 documents an overwhelmingly positive response towards the language and its future maintenance, citing beliefs that Taiwanese Southern Min should be preserved in Taiwan for the sake of maintaining personal connections, cultural heritage, and social rights.[5] This trend was echoed in 2004, when a survey demonstrated that speakers of Taiwanese Southern Min reported using the language more than Mandarin when communicating with family and across most domain categories, pointing to a clear and deliberate resurgence of the language in both public and personal settings, as compared to the data that was available during the NLM. [10]

This, in part, is reflective of an emerging "New Taiwanese identity," a "supra-ethnic" identity that unites groups based on their shared inhabitance of the geographic Taiwan as a reason to consider themselves Taiwanese.[3] The concept was first employed by former president Lee Teng-hui, who applied the term to all "who identified with Taiwan regardless of ethnicity, language, or nationality."[11] Drawing on this idea alongside the use of Taiwanese Southern Min, he created a clear ideological connection between politics, language, and identity, and the association has caught on, as a series of surveys have shown a steady increase in respondents identifying themselves first and foremost as Taiwanese: 13.5% in 1991, 26.9% in 1992, 29% in 1995, and 35% in 1996.[3] [12]

From this evidence, we can conclude that Taiwan's political motion toward a democratic identity and ideological independence from Mainland China – political realities aside – has impacted the institutional value of the Taiwanese Southern Min language in Taiwanese society over recent decades. This, in turn, has shaped speaker attitudes and individual choices regarding current and future generations' use of the language, illuminating how political implication of a language can not only aid its maintenance during times of institutionalized language shift, but actively bolster its continued vitality.

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The Official Language: A Case for Structural Reform

A Comparison of Governmental Language Policies

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" **Racism will disappear when it's no longer profitable, and no longer psychologically useful. And when that happens, it'll be gone. But at the moment, people make a lot of money off of it."**

-- Toni Morrison, author and winner of the 1993 Nobel Prize in Literature

In May 2021, the international community witnessed a sea change in public opinion in the Israel-Palestine conflict that has been likened to the mainstream acceptance of Black Lives Matter after last year's murders of George Floyd, Breonna Taylor, and Ahmaud Arbery. The forced evictions of Palestinians from Sheikh Jarrah in East Jerusalem and the subsequent violence represent a pattern of marginalization accelerated by the controversial 2018 Basic Law: Israel as the Nation-State of the Jewish People[1]. The bill is particularly notable for stripping the Arabic language of its official status in the State of Israel, ending its *de jure*[1] equality with Hebrew and alienating Israel's Arab minority[1][2].

The concept of the nation-state itself, simply by combining — or rather, conflating — the nation (an ethnic, religious, or linguistic community) with the state (a governmental entity) implies homogeneity as an official governmental policy, thus rendering minorities who fall outside of the predominant nation the easiest scapegoats in electoral cycles.

Although divisive rhetoric may be utilized against any type of minority, whether it be ethnic, racial, linguistic, sexual, or religious, linguistic discrimination has a unique significance in that language is, by definition, involved in all of our interactions and communications, and thus automatically delineates us as belonging to different communities. Language permeates all of our actions and even our internal monologues and thoughts, and serves as both an instrument for new forms of expression and as a barrier between groups.

As Prof. Sarah Bunin Benor of Hebrew Union College in Los Angeles states, "you can't get away from it [language]. Whenever you open your mouth or even when you choose to remain silent, you are using language to show that you align with some people and distinguish yourself from others"[3]. Regardless of the exact form of discrimination occurring in a state, each parameter is tied in a different respect to language, thus rendering it the most potent instrument for political entities on which to capitalize.

We will now examine how linguistic discrimination is perpetuated and institutionalized. At one extreme, nation-states commonly regulate and maintain the majority language as the exclusive vehicle of business, media and education through interventionist policies. At the opposing extreme, state governments may choose not to enforce the use of any language, rendering speakers of minority languages unable to sustain their communities against assimilation.

We will then present a political model that has improved on these situations, and discuss how state policy can contribute to linguistic inclusion and diversity.

In order to examine the motivations behind institutionalized linguistic discrimination in nation-states, we must first recognize that such policies can only be consistently enforced when the linguistic plurality in fact constitutes a strong majority. Today, nearly all constitutionally defined nation-states maintain linguistic majorities of over 80%, and the vast majority of these states have only one official language[4].

Since linguistic uniformity is one of the main elements in the concept of unity of the nation-state, linguistic conservatism and discrimination has been normalized to a much greater extent in nation-states than elsewhere. Such conservatism most often manifests itself in the undue power given to linguistic regulatory authorities, a noteworthy example being the Académie Française, which has opposed proposals for increased recognition of minority languages in France, including Alsatian and Occitan[5].

Similarly, in Spain, minority languages such as Catalan and Basque were completely banned under the Franco administration, and citizens are not permitted to choose the language of proceedings in the political or judicial arena if the parties involved are multilingual. In these cases, Castilian is imposed as the default. Such policies have contributed heavily to the growth of the Catalan independence movement, and thus demonstrate the political consequences for prioritizing the nation over the state[6]. Further discriminatory policy by nation-states includes the requirement of proficiency in the majority language as a prerequisite for naturalization, while recognized minority languages are rarely sufficient[7].

It must, however, be noted that, thanks to the increased efforts of causes for language revitalization, acceptance of minority languages in nation-states has dramatically increased. In addition, the 1992 adoption of the European Charter for Regional or Minority Languages has established a new model for de jure language protection that, despite providing an innovative framework for institutionally providing for linguistic minority communities, does not grant any form of equivalent status for these languages within EU member states[8]. Additionally, because the EU itself only applies official status to the official languages of each of its member states, the Charter, while allowing for the protection of minority languages, does not go far enough in affirming their belonging to their respective countries[8].

As shown through openly discriminatory policies that prioritize the supremacy of the majority nation over the unity of the state, many nation-states implement policies of severe linguistic discrimination in order to preserve this paradigm. The future political stability of these states will depend on whether or not they can make the transfer of priority to the state itself rather than to the corresponding majority nation.

This is often a necessity in the case that a state contains several large linguistic groups, as each group has a sufficient amount of influence to hold their linguistic interests at the forefront of state policy. The most notable case of this phenomenon is the policy of official English-French bilingualism in Canada, whose political stability has historically been threatened by the Quebec sovereignty movement. This policy has seen such positive reception (and necessity) that to date, bilingualism in English and French is considered an unofficial prerequisite for high-ranking political office[9]. Similarly, the United States, which has seen a steady influx of immigrants since its independence, has never declared an official language at the federal level[10]. A 1780 proposal to enact a language regulatory academy for American English was promptly rejected as a threat to freedom of expression on the basis of the already high linguistic diversity of its settler-colonists, not to mention the hundreds of languages of its indigenous peoples[11]. Similar logic has been given in the federal legislature for the refusal to declare English as the sole official language of the United States[11].

However, we must remain cautious that the *de jure* and *de facto*[2] status of a given language in the state often reinforce one another in a feedback loop. By omitting legal recognition of languages, thus failing to explicitly allow for their use in all forms of media and education, we risk the possibility of assimilation by legal inaction, tantamount to forced assimilation as both are done with full knowledge of the consequences, similarly to how we communicate our intentions even when we "choose to remain silent", thus allowing for unrestricted shift to American English. In this sense, the political establishments of Europe and the United States act at opposing political extremes, each of which forces the linguistic assimilation of minorities.

A moderate solution to this dilemma may be found in the language policy of Bolivia, officially the Plurinational State of Bolivia. Instead of using either of the two extreme strategies outlined above, Bolivia has taken a proactive approach to inclusion by giving its colonial language, Spanish, and all of its 36 indigenous languages, equivalent official status[12]. This is despite the fact that some of these languages, such as Pauserna, have a speaker population in the single digits, and others, including Cayuvava and Canichana, are no longer spoken, and are thus dormant[13][14][15]. Nonetheless, their contribution to the heritage, history and culture of Bolivia is still recognized. It is also interesting to note that Bolivia has taken the further step of using both colonial and indigenous flags officially, the latter being the Wiphala[12]. This policy is particularly exceptional in that the Bolivian state has recognized that every state is de facto multinational, a truth that the United States and Europe have yet to internalize. Although obvious at first glance, the fact that we have continued to enforce the concept of the nation-state implies the greater worth of a single nation simply due to their number. If we are to move forward as a democratic society that respects the equal potential and equal opportunity of every member of the population, then we must not only move away from the nation-state as a political paradigm, but also take a proactive approach to ensure that individual languages are legally protected and afforded the same amount of legal and de facto privilege.

There are two main paths available to every state: one is to systematically subjugate smaller member nations, whether through intervention or inaction, in the hope of achieving a completely homogeneous nation-state; the alternative is to support all of the state's inhabitants, regardless of their national and linguistic alignment. Only one is sustainable.

Notes:

[1] *De jure*: "By law"; recognized in the legal sphere, regardless of whether something is applied in practice.

[2] *De facto*: "In fact"; occurring in reality, regardless of legal recognition or permittance.

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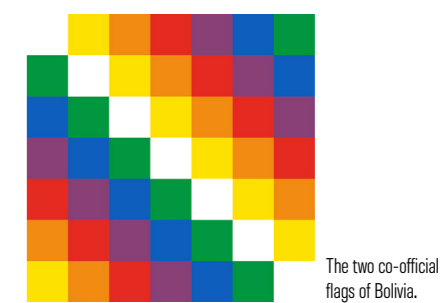
The two co-official flags of Bolivia.

BEHIND THE BOOKSHELVES

Keeping Languages Alive:
an Interview with Kristen Tcherneshoff

Roberta Catavero is a student of Modern Languages and Cultures at University of Calabria. Here she talks to Kristen Tcherneshoff, Programs Director at Wikitongues, about her personal experience with language activism and Wikitongues' approach to language documentation and revitalisation.

WIKITONGUES, INC.

Could you tell us a little bit about yourself and your work with Wikitongues?

I joined Wikitongues in 2017 as a volunteer and at the time it was really a volunteer organization, we mainly just uploaded videos to YouTube. In 2019, we decided that we should start fundraising and creating a full nonprofit, so I took on a staff position and now I am the Programs Director. Over the past year or two we've expanded to include more of language activism as a whole, we really want to start focusing on working with language activists to help support their projects and their revitalization movements and kickstart that process, so getting more involved in the political and cultural side of things.

What inspired your interest in language revitalization and documentation and, more broadly, in linguistics?

I'm from a very small town in the South of the United States, I grew up speaking Alabama English, Appalachian English. My parents wanted me to learn other languages even though no one spoke anything but English there. My mom's best friend was from Ethiopia and his first language was Amharic. My dad's best friend's parents are deaf, so they spoke American Sign Language, so my dad and mom are both fluent and taught it to me when I was a little girl. My parents are both in social work and my dad is in law, I started learning more and more about access to resources, equality and human rights, and I was very interested in women's rights. When I started working in that field, I really noticed that the problem went deeper and more towards access through language, because if you don't have laws explained or resources shared in your language, you still don't have access to those rights. That's really where I started getting interested in language rights and consider it the tie to all of our human rights: enshrined in the Universal Declaration of human rights we have all these rights listed, like the right to education, right for shelter; but how do we have a right to education if we don't teach children in their mother tongue? That's not a right to education; that's 'here you have a right to education in the language of our choosing'. I think language is what ties all of this together and if we could

get more support for languages around the world, we would have better access to other human rights.

I saw that you have a background in law, I was wondering if you could tell us something about your experience of the link between language maintenance and human rights?

I was in Tanzania working at a women's law firm, and we worked a lot with women for domestic violence and rape, and it was it was very fascinating, because at the time you had to defend yourself in the primary court, you couldn't have a lawyer present to help you. The language of the primary court was English. They were very violent crimes, but the women, often had only spoken a little bit of Swahili as their second or third language and hardly any English, and so to help them defend themselves in court, I would basically listen to their testimony in Swahili, write out a defence in English, then teach them what to say in English and have them memorize it. The judge and the man who raped them would be speaking in English and the men often have educational training in English, so they can defend themselves and talk to the judge. The women that we were working with would just have to repeat back whatever I said by memorization and so, if the judge asked a question, they couldn't defend themselves. We would

Q&A

lose all of these cases because of the lack of English language support and women not being taught in their mother tongue, and not being able to use their mother tongue in court. It just really opened my eyes to how language is so important for accessing support.

While our view of linguistics is often an academic one, your job is closely bound with communities. What is the relationship between the more "professional" academic side of linguistics and the important role of native speakers?

That's really why Wikitongues was created. Before we started doing our work, language documentation and support for language activism was really an academic field and you had to go to school and get a linguistics degree to get involved. That doesn't always help people in the field who don't have the opportunity to go to school, or don't want to, or have other jobs. At the end of the day, language affects us all. Wikitongues was founded as a bridge between academia and language communities, a way to bring both sides together to make this happen at a quicker speed, because we're losing languages, we're still facing assimilation and cultural genocides around the world, so the more people working on this, the better.

In the Sustainability toolkit, some languages lack a standardised writing system. Is standardised orthography necessary and what are some of the criteria for it?

I would say that it's not completely important to have a standardised script or a spelling system. Of course, if you do have it there is a lot that you can do, but for the majority of history, languages weren't written down, they've been spoken and signed and they still stay active in our use, so I think that's not the number one priority. I think making sure that languages are taught in schools or used in media or used in the public sphere where you're not prosecuted or imprisoned for your language, is a much more important focus to me. If someone wants a script and their language on a keyboard, that will only help, because if you get younger generations texting in your language that helps with language awareness and people wanting to reclaim their languages. In the 60s, 70s and 80s, there were a lot of missionaries going around the world and they were often the ones documenting languages and studying languages. These missionaries would often create a script for the community, thinking that they were helping them, but would often create scripts that were not intuitive for the language, maybe missing a lot of sounds or just writing the language in the way they wrote in their mother tongue. That's often a problem because it's just another form of suppression and colonialism, but through a

written script. It is really important when we do create scripts that people speaking the language are very much involved in the process.

What roles do the Internet and technology play in keeping languages alive and connecting speakers?

As we know, the majority of the Internet is in English, which is very frustrating. We're getting more support from Google Translate to submit languages, and machine learning for other languages to overcome this. We at Wikitongues look at digital tools as a very positive thing for language development and awareness: you can reach more people; but digital tools have also been really helpful for people who are culturally displaced, like Cornish speakers or Welsh speakers: when there was the law in the UK against speaking Welsh, a lot of people from Wales left the UK and spread around the world, creating a language diaspora, but they have been able to find each other again through the Internet, so they've created these spaces online where they can meet and speak together and share their language. We've seen that a lot over the past few years, online language classes or people joining from all around the world to relearn the language maybe their parents or their grandparents spoke. In that sense it's been really fascinating to watch the creative ways people come up with to use these digital tools. Hopefully we can go further with that, so that's why part of the toolkit talks about how we can get your language recognized and get fonts to support your language, because that can be a challenging thing to navigate: we want our Internet and our world to be as multilingual as possible.

One of Wikitongues' projects for 2021 is to index every language online. Why is creating an open index so important and how can people engage with it to both contribute and learn?

What we want to do is to have a landing page for each language and just have all of the resources that we can for them: books, courses, links to podcasts; work by activists on revitalizing the language. We just want one place where everything is there and can easily be found, to make it more thorough and less time-consuming for people. We've developed a web crawling tool and the project should be launching later this year. Anyone can volunteer if they have any coding, programming or archiving experience. They can go on the website (https://wikitongues.org/projects/language-indexing/) where there is a place to fill out a form and sign up.

Language Maintenance and New Technologies:
the Case of Calabrian Greek

Francesco Ventura and Danilo Pantaleone Brancati are members of the Hellenic-speaking association Jalò tu Vua in Bova Marina (RC), which aims to promote, enhance and protect Calabrian Greek language and culture.

Southern Italy is currently home to two Greek language communities, one in Calabria, in the Amendolea area, and one in Apulia, in Salento. Each has its own variant of the language, Greko and Griko respectively, and its own diatopic variants. While Calabrian Greek is usually referred to as Grecanico in institutional settings, the name was often used by non-natives in a derogatory way and still holds a negative connotation, therefore speakers prefer calling it Greko. In both communities the lack of intergenerational transmission of the language has been accentuated since the post-World War II period, resulting in a strong generation gap. Over the last fifty years, the number of speakers has drastically reduced, especially in Calabria: although there has been no official census, the estimated number of speakers is just a few hundred. In 1996, UNESCO, in its *Atlas of the World's Languages in Danger of Disappearing*[1], classified this minority language as a "critically endangered language".

Due to strong social pressure, which started with linguistic nationalism in the years of Fascism, continued in a national effort for literacy, Greko – among other minority languages and dialects – has been framed as a 'wrong' language, one not to teach your children. To make matters worse, in the 1980s both the language and Calabrian Greek culture underwent a phase of folklorisation, with their use reduced to a mere tourist attraction, which further distanced and alienated native speakers. Despite the Italian legislation on the protection of linguistic minorities (passed in 1999)[2], it is difficult to apply it to a community as loosely structured as the Greko one. Many people still have to unlearn the biases and prejudices that they've started to believe about their own language, which made the older generations reluctant to pass it on to their children and nephews.

This is where the work of activists and associations comes in: in Calabria, the Hellenic-speaking association *Jalò tu Vua* (https://www.jalotuvua.com/) has been committed to the maintenance and revitalisation of Calabrian Greek since 1972. The main aim of the association's work is to bridge the generation gap and broaden the base of speakers by investing energy, time and resources in speaking as much Greko as possible to and with young people. This objective, apparently simple and trivial, requires intense learning and teaching, as well as motivation to maintain this commitment on a daily basis.

Calabria is a land of heavy emigration and only a handful of activists can be present all year round, with the younger ones often scattered around the peninsula and Europe for work and study. In this regard, while language use within the community is fundamental for its maintenance, social networks and mobile apps, from group chats to video call platforms to talk in Greko, also play an important role for new generations of activists. Some other examples are the Facebook[3],

Instagram[4], and YouTube[5] channels To ddomadi greko - The Greek Week, through which the Summer School organised by the association is promoted, or the app Grekopedia, which has a Greko/Italian - Italian/Greko dictionary for anyone wishing to learn the language. This year in May, the association undertook a partnership with Woolaroo (https://artsandculture.google.com/story/MAWBUhEZEG5pyw), an open-source photo-translation platform powered by machine learning and image recognition, created within the broader framework of the initiatives developed by Google Arts & Culture. Today, Woolaroo supports 10 languages from around the globe other than Calabrian Greek, including Louisiana Creole, Māori, Nawat, Tamazight, Sicilian, Yang Zhuang, Rapa Nui, Yiddish and

Yugambeh. The first result of this project has been to make more people in Italy and around the world learn about the existence of our language; in particular, the coexistence on the app of other language communities in similar conditions to those of Greko speakers has started a dialogue with people closely involved in minority languages maintenance and revitalisation.

In terms of the importance of Calabrian Greek, there is no one right answer, but we think that passing it on to the new generations, using it daily online and in person, both in trivial chats and important matters, is essential, 'for a language is really alive only as long as there is someone to speak it to'[6]. Together with the great monuments of Magna Graecia and the meticulous Byzantine icons, symbols of the historical relevance of the Greko language, Calabrian Greek and its culture represent both an invaluable legacy for its people and an opportunity for all those who decide to cultivate it.

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GREKO

BEYOND THE PAGE

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It's All Relative

It's All Relative

Eloise Parr is a PhD linguistics student at the University of Birmingham. In this interview, she speaks to James Cuthbertson, Chief Revenue Officer at Relative Insight, a technology and language analytics company based in Lancaster. They discuss Relative Insight, how technology shaped what the company does, and job prospects for linguistics graduates in the tech industry.

Can you tell me about Relative Insight as a company?

We always say that Relative Insight is a language business – effectively we're in the world of understanding. As a start-up, we always joke that we're actually not that young as we've been around for 14 years. However, the first 10 years of our company's history was charity projects between child protection services and Lancaster University. That unusual partnership was brought together as a requirement to keep children safe online, which is quite an important area. Our two founders, who at the time were doing PhDs in comparative and computational linguistics at Lancaster, built a system which could compare novels by putting them side by side to identify the differences in language in those two bodies of text. When our founders were given the problem of masquerading paedophiles on the Internet, they quickly went to comparison as a solution.

Our heritage is in catching bad guys through comparison and now we use that same methodology of comparative linguistics to uncover insightful nuggets of information that then help people build better brands, experiences, and products, and improve communication methods. Comparison is a crucial part of what we do, because, compared to more traditional research methods, it negates the requirement for a hypothesis, and you can be open minded and just discover what's there. I think it's quite powerful for helping bring marketeers and advertisers the kind of information they otherwise wouldn't find.

Relative INSIGHT

What is your role in the organisation?

I'm the CRO which is Chief Revenue Officer. That means I'm in charge of everything that touches customers, like marketing, sales teams, account management, customer success and enablement, so everything that isn't operations and the actual technology.

How did you get into that role?

My route to this has been a bit of a convoluted and unusual one. I did an undergraduate degree in anatomy. When I finished university, it was the credit crunch, so I found a temporary job in recruitment, which ended up becoming a non-temporary job! I stayed at the same company for just over four years, and really enjoyed that. I then had the opportunity to join one of the analytics companies that I'd met. It was the beginnings of the social listening platform that became Pulsar. Then when I met Ben [Hookway, CEO of Relative Insight] and he told me about the story and heritage of the company, I thought this was the next step for language data. That's why I joined Relative Insight and I've now been with them for just over three years. It's been a really, really interesting journey but not a standard one.

How would you say that technology shapes the work Relative Insight does and makes it unique?

In my view, people in the working world want to quantify everything, including language. This means that the way people traditionally analyse language in this industry is to do frequency analysis. I think that's interesting to an extent but I don't think it's a powerful enough methodology to help in a business setting.

We rely on traditional computational linguistic tools like a corpus and pretty straightforward AI and machine learning to create things like frequency information and topics, but I think the big differentiator for us is comparison. Our comparative methodology is reasonably novel in our industry. For example, comparing how Generation Z talk about sustainability compared to millennials in order to understand what those two generations care about. It's funny because, whether it's twin studies in science, or whether it's comparing sources in the literature, comparison comes up a lot in academia, but it seems to be pretty absent in the working world.

How have job prospects for linguists in your company changed and expanded in the 14 years that your company has been around?

The answer is significantly! This may be because I'm more commercial than perhaps some of the other people you interview, but I think what's exciting is that there are multiple job functions that would be both interesting and suitable for people studying linguistics. We absolutely love the idea of being able to hire linguistic graduates into our customer success, account management, sales or marketing teams. They have an amazing understanding of language and the way that it can be analysed. What we do is language and then within our world there are loads of different job roles, so I think that there's enormous opportunity for someone who studied linguistics in a company like ours.

Q&A

What are the key skills you think graduates, especially linguistics graduates, would need to enter an industry like this and work at a company like Relative Insight?

I think that the academic background gets you the interview because you've got something relevant on your CV, and then we look for communication skills. Your ability to story-tell effectively is important because what we do is novel. A lot of what we do is teaching people about our methodology, how it's different and how it could be relevant for them and try to bring that to life in their mind. I think the other thing, which is harder to capture, is coachability. This is someone's ability to take on a concept that they have seen or heard about and then be able to bring it about themselves. When we hire graduates or people who are early in their career, we don't expect them to be able to do the things we want them to do, but we need them to be coachable so we're able to bring them up to that level.

Finally, is there anything else you would like to say to the U-Lingua readers?

For the readers that are graduating and want to carry on using their linguistics learnings in a really cool and directly applicable way, we're often recruiting graduates, so the people that are going to be reading this magazine would be fascinating people for us to speak to!

AGES THROUGH THE

The Challenges of Sign Polyvalency in Akkadian Cuneiform

Benji de Almeida Newton, an Archaeology student at Cambridge, gives an overview of how cuneiform signs are open to multiple readings.

The polyvalency of readings for cuneiform signs poses an awkward first hurdle for any student at the beginning of their studies in Akkadian, an extinct Semitic language spoken in Mesopotamia. This article aims to give an overview of the initial challenges faced by Assyriologists when approaching this complex writing system. This article mentions several kinds of Akkadian cuneiform, which are signalled by the following abbreviations:

MOB - Monumental Old Babylonian script
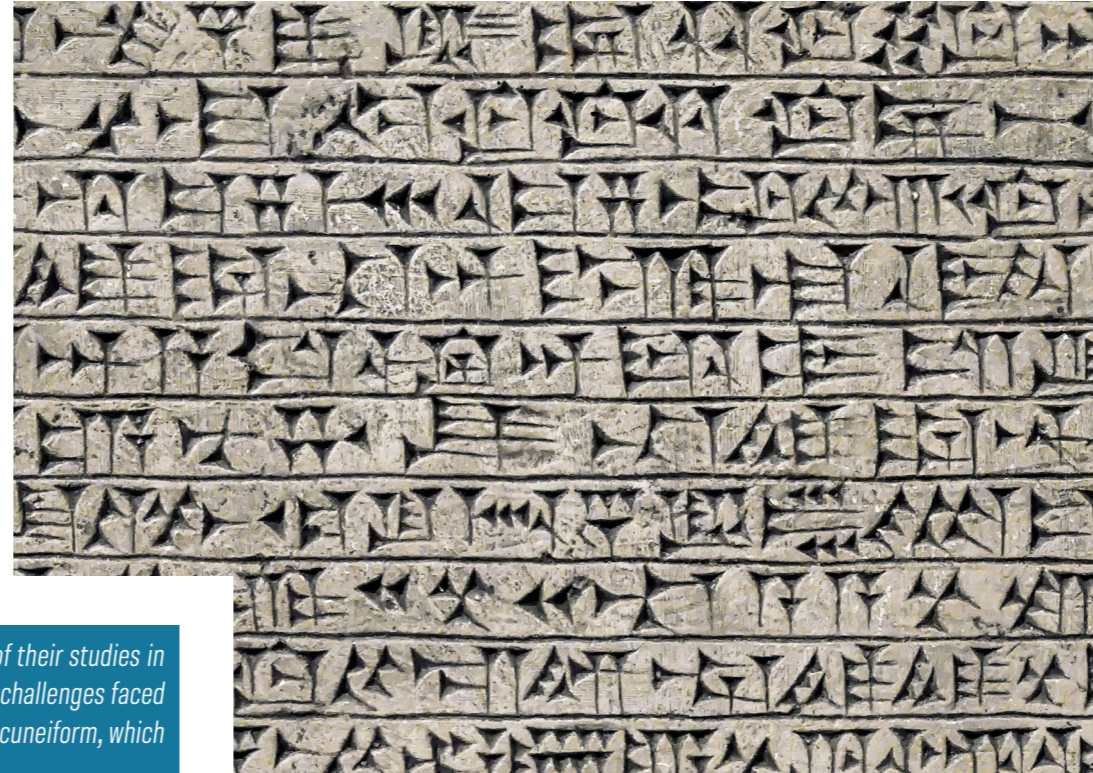*MB - Middle Babylonian script*
NA - Neo-Assyrian script

In Akkadian cuneiform, one sign alone can have many different readings. For example, in R. Labat's monumental work, *Manuel d'épigraphie akkadienne*[1], the simple horizontal wedge NA ⊢ cites as many as 18 distinct readings including the most common one, *aš*; and NA ⊢ *tar* cites a total of 20. The decipherment of a line of cuneiform therefore becomes an exercise with multiple steps: the first is to identify the divisions between individual signs (signs might be densely distributed, ornamented, or subject to scribal shorthand). The second would be to identify divisions between lexical units which might influence the reading of a certain sign within it. The third would be to determine which reading is most appropriate for the context, by attempting different combinations of readings for that particular sequence – a step often aided by knowledge of phonotactic rules and orthographic conventions in Akkadian.

With regards to the first step, one needs to discern if two signs written adjacently are in fact read as one sign. One such example is the NA sign ⊨⊣ *ne*, which superficially appears to be the sequence NA ⊨ *am* + NA ⊣ *is*, and may be incorrectly transliterated *am-is*. Hence, uncertain boundaries between graphemic units obscure morpheme boundaries, disrupting the process of getting a semantic reading. Once we have identified the graphic boundaries of a sign, we are confronted with a new problem regarding the most appropriate reading. Consider the sequence ⊨⊞ ⊢. One of the readings of ⊨⊞ is *aṣ*, and one of the readings for ⊢ is *bat* (but also *bad*, *be*,

til, *mit*, *mid*, *ti₅*, and *ziz*). If taken as *aṣ-bat*, then we get *aṣbat*, 'I seized', from the verb *ṣabātum*. The same sequence, however, can just as easily be taken differently to give a different verb (albeit of the same inflection): ⊨⊞ also offers the reading *az*, and ⊢ offers *ziz*. *azziz* means 'I stood', from the verb *izuz-zum*. Helpfully, not all pairings are possible due to phonotactic laws coming into play. For example, if we have the sequence ⊨ ⊨⊞, where the first sign has the possible readings *as₂* and *aš₂*, and the second sign is read *su*, ⊨ has to be *as₂*: assimilation prohibits *š-s*, so favours **as₂-su* over **aš₂-su*. In the first instance, context alone can determine the most appropriate reading, but on fragmentary texts on broken tablets, which constitute a significant proportion of cuneiform literature, this recourse proves unavailable.

One particular stumbling block in step two for even more experienced readers of cuneiform texts is when a common word is composed of the less common readings of common signs. For example, for the word *ilī*, 'of the gods', in the *Epilogue of the Codex of Hammurapi*[2] written in MOB, one would expect it to be written with the most common logogram for each syllable, which would be ***⊨ ⊨⊞ **i-li* (i.e. *i1-li1*), but we instead find MOB ⊞ ⊞ *i₃-li₂*, which uses the third and second most common signs to achieve the same phonological result. The readings of ⊞ include *i₃* and *li₂*, but its most common reading is *ni*. ***⊨ ⊨⊞ would be the most straightforward sign-syllable

pairing for *ilī*, but for some reason – stylistic, personal preference, or otherwise – the scribe decided to write a common word unconventionally.

The difficulty is further exacerbated by the frequent usage of Sumerian readings of certain Akkadian signs. It is the mixture of Sumerian and Akkadian logographic and syllabic signs that lends Akkadian both its varied means of expression and difficulty of comprehension.[1] For example, the NA sign ⊦⊤ can be read in Akkadian as the syllable *an*, or in Sumerian as both DINGIR and AN. Read as DINGIR, the sign represents a word ('god'); read as AN, it can represent both the syllable AN (representing the sound) or a word (representing meaning, meaning either 'sky' or 'the god Anu'). Another example where sign polyvalency gives a word multiple interpretations in context is MB ⊦⊤ ⊦⊤⊢, the opening word of line 9 on tablet RS 25.460[3] which contains an Ugaritic hymn to Marduk, the patron god of Babylon. There is a general consensus that the second sign is to be read as the syllable *rat*, but the first is open to various interpretations, of which I shall give four:

(1) Nougayrol[4] reads it as *hu-rat*, which implies that the verb is *hiāru*, giving 'my chosen family';
(2) Cohen[5] reads it as *pah-rat*, which implies the verb is *pahāru*, 'my family gathered';
(3) Arnaud[6] reads it as *bukx-rat*, taking it from the noun *bukrūtu* 'daughters';
(4) Taylor[7] reads it as PAG-*rat*, taking ⊦⊤ as the Sumerogram PAG, giving us the verb *esēru*, 'my family was enclosed'.

This is just one of thousands of examples in cuneiform scholarship where the interpretation of one sign alone can considerably alter the semantic content of the entire line.

I have outlined the two main challenges of sign-decipherment in Akkadian cuneiform that impede basic comprehension: identifying a sign's graphic parameters and accepting that more than one syllabic and logographic permutation is possible, and even likely, in any given text. 'Trying out' different readings for the same sign not only highlights how sign polyvalency legitimately changes the meaning of the text, but invites the notion that sign-reading is not always necessarily a 1:1 correspondence.

The challenges outlined above must be, and indeed have been, taken into account when attempting to decipher an unknown writing system. Despite these hurdles, the vast majority of cuneiform and hieroglyphic writing systems have been deciphered, but the issues of polyvalency continue to pose a challenge for the scripts that have yet to be deciphered, such as Linear A, Linear and Proto-Elamite, and the Indus Valley script.

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Glyph Half Full (of Meaning):
Similarities Between the English and Chinese Orthographies

Catherine Bloom, a Linguistics student at Queen Mary University, London, discusses how meaning- and sound-based writing do not constitute a clear-cut dichotomy.

English and Chinese are written with very different writing systems. English is written with the Latin alphabet, a letter-to-phoneme phonological writing system, while Chinese characters represent the world's biggest character-to-morpheme logographic writing system[1]. Alphabets are a **cenemic** kind of writing system (from the Greek kenos 'empty'), because the glyphs themselves have no semantic content, but meaning is read from the strings of sound that the letters represent. Chinese characters are logograms, which are **pleremic** (from the Greek *plērēs* for 'full'), because the glyphs directly represent meaning.

The Chinese script has always been pleremic throughout its evolution, since it evolved from pictograms, a form of pleremic writing that is less abstract than logograms[1]. Not that sound-based developments were absent in the development of Chinese characters. In the earlier stages of Chinese writing, extant characters were often loaned to write a homophonic though se-mantically unrelated morpheme, until this became too ambiguous, and a new character was developed for it. Most new characters were created through a process of compounding, where the resulting compound takes on the pronunciation of one component character, and the semantic field of another. Such characters make up the vast majority of Chinese characters, estimated at around 90% in the early 20th century[2].

Incorporating sound-based principles into character-formation makes the Chinese script a freely expandable pleremic system that is able to adapt to millennia of changes in the spoken language. It also makes Chinese a good lingua franca script, as the logograms are not tied to the phonology of one spoken language the way a sound-based system is. Thus, Chinese characters are used for most Chinese languages and were, at some points in history, used as a written lingua franca throughout East Asia. Chinese characters were borrowed to write Japanese, Korean, and Vietnamese before the develop-ment and codification of separate writing systems for them[3]. The logograms were given different pronunciations based on the words for relevant concepts in Japanese, Korean, or Vietnamese. Thus for a time Chinese characters functioned as a shared system of communication between the speakers of these mutually unintelligible languages, where each could write their own language using the same logographic system[4].

The cenemic Latin alphabet ultimately descends from Proto-Sinaitic, a Semitic script found in Egypt, which is thought to be a sound-based script that developed grapheme-phoneme correspondences through the rebus principle[5]. The rebus principle is the process where a pleremic glyph is used for its sound only, regardless of its original meaning, like spelling 'belief' as 🐝 🌿 ('bee' + 'leaf'). Through comparison to Egyptian hieroglyphs and extant Semitic languages, the Proto-Sinaitic sign that looks like a rectangle is thought to correspond to the word for 'house', *bet*, and so would be used to represent the sound /b/ in Proto-Sinaitic.

Thus, the rebus principle turns pleremic signs into cenemic ones, creating the grapheme-phoneme correspondences in alphabetic scripts that appear utterly arbitrary to their users.

So far we have been talking about the history of **scripts**, which are systems of glyphs that represent linguistic units, such as the pleremic system of Chinese characters, or the cenemic Latin alphabet which represents vocalic and consonantal segments. This is distinct from **orthographies**, which are the generally accepted (and typically normative) way for using a script to write a particular language or language variety. British and American English have different orthographies, instantiated as different spelling conventions; Mainland Chinese, Cantonese, and Kanji orthography consist of different conventions for using the same script (Chinese characters) to write different languages (Mandarin, Cantonese, and Japanese respectively)[6].

Standard English orthography has become more phonologically irregular over time, since it has been largely unchanged since standardisation in the 15th century[7]. Much of modern English orthography is motivated by morphological, etymological, or traditional spellings rather than the phonological content of the words. The spellings of many common words are no longer predictable from how they sound and must be learned individually, including 'says', 'love', 'great', and the infamous 'through', 'thought', 'though', and 'enough'. When you see these spellings, you would not be able to reach their correct pronunciation without knowing which phonological words these spellings represent: these standard spellings now map directly to meanings rather than to the sounds of their individual letters. In other words, centuries of sound changes have caused parts of modern English spelling to become pleremic, despite English using a cenemic script.

The rise of English as a global lingua franca is also opening English orthography up to more pleremic usage. There are a high number of etymological and morphological spellings in English, such as <mnemonic>, preserving the Greek root *mnēmē*, 'memory', although English doesn't allow the onset cluster /mn/; or the alternation of <electric> and <electricity>, which in spoken language use /k/ and /s/ respectively, but are both spelled with <c> to show their morphological relationship. These phonologically irregular spellings are often confusing for fluent English-speakers, but they also demand less of non-native readers' knowledge of English phonology in order to understand a text. If we had <nemonic>, <electrik>, and <electrisity>, non-native readers would need to master all of English's loan phonology and allophonic alterations in order to spot etymological and morphological derivations. The fact that English orthography preserves etymological and morphological cues to signal aspects of meaning, which function independently of phonology, also contributes to English's pleremic potential.

We tend to think of Chinese and English as using very different writing systems. This is technically correct, since Chinese uses a pleremic logography, and English a cenemic alphabet, but this classificational difference masks practical similarities between them. Phonological principles are also used to form characters in Chinese, despite its prototypical image as a meaning-based writing system; while the phonological inconsistencies of English orthography have caused it to take on pleremic features.

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Now This Is PODD-Racing:

Writing for the Speechless with Augmentative and Alternative Communication

Elliot Kelly, a Linguistics student at Cambridge, explores how technology can be used to help non-verbal people express themselves.

'Peppa.'

As in the pig. As in the children's show. As in the first word my younger sister ever said, and one of the last she ever spoke.

As an aside, it's a rather interesting addition to the debate on whether children learn language through imitation, as she only ever said it in a deep voice like Daddy Pig, contrasting her bright, high pitched squeal of 'Barbie!'.

After her first birthday, these words – and a slowly growing collection of others – filled our small flat. But, as three came and went, she began to lose them, and now the only place we hear her say them is in our old home movies.

My sister is now seventeen, and the only recognisable word she still has is 'mama'. But a couple of months ago, she told us all, on the point of Dad's Sunday roast: *Daddy dinner yuck don't like boring*.

She didn't suddenly manage to speak. She didn't pick up a pen and write the sentence down. She didn't sign it out. She wrote it with pictures, and a computer read them out loud to us. For essentially the first time, my sister was able to write. By extension, for essentially the first time, my sister was able to speak to us. As a family, we understand her cries, shouts and vocalisations to an extent – that's just what seems to happen with non-verbal families – but this was another experience entirely.

My sister Catherine has Rett Syndrome, 'a genetic disorder that typically becomes apparent after 6–18 months of age in females. Symptoms include impairments in language and coordination and repetitive movements'[1]. It's a mutation on the MECP2 gene on the X-chromosome and, luckily, my sister is by no means the most serious case of the condition – she can breathe and eat and walk, but she can't talk or write. It's at this point that the reason I'm writing this article over any other comes into play: to talk about 'Augmentative and Alternative Communication' (AAC) devices, and the way they have offered a route to interlocution not previously afforded to those with language-affecting conditions.

Whilst they take many different forms, the AAC systems with which I have the most experience are those of Smartbox's 'Grid' family of applications, and the PODD (Pragmatic Organisation Dynamic Display) system, developed by Gayle Porter[2]. The goal of the two is the same, and the similarities between the systems are clear: a grid, either on a computer (often linked with some kind of eye-tracker) or in a physical form, with different simple symbols for different words, to which a speaker can point in order to show what they are trying to convey. Certain tabs will lead to new screens, or have page references in a PODD book, and additional words can be added, often with options for custom images. In both systems (and where the 'Pragmatic' in PODD comes from) words are not only grouped by category, but are organised vaguely from left to right based on the most simple or common way a phrase in that section may be constructed; in a page titled 'Body', for example, pronouns appear in the leftmost column, body parts in the central section, and adjectives or descriptors on the right, so is user is able to go left to right and say 'my tummy hurts', without needing to continually jump back and forth between different places of reference.

To argue that AAC systems are more complex than any other system of writing would seem counterintuitive, and is not the argument I'd make. New words, and specific items such as names of people, have to be manually added to such systems, often by a third party, putting restrictions on the lexicon to which the user has access; eye-trackers are absolutely exhausting to use over long periods of time, and can be frustrating to navigate and there is a monetary cost to access the rights or the license to different systems and software. We've not reached a point yet where AAC is a flawless means for writing, and it's unlikely to be something everyone picks up – it's a system which is heavily reliant on the people who need it and the support of their families, and it does not have the same presence in the public eye as something like sign-language, which most people seem to at least know a word or two of.

However, it would be obtuse to disregard AAC systems due to them being pictographic, or due to the fact they aren't particularly well known. We should all be made aware of the fact that, surely, any system that offers a way for two groups to communicate with one another is a valid one, whatever form it may take. As they so often say, a picture is worth a thousand words, and so surely, the more mediums by which we can write to one another – or to hear from those otherwise unable to speak – the better it is for all of us.

AAC is a set of tools designed to help those who struggle with speech. They're tools that put what a person can't form with their mouths onto a page or onto a screen for others to read and hear and understand, and I would say that that's a pretty clear example of a writing system. They may not hold as complex a history as other traditional writing systems, but that doesn't take away from their value and their right to be discussed.

Because, ultimately, nothing can take away from seeing your little sister write, for the first time: *I love brother Elliot*.

AAC

Augmentative and Alternative Communication

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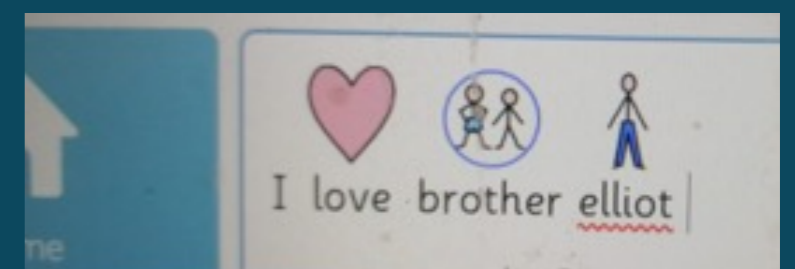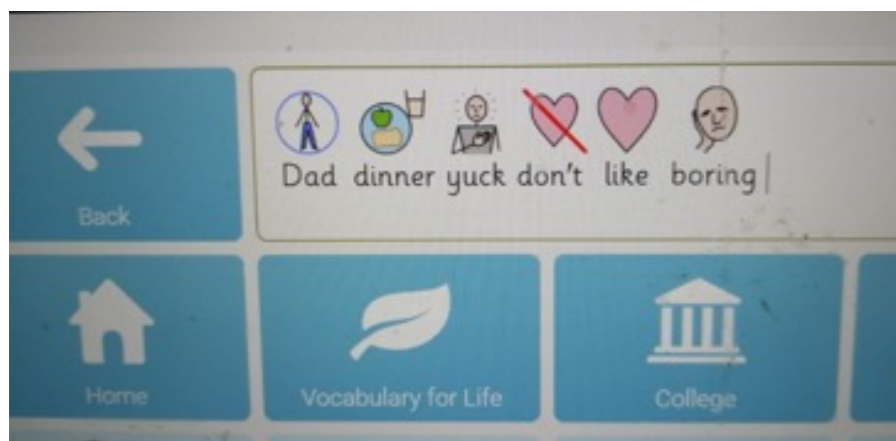
A HANDS-ON APPROACH

How to... Knock down academia's ivory tower, one literature review at a time

Cara McSherry
Recent graduate, University of Edinburgh.

Perhaps the worst-kept secret of academia is its tendency towards elitism. Ask someone to picture a professor: often the first image conjured up will be that of a very intelligent male in a tweed suit – usually someone slightly eccentric, separate from people as a whole. Of course, that stereotype doesn't capture the reality of all modern researchers. And yet it remains rooted in the unfortunate truth that academia has historically failed to present knowledge in a way that is accessible and recognisable to those outside the 'ivory tower'.

Such disconnect stems from academia being seen as something of an echo chamber, where privileged voices are allowed to bounce against the walls, safe from the prying ears of those who lack the good fortune to understand. Knowledge is, therefore, maintained by one particular subset of people with similar experiences and perspectives – usually at the expense of more marginalised groups. Women, people of colour, LGBTQ+ individuals and people with disabilities are but a few of the voices that have traditionally been drowned out by those who are able-bodied, cis, white and male – not to mention the role of money in opening particular doors.

Thankfully, things seem to be improving. However, progress remains slow: in the UK, male academics outnumber females three to one[1]; of 21,000 UK academic staff, a mere 140 identify as black[1]; there exists an average pay gap of 8.7% between staff with a disability and staff without[2]. As young linguists, we all have a responsibility to do more: we must embody positive change, advocate for each other and challenge our institutions and fields to do better – and demand accountability where those efforts fall short. Hopefully, the following tips provide a useful starting point for helping to build a more inclusive academic environment:

1 — Never be afraid to go against the grain.

Just because something has been accepted forever, doesn't mean it's 100% truth. It's imperative to remember that everything 'scientific' still has room for human bias: you should always be a critical reader. For example, linguistics has traditionally had a bad habit of making generalisations based on Western tendencies – remember to look beyond the scope of what's familiar.

2 — Be aware of positionality.

Apply similar rigour to your own work. Whether qualitative or quantitative, you as the researcher have made decisions to foreground specific ideas from the literature and in the interpretation of your results. Positionality is key – acknowledge and challenge how who you are may have shifted you to present things in particular ways.

3 — Platform marginalised voices.

While it is important to review key literature, be mindful of why certain articles might be cited more often than others. The first hit on Google is not necessarily the best paper, and privilege can play a role in an article's popularity. Dr Megan Figueroa, of the University of Arizona, has created a very helpful database[3], which lists marginalised scholars to know and read within the many subfields of linguistics. Have a look; cite some in your essay!

4 — Exercise caution when using sensitive terminology.

Many older papers operationalise social categories like race, class and gender in ways that jar with how those terms are now employed by individuals within each group. Be wary of assigning labels to any participants: asking people to self-identify is generally the safer bet. This also applies when discussing sensitive topics or using terminology you're not familiar with – when in doubt, ask someone with first hand experience.

5 — Be mindful of name or pronoun changes.

Remember that academics are people with personal lives and that can mean, for various reasons, that their names or pronouns will change throughout their career. In terms of citations, this can disadvantage people who get married and change their surname. It also creates a bit of a minefield for transgender or non-binary academics. It's worth looking at guides - like this one by Dr Jonah Coman[4] - but, generally, check what the author does, and don't deadname or use dead pronouns. Publishers like Wiley and SAGE are moving towards a more flexible name change policy which is also a very positive step[5][6].

6 — Strive for public engagement.

Don't forget why we are doing research. Academic work is most valuable when shared with the community it focuses on, so consider creating a format that makes your writing accessible to the people that it's about – regardless of their familiarity with academic writing. This could be a video, a website, a social media post... the more creative, the better!

These are just a few simple ideas to incorporate into your own work and there is always more to be done. But hopefully this guide helps to arm you with some of the tools you need to obliterate that ivory tower and build a forward-thinking, inclusive academia.

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PUZZLES
NEPALIGLOT ARITHMETIC

Sam Ahmed
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In a school in Central Nepal, a teacher is teaching some children about the differences between numbers in Chepang and numbers in Nepali. Here is a section of what was written on the blackboard at one particular time (transcribed into the Latin alphabet):

CHEPANG		NEPALI
sat	=	sat
aat^{h}	=	aat^{h}
nau	=	nau
dasa	=	dasa
eg^{h}aara	=	eg^{h}aara
yat hale	=	baarha
yat hale yat	=	baarha + ek = terha
yat hale nis	=	baarha + dui = čaud^{h}a
yat hale sum	=	baarha + tin = pand^{h}ra
yat hale playa	=	baarha + čaar = sorha

Q1 Here are some mathematical expressions in Nepali and some numbers in Chepang. Match up the expressions and numbers that are equal to one another.

NEPALI
1. paanč + č^{h}a
2. aat^{h} × sat
3. tin × dasa
4. pand^{h}ra + terha
5. sorha + ek
6. nau + paanč
7. čaar × eg^{h}aara

CHEPANG
A. nis hale č^{h}a
B. yat hale poŋa
C. playa hale aat^{h}
D. eg^{h}aara
E. sum hale aat^{h}
F. nis hale playa
G. yat hale nis

Q2 Write the following numbers in Chepang:
a) 39
b) 61
c) 109
d) 26

Answers and explanations will appear in the next issue of U-Lingua.

Words, Words, Words

The Miseducation of Fryderyk Chopin

Literature columnist Olivia Szczerbakiewicz delves into the curious case of the famous pianist's letters and their fate of getting lost in translation.

Fryderyk Chopin was a Polish-born composer and pianist from the Romantic period, who emigrated to France at a young age and became a globally-recognised virtuoso. In recent years, interest has sparked around the publication of his letters, addressed primarily to his friend Tytus Woyciechowski, which circulated the internet. The epistolary exchange, aside from providing rich context for Chopin's private life, seemed to hint at a history of romantic relationships between the pianist and other men—a notion many found startling, as it had been curiously unknown and undiscussed.[1] Research into the matter yielded a case of mistranslation of the letters from Polish to English: substituting the target "he" with a "she" and thus considerably muddling Chopin's biography. What led to the mistake, and how has the case of the letters remained unexplored for so long? A seemingly accurate theory to account for the mistake would be

grammatical gender, defined as the "division of nouns into smaller classes, such as masculine, feminine, and neuter" which "trigger different agreement affixes on the associated verb or adjective."[2] This process, known as inflection, is a common feature in Slavic languages, while markedly rare in English, which lost many features of inflection and case marking throughout the years.

Equipped with such a clue, we could be tempted to predict that many cases of inherent grammatical gender triggered in Polish through morphosyntactic association will simply become "lost in translation" in a target language like English. Let's deconstruct one such example, taking a look at the official publications by the Polish Chopin Institute (NIFC).

The original has been translated as follows:

(a1) "Sam zapewne czujesz potrzebę moją powrotu do Wiednia, nie dla panny Blachetki, o której, ile mi się zdaje, pisałem, jest to osoba młoda, ładna, grająca, bo ja już może na nieszczęście

(a2) mam mój **ideał**, **któremu** wiernie, nie mówiąc z **nim** już pół roku, służę, **który** mi się śni, na **którego** pamiątkę stanęło adagio od mojego koncertu, który mi inspirował tego walczyka dziś rano, co ci posyłam."[3]

(b) "(...) I have my **ideal**, whom I faithfully serve, not having spoken to **her** for half a year now, about **whom** I dream, with thoughts of **whom** the *Adagio* from my Concerto came to be, **who** this morning inspired the little waltz that I am sending you."[4]

Meanwhile, the correct translation would be:

(c2) "I have my ideal, whom I faithfully serve, not having spoken to him for half a year now, about whom I dream, with thoughts of whom the Adagio from my Concerto came to be, who this morning inspired the little waltz that I am sending you."

The mistaken assumption made in translation of (b2) equating "the ideal" with a following "she/her" object initially seems to stem from an unwillingness to equate the inherent grammatical gender of the word "ideał" in Polish with the gender of the addressee: as marked in the Polish excerpt, "ideał" triggers the affixation of the case-marked "który/któremu/którego" meaning "who/whom/whose" and marks it as explicitly male. The choice of the word is, however, not accidental, and its interpretation as divorced from the indicated gender would be in fact ungrammatical. Perhaps, were it not for the specific case marking, the ambiguity of "ideał" could be further argued, but the triggered agreement of related "whose" leaves no room for doubt. The context of the sentence, where a distinction is made between a woman and a man, justifies it further:

(a1) "(....) potrzebę moją powrotu do Wiednia, **nie** dla panny Blachetki, o której, ile mi się zdaje, pisałem, (...), bo ja już może na nieszczęście mam **mój ideał**,"

(c1) "(...) my need of return to Vienna, not for Miss Blachetka, about whom, it seems to me, I have written, (...), for I already, perhaps unfortunately, have **my ideal** (...)"

Finally, the pronoun "o nim" which, though translated in (b) as "about her" is in fact the locative case of the pronoun "he" which unambiguously translates to "about him".

This brings us to the original assumption that the mistake in translation could be well-intentioned and led with a misunderstanding of the grammatical rule. However, if we take into consideration the direct mistranslation of "o nim" to "about her" and the preceding context of the letter, the concealment of the male addressee and subsequent shift of meaning becomes intentional. This is reaffirmed by the fact that similar "mistakes" can be found in the translations of other letters between Chopin and his male friends, including for instance Jan Matuszyński:

(d) "Ale nie tylko dla mego anioła pokoju, bo jak go kocham, (...)"[6]

(f) But not only on account of my angel of peace, for as I love her, (...)"[4]

Here as well, the mistranslation is specific to the change of the pronoun "him" as intended in the sentence: "bo jak go kocham" — "for as I love him." Looking at the issue from the perspective of sociolinguistics, we can take into account the fraught situation of LGBT+ rights in Poland, the prevalent tendency to write off historical accounts of homoerotic relationships as culturally ambiguous and platonic, and finally, the presence of the misattribution of the aforementioned "ideał" to a woman in the relevant section of Chopin's Wikipedia biography in Polish[7] is very telling. All things considered, the case of the mistranslation of Chopin's letters thus becomes not merely literary—but linguistically political.

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Curiouser and Curiouser

How to pick course options for the new academic year?

Advice columnist Caitlin Wilson breaks down her 5 top tips to help you pick your modules for the upcoming semester and ensure you have the best academic year possible.

As we put this bizarre academic year behind us and head eagerly into the next semester, we start to excite ourselves with the prospects of returning to in-person classes. Turning towards the future, we thus need to start deciding how to fill our timetables and face the seemingly ever-growing list of modules. In light of this difficult task many of us will soon be faced with, I have compiled 5 useful tips to help returning students find the best combination of modules

1. Be prepared

Step one is to get ahead! Only a handful of universities operate on a first come first served basis when it comes to module allocation. However, this doesn't mean that you should wait until the last minute to go through the famous list of course options. Being prepared means doing your research and emailing lecturers whose courses interest you. Ask questions about the course structure and content and get to know the people who will potentially be teaching you. Don't be afraid to get to know your school admin either. They can inform you which courses tend to attract the most people – you might end up making your choices based on this very fact. If you prefer a smaller learning group or would like to work more closely with your teaching staff, a less popular module might be the best option for you.

2. What do you *not* know?

It might be tempting to look back at your grades from previous years and choose similar courses for the upcoming semester, but does this help you become a well-rounded linguist? Not really. If your immediate thought upon reading that question was that you don't want to be a well-rounded linguist then by all means, specialise away. If your one and only passion is the morphophonology of Slavic languages then take all the courses that get you closer to that expertise. Remember, however, that it takes a good understanding of a language's syntax, phonology, and historical evolution to fully grasp its finer intricacies. Thus, a more holistic approach to education is, in my opinion, the best way to ensure success. Get to grips with the basics in all the core domains of linguistics before specialising too much. Understand what it is you don't understand to determine which courses will benefit you the most.

3. Assessment – play to your strengths!

The next thing to think about when trawling through the list of modules is how you'll be assessed. Are you an expert wordsmith that produces journal-worthy essays? Or are you a pro at memorization who scores highest in exam settings? Think about how you like to work and what types of assessment you tend to score higher marks in. I tend to prefer to spread my workload out and choose modules that offer multiple pieces of assessment over the course of the semester. However, if you feel like you can nail an exam-only course, then by all means choose that! It's all about playing to your strengths and maximising your chances of getting the grades you know you deserve.

4. Ask around

Take this piece of advice with a grain of salt. Asking friends and course-mates what they thought of a certain professor, or a specific module, is definitely a great way to get some inside knowledge into how the course is run. However, these insights and opinions are just that – opinions. Don't base all your decisions on other peoples' views. Just because a friend of a friend hated 'Historical Phonology' doesn't mean you will. Conversely, someone you ask might have loved their 'Computational Linguistics' lecturer but their teaching methods might not be the right fit for you. Ask around but make sure your final decisions are *yours*.

5. It's never too late to change

Most universities give students a two-week grace period to change modules – use this! If you've gone to the first week of lectures and given it your best but still end up falling asleep doing the recommended reading, then maybe the course isn't for you. It won't take much work to catch up on the first two weeks of another course, and if changing to something else means you'll achieve better grades and enjoy your year more then don't hesitate.

Whatever you end up choosing, make the most of every module and enjoy your year, Linguists!

Anatomy of a Linguist

What Keeps Us Up at Night

What Words Mean

Our in-house rambler on linguistics for The Anatomy of a Linguist, *T. R. Williamson, presents an overview of the past and present philosophical, cognitive, and computational approaches to the central linguistic question of what the meanings of linguistic expressions actually are.*

When I write or speak or gesture something to you, how do you know what it means? How is it that I am able to act, with my hands or mouth or body, in a way that encodes some significance that you are able to grasp and interpret and understand? More to the point, *what* even is this thing we call meaning? Is it something mystical, with magical properties? Is it deducible logically or mathematically, neatly lining up with formal proofs? Is it psychological, akin to any other kind of knowledge we have of the world? It is these kinds of questions, about what meaning is and how we can understand it, that fascinate those who research meaning in language. In this piece, I will paint a simple picture of this work and then set out some promising future directions for understanding meaning.

To someone trying to get to grips with the wealth of work on meaning, there are several key approaches that comprise an oligopoly of sorts over the production of academic research on the topic. Let us familiarise ourselves with these by a rough chronology of their popularisation.

As most of academia has done, the study of meaning started within philosophy. We can trace discussions of meaning in language all the way back to Plato's *Cratylus*, which suggests that there was some reliable yet arbitrary sound-meaning link that composed word meanings[1], and Aristotle's syllogisms within, for example, *De Interpretatione*, which sets out reliable methods to treat the logic underlying premises in an argument[2]. The more recent work of Gottlob Frege makes a famous distinction between what a word refers to (its reference) and that feeling we share (its sense) about individual words' meanings that guide intuitions about how the terms 'football' and 'soccer', for example, are not

synonymous despite being *coreferential*[3].

From Frege, we can chart a course through Bertrand Russell[4], Alfred Tarski[5], and Richard Montague[6], who bring us to our first school of thought on meaning: *truth-conditionality*. It is their suggestion that the meanings of (specifically) sentences consist in the conditions under which a particular proposition would be true. In other words, what sentences mean are references to possible worlds within which the conditions prescribed by a sentence are true. Their methods consist primarily of drawing upon tools from formal logic and mathematics to provide complex representations of how sentences convey their truth conditions.

As a result of the tools they use, a lot of their problems revolve around how to resolve ambiguities arising from the interpretation of specific words to fit into their formal representations. Let us look at an example from a recent paper[7], which tries to understand whether an epistemic modal 'must' in sentences like (2) is unintuitively weak in modal strength (i.e., 'must' seems normally quite assertive, but in (2) it is not) in comparison to what might be considered otherwise neutral (1):

    (1) It is raining.
    (2) It must be raining.

One definition they give for 'must' to prove it still carries modal strength is the following:

$$[\![must\ \phi]\!]^{c,w} = \begin{cases} 1 \text{ if } K^c(w) \text{ doesn't settle } [\![\phi]\!]^c \text{ and } B^c(w) \subseteq [\![\phi]\!]^c \\ 0 \text{ if } K^c(w) \text{ doesn't settle } [\![\phi]\!]^c \text{ and } B^c(w) \not\subseteq [\![\phi]\!]^c \\ \text{undefined otherwise} \end{cases}$$

There is not enough space to explain what this means; I merely aim to provide a demonstration of how formal approaches to meaning work – as you can see, just by the number of variables and symbols, it seems quite dense. In the same vein, there are many reasons to question the utility of such formal methods. It is not clear, for instance, whether there is sufficient reliability in academics' intuitions about ordinary modal strength to generate arguments and counterarguments about the meaning of 'must'.

Moreover, some suggest there are still major questions to be answered about the utility of using truth as the core of meaning – when you and I go about understanding each other's utterances, are we considering the conditions under which they might be true? And, if not, why then is such an approach to studying meaning valuable as an insight into how language works?

If you do not find favour with formal methods, there is good news for you! Many others exist for you to try out. We could go to branches of cognitive linguistics, for instance, where some interesting work has followed from philosophers Lakoff and Johnson[8]. They observed that many ways of communicating about the world have semantically contingent relations with bodily states; for example, they note a trend for describing happiness as upwards and sadness as downwards: *I'm feeling up*; *He's in high spirits*; or *That gave me a lift* vs. *I fell into depression*; *My heart sank*; or *I feel low today*.

From this stems Conceptual Metaphor Theory; the idea that this observed frequent interconnection of concepts we use to communicate other concepts with (e.g., *happiness* with *upness*, like a metaphor) actually changes how these concepts interconnect in our minds, to the extent that we think differ-

ently as a result of how we speak. This idea has received some empirical support. For example, corpus-based studies on cancer and end of life care in Semino et al.[9] note that, often, metaphors referencing struggle with cancer as a 'battle', rather than a 'journey', can be harmful in discourses with patients surrounding their condition.

Interestingly, the philosophy of Lakoff and Johnson[8] has also impacted studies into meaning outside of linguistics proper. Indeed, cognitive (neuro)science, over the last twenty to thirty years, has spawned a subfield of research under the name 'embodied cognition'. Here, most work contributes to the hypothesis that, whenever our brains hear language, cortices traditionally implicated in a wealth of non-linguistic tasks (e.g., perception, action, motion, perception, introspection, and more) contribute to the processing of meaning. For example, a famous paper from
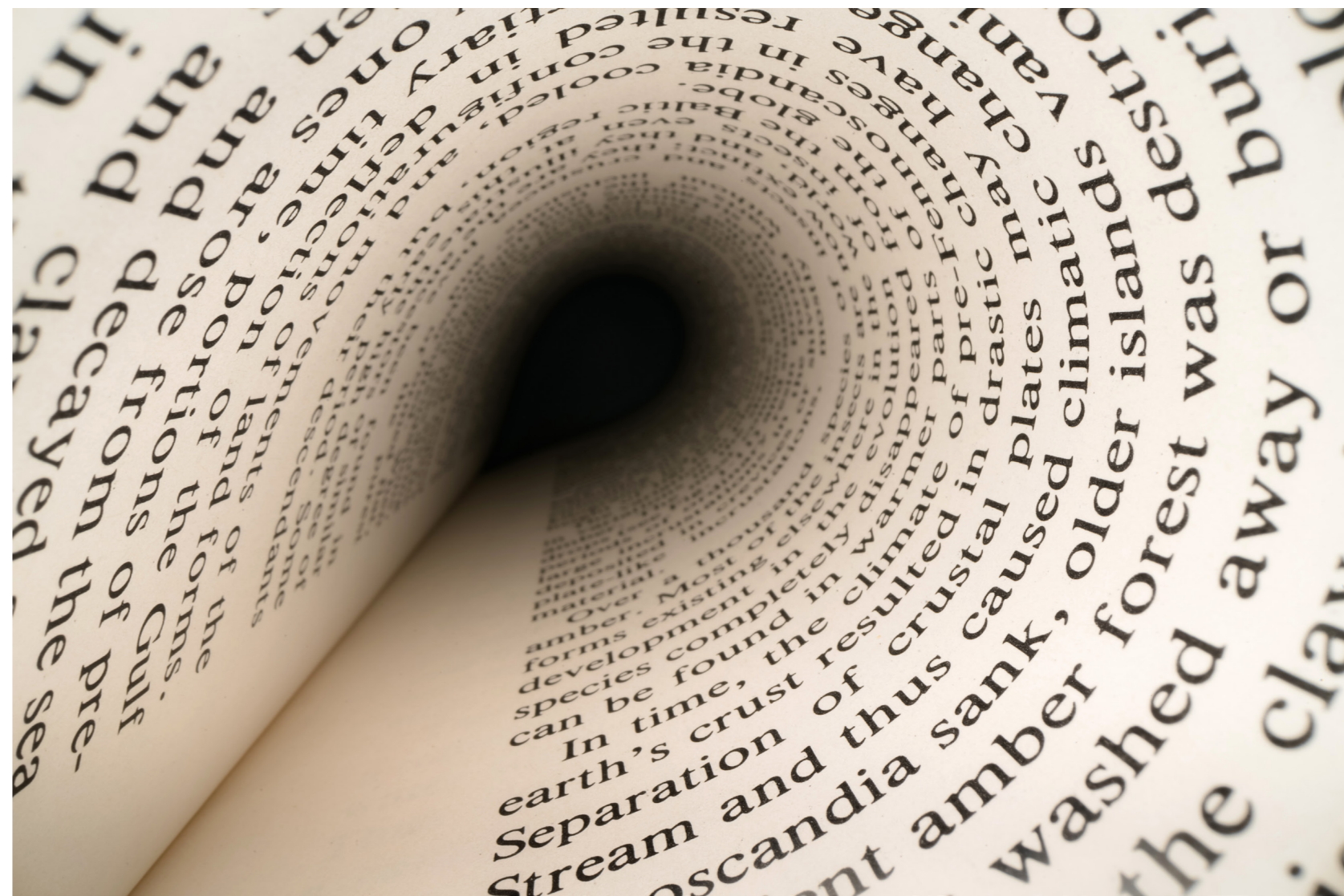
Pulvermüller et al.[10] (2005) used transcranial magnetic stimulation (TMS) to show that externally-provided electrical activity to the motor cortex improved response times in a lexical decision task to words only with meanings related to motor action. The question that remains for embodied cognition, though, is whether there is anything more fundamental about meaning that can be grafted from its findings.

Such cognitive neuroscience clearly represents a very different project than the one upon which formal approaches embark. There, they aim to set out comprehensive models to account for all possible sentences, so that truth-conditions can be unambiguously derived in any case. In embodied cognition, the concern is with what contributes to semantic processing in the brain. It is difficult to compare these two, but if we extrapolate from their aims, we can provide two sides of the same coin.

On one side, meaning is something to be modelled. What words mean themselves are not of a huge concern – the key is to understand how those words get put together so we can work out under what conditions the world would have to be for the sentence to be true. We have to work out how words like 'must', 'only', and 'all' work with the rest of the words in a sentence to get at how to derive truth conditions.

On the other side, meaning is something mental to be observed, manipulated, and tested. What a word means is something like the knowledge we have of its definition and also all the experiences we have had with it and its referent. For embodied cognition, whatever sentences mean is not of particular interest – presumably because neuroscientific methods are difficult enough with such minute stimuli. We do not

worry about how word meanings interact with one another, only how the brain deals with them.

Have you ever seen those perplexing video clips of people flipping coins, only for the coin to land on its edge? The shock of the flipper (and presumably the videographer) is always hilarious to watch; and ironic, given how a coin-flip is traditionally representative of a 50:50 chance either way. Here, as final food for thought, I would like to present you with the edge of this formal-cognitive coin: *distributional semantics*.

Using complex algorithms, statistical analyses, and imaging techniques that I do not understand at all, computational linguists and cognitive neuroscientists have, of late, teamed-up to provide mathematically-informed models of interconnected areas within the brain that coordinate specific semantic domains as a function of that specific brain region. Quite remarkably, they do this by simply taking readings of people in functional magnetic resonance imaging (fMRI) engaging with texts of different semantic themes and then work back to isolate the areas of the brain that were differentially activated while reading those texts[11]. They can do this to such a high degree of accuracy that these models can be used to produce topographical representations of semantic structure on the basis of how interconnected words' meanings are[12].

That was all a lot of big words. Essentially, not only can brain and computer scientists work out roughly where in your brain you are processing the meanings of interconnected words, but they can create plots that distribute words on the basis of their semantic interconnectivity. In fact, they can do this to such an extent that the particular words you might be reading at a given moment can be reverse-engineered only on the basis of fMRI readings – in other words, using mathematical, formal methods on the brain can, in a

strange way, help us read minds[12].

To many linguists, this is the future of work on meaning. Calculating these fine-grained neurological distinctions between brain area and semantic domain is, for some, a task that is already somewhat complete. Once we have that, though, have we "solved" meaning? Once we know how to model our processing of meaning to that degree, are we finished? I am not so sure. For one, it is not clear to me that providing distributional models of meanings explains what those meanings *are* – is 'bird' not something over and above *related to 'flock' and 'nest' and 'beak'*? We also come no closer to understanding longer utterances like sentences with these distributions.

What we would do well to remember, I shall conclude, is the aforementioned work of Frege. There just is something *to* word meanings that makes them feel different. It is this peculiar semantic phenomenology that provides us with the fine-grained intuitions about word meanings that we simply cannot capture using these neuroscientific and computational methods. Revisiting Frege, I conjecture, may bring us closer to a more holistic account of meaning. And just like that, we are right back where we started. Isn't that funny?

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8th year

Babel Young Writers' Competition

This year, Babel will be running the eighth iteration of our Young Writers' Competition, which encourages young linguists who are starting out on their study of language.

The competition is open to all linguistics students in further and higher education, i.e. at sixth-form, college or university. If you are a keen Babel reader and language lover, get writing to be in with a chance of getting yourself published – as well as a year's subscription to Babel!

Keep an eye on @Babelzine on Twitter for inspiration from previous winners on topics ranging from sign language to spoonerisms, and from language birth to language death.

The winners will be announced in October 2021. Good luck!

Individual and group prizes

We will publish two winners in our November 2021 issue – one by an individual young linguist, and one by a group of young writers. This new option to submit as a team recognises the importance of group study in linguistics.

Guidelines

Deadline: Friday 27 August 2021

Length: Entries must be no more than 2,500 words.

Topic: Entries can be on any topic to do with languages and linguistics – the important thing is that an article is accessible and interesting for Babel readers.

Format: Entries should be clearly presented in a Word file, with images submitted as separate JPEGs.

Submission: Entries should be emailed to babelthelanguagemagazine@gmail.com with the title Young Writers' Competition.

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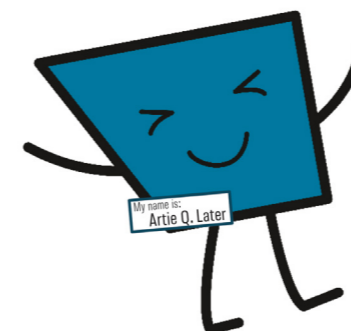
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