Debate: Applied Cognition

The following debate took place on September 15, 2023, at the State Academy of Applied Sciences in Krosno, Poland, during the annual conference of the Polish Cognitive Linguistics Association (PCLA). The debate was moderated by Adam Głaz (Maria Curie-Skłodowska University in Lublin, Poland) and included conference keynote speakers **Lera Boroditsky** (University of California in San Diego, USA), **Neil Cohn** (Tilburg University, The Netherlands), **Vasyl Starko** (Ukrainian Catholic University, Lviv, Ukraine), **Peter Stockwell** (University of Nottingham, UK), and **Iwona Kraska-Szlenk** (University of Warsaw, Poland).

The debate was guided by consideration of the following topics:

1. Language, cognition, and "global" discourse
Apparently, we have just had the hottest summer (in the northern hemisphere) since records began, which led the UN Secretary General António Guterres to talk about "global boiling". How does this metaphor relate to the fact that we live in ethnic, ethnocentric, and conceptually "local" languacultures, focused on and around "us", here and now?

2. Cognitive linguistics and language teaching/learning

How can/do insights from cognitive linguistic relating to cultural conceptualizations (cultural metaphors, metonymies, schemas, models, etc.) affect our performance as language teachers/learners?

3. AI and translation

With Google Translate, DeepL, ChatGPT etc. around, where are we now, where are we going, and where do you think we might end up in five, ten, or twenty years as translators and translation teachers?

Adam Głaz: Hello everyone. Happy to see you here. Thank you to everyone who's participating in the debate, all the plenary speakers; thanks for delivering your talks and for agreeing to take part in this, well – debate is a big word. We rather like to think about this event as an exchange of ideas on a few issues that concern us all. This has been a conference on applied cognition in a very broad understanding. So we thought that we might address these three broad areas, the first of which is the relationship between language, cognition and what we might call "global discourse". The next one is the problem of language teaching and learning in the context of cognitive linguistic insights into cultural conceptualizations, such as cultural metaphors and metonymies, cultural schemas, and cultural models. Last but not least, I couldn't help myself from touching upon artificial intelligence because it's such a hot topic now, and we thought it'd be good to talk about translation in this context. Personally, I have found, over the last 12 months or so, that it has affected my performance as a translator and translation teacher. I wonder what you think about it. So, we have this very rough or schematic format for the debate. But basically, we'll see how things go.

Point number one: language, cognition and global discourse. The UN Secretary General António Guterres used the expression *global boiling*, rather than *global warming*, back in late July or early August, when summer was still in full swing. The question is: how does this kind of metaphor relate to the fact that we live in ethnic, ethnocentric, and what I would call conceptually local languages or languacultures? Languacultures that are focused on *us* in the centre of the universe and that construct the entire universe around this very specific languaculture here and now. How does this relate to the idea of global boiling, given that very few of us actually live globally? We live locally and we experience these effects locally and so we don't have an experience that would correspond to this kind of global notion. Do you think that Guterres's metaphor and other kind of expressions, such as *environmental change* or *environmental crisis*, appeal to people? Do they appeal to you? Do they correspond or clash with the worldviews that we construct with our own languages?

Lera Boroditsky: I think the conversation on climate change, if that's what we call it, has had some difficulties in marketing. Calling it *global warming* at the beginning opened up opportunity for really silly counterarguments, where people might experience a cold day in April, it snows in Boston or something like that. And then the US Congress gets snowballs thrown around and they say, well, it can't be global warming, because now we've just had a cold day. And anytime someone feels a little bit chilly, they say this global warming stuff is nonsense. Then it changed to *climate change*, which also doesn't communicate a lot of urgency. Change is not necessarily bad; *climate change* sounds kind of delicate. Then it became *climate crisis* or *climate catastrophe*, and *global boiling*. All of these metaphors, or ways of marketing it, have some pluses and some minuses. I don't feel like there has yet been a good way of communicating what is really a systemic problem, right? There needs to be a metaphor that captures the systemic nature of the problem, the unequal contributions that some parts of the world make to global climate change, ones that you might not feel yourself but other people can suffer greatly from. And coming up with those kinds of metaphors that really capture a whole system is very difficult. I think that's one of the things that has prevented a lot of action, at least from places where I live, where people latch on to a very shallow interpretation of the name of the crisis, like *global warming*, and argue about whether or not it's good or bad and whether one degree more would actually be that bad for them personally. And they say, well, it would be nice to have lunch outside and, you know, a few more days out of the year. So clearly, messaging that captures more of the complexity of the problem would be useful.

Neil Cohn: Two things come to mind. For me, at least, I absolutely agree with everything that Lera says. Sorry for not debating enough, I guess. There's kind of, as you indicated, a local versus global problem, which is that it's hard to conceptualize things that are beyond the scope of what you are experiencing easily. And, as a result of that, it's just a systemic problem. So, if you think of warming, well, that's something that you can experience and so then you can act as if it's falsifiable as opposed to say global temperature or something like that, which is not something you're immediately experiencing. So it's hard to provide the right frame that encompasses the scope of the issue bigger than one's local experience. And the other part that I just would mention is that these same frames are then factored into multimodal communication as well. If you look at memes and political cartoons that are also discussing these issues, and I've had some colleagues who have done work on this, you see lots of melting planets, planets on fire and things like that where you at least can pictorially depict the thing that is having the is-

sue. Then it is the same fallback of, you know, fire and boiling and a variety of other sorts of sensory experiences. But if you're just seeing a picture of the Earth, you again don't necessarily picture yourself on that planet and the systemic change that occurs along with that. So, I think I would agree it's very difficult to find the right way to characterize this in a way that is both salient and evocative for people and conveys the urgency of the issues.

Lera Boroditsky: And captures the human contribution to the problem. So, change happens. People could say, well yeah, climate has changed a lot. We've had ice ages, we've had whatever, but it's really capturing the system that we're participating in as humans that I think has lacked in the messaging.

Neil Cohn: Yes. If you have a picture of the Earth on fire or the Earth melting, then that divorces the issue from the human part, and also divorces it from the human causal part, from what is causing the change. There's a variety of ways that you then need to address the causal issue and nothing in that framing has this. I mean, every person does somewhat contribute to the issue, but it's major corporations that have giant energy costs.

Vasyl Starko: I would like to read to you the UN Secretary General's message on the hottest summer on record dated as of the 6th of September this year. So, it's very recent. And I stumbled upon this message because I was reading a Ukrainian online newspaper and I saw this news about this message. There was one expression in that Ukrainian text that seemed really weird, and I thought, what could be in the original because this sounds so unusual. So I found the original and here it is. I invite all of you to just think about what it says and how you would translate it into your native language. Okay, let's do this exercise, it's not very long:

> The dog days of summer are not just barking, they are biting.
> Our planet has just endured a season of simmering – the hot-
> test summer on record. Climate breakdown has begun.
> Scientists have long warned what our fossil fuel addiction will un-
> leash. Our climate is imploding faster than we can cope with extreme
> weather events hitting every corner of the planet.
> Surging temperatures demand a surge in action.
> Leaders must turn up the heat now for climate solutions.
> We can still avoid the worst of climate chaos – and we don't have a
> moment to lose.
> (https://www.un.org/sg/en/content/sg/statement/2023-09-06/secre-
> tary-generals-message-the-hottest-summer-record; accessed 25 Oct,
> 2023)

That's the message. Is it easy to translate into your native language? Into Polish?

Adam Głaz: Lots of metaphors.

Vasyl Starko: It's loaded with metaphors and they are all over the place.

Adam Głaz: Unusual ones like the dog metaphor, the unleashing…

Vasyl Starko: The dog days. I had to look it up. I've heard of the phrase but I didn't know the origins. It goes back to antiquity. And then there is simmering. There is "climate breakdown has begun". In my perception, a breakdown is a moment, an instantaneous action; it's not something that begins, lasts, and then ends. And then fossil fuel addiction, another metaphor, what it will unleash, again something violent. Then "our climate is imploding". Never thought of climate as a structure that can become structurally unbalanced and just fall on itself. And then "extreme weather events hitting every corner" – again hitting. And then "surging temperatures demand a surge in action". Well, a surge is temporary, it's a spike but then as a wave it subsides. So, if you're calling for a surge then you're asking for a little bit more effort and then you can relax again, kind of metaphorically. And then "leaders must turn up the heat" – this is the worst, as if we need more heat. And then climate chaos at the end. So it really looks like an exercise in rhetoric more than an earnest message. And in addition to all this confusion that it creates it gives me a sense that somebody was writing it in the comfort of their UN office and they thought carefully about, you know, peppering this message with nice metaphors. But there's no heart in it, no earnestness. I don't feel like that person really cares and some of the things that they say are kind of contradictory because it says "we don't have a moment to lose" but earlier on "scientists have long warned" – so do we have time or do we have no moment to lose? It's a mixed message and I agree with my colleagues that it would be good to have a way of conveying to people that it's personal, that it affects them. And if you use a metaphor, it's good to pick one that is universally understood because *the dog days* are not. I also tried to look up the translations in the other official UN languages and they don't exist. But it has to be universal, and it has to relate to the person's experience. And then it would also be good to have a conceptual metaphor that you can develop and deliver this message on and on in different ways so it hits the same target, not just scatters the shots all over the place. Evidently, it has not been found, this metaphor. *Climate change* doesn't do it; *global warming* doesn't do it. It's not the level of intensity and personal relation that would be required. So that's something to consider and maybe we can debate with this message.

Peter Stockwell: You're right that the problem is the mixture. I like *climate breakdown*, it's good because, as Neil says, it's about a breakdown of a system. It relates to the climate but it also maps neatly on your own embodiment, doesn't it? You have a mental breakdown or a physical breakdown. I would prefer *climate collapse* partly for the alliteration as well, which is nice in English. *Dog days* is Shakespeare, so it's too culturally specific.

In the first Marvel Comics *Thor* film, there's a scene where they're left with a sort of burning set of alien script imprinted on the desert floor and three guys turn up from the US government, presumably they're the FBI or NSA or the department that does aliens, I don't know. And these three guys in black suits and black ties and shades look at the thing on the floor and the dialogue goes: "We're going to need to send for the linguists". And I think, actually, that's what it needs. What you need here is like people on this platform and in this room, who understand how this works, understand the sorts of consequences, and can explain that, and help politicians to do this sort of stuff. I have three or four friends in the UK parliament in Westminster who were former academics working in cognition, who now advise not so much the government, because that's a lost cause in Britain at least for this year, but the opposition, potentially the next government, which hopefully will happen fairly soon. So, there's a bit of hope there, I think. It's about the expertise. We're all agreeing here this is no good.

Let me do a sideways thing on this. Three weeks ago I was at a conference in Bologna on ecological stylistics, green stylistics, and it was 40 degrees. It was really hot and it was almost impossible to get to this place other than by burning lots of fossil fuels, which was sort of irony in itself. Also *ecological stylistics* was a term that really annoyed me because when people did what they were calling an ecological stylistics or eco-criticism, what they were really doing was something actually quite conventional. They would be looking at conceptual metaphors in particular ecological or green or not green text or statements by oil company executives and so on. Or there was a systemic functional analysis of the transitivity systems of agency and blame and responsibility in those documents; someone was looking at sort of foregrounding of different things in those documents. What they were doing was a very conventional sort of stylistics of discourse analysis of texts that were salient to the green agenda. And I thought, well, there's nothing methodologically ecological about that, the linguistics isn't different. There's nothing ecological about the linguistic analysis – it's a conventional analysis of these texts. And that's okay but trying to pretend that that's somehow a radically different methodological trajectory seemed to me just wrong. So I was so grumpy I actually got up, which has lost me a lot of friends I think, and I said basically this is all a lot of nonsense, what you're doing is not ecological stylistics. You're just doing stylistics, you know. So, what would an actual

ecological stylistics look like if you're really going to be radical about it? So, what I want from an ecological stylistics is a sort of linguistics where what Arran Stibbe calls ecosophy of language is enacted in the actual approach. A formal linguistics where pretty much everything connects to everything else, where the method that we're so used to from the scientific method of separating out dependent and independent variables might at least be questioned if not completely thrown out. And I see Dylan [Glynn] just frowning at me. What are the candidates for that? Actually, it seems to me, cognitive linguistics or cognitive science broadly is the ground for where we could do that. As it stands, I think we've got a really good set of models in cognitive linguistics. But mainly they go up to sentence level and then separately, mainly from cognitive psychology we have quite a lot of stuff where we can talk about discourse and it isn't seamless. I'm thinking even in Langacker's *Cognitive Grammar: A Basic Introduction*, the final chapter is on discourse and it's terrible, isn't it? It doesn't really do anything. There's a leap between it and the rest of that book. A genuine cognitive discourse grammar, the patterns that operate at that level: schema models or blending models or compression models or Idealized Cognitive Models we were talking about this morning, or frames – it doesn't connect seamlessly with the lexico-grammatical levels. And I think something should. If it did, we would have an ecological linguistics and we might get better at being able to describe what we need to describe fairly urgently.

Adam Głaz: Thank you, Peter. Well, let me ask Iwona, who's online with us. Some insights from Swahili maybe?

Iwona Kraska-Szlenk: Thank you. I'm in a difficult position because I agree with what has already been said. From the general perspective, a good metaphor in the sense of one that appeals to us, somehow touches our emotions, is of course a metaphor that is either embodied or is connected to our experience. In this sense the metaphor *global boiling* and similar ones, in my opinion, are perfectly suited, especially since this is perhaps the most important issue that we are globally speaking about. As to Swahili... I haven't thought about it actually, I don't have any particular metaphor on my mind (the conventionalized term used for global warning is *ongezeko la joto duniani*, which literally translates as 'increase of heat in the world'). But this question provoked me to think about some other issues, if it's okay. We have global topics to discuss, so obviously we need a global language and a global conceptual system. And we do have such global language, which is obviously English in most cases, and we usually use the Western kind of conceptualization system, Western imagery. Given that, I immediately started to think about those of us who live outside the Western world but still communicate globally. Do they share

the conceptual system of the Western world or not? This is a general question about our identity – part of our identity is local and part of our identity is global. I'd like to show you one picture, a caricature by a Kenyan journalist and artist, Patrick Gathara. It appeared in the Kenyan English-language newspaper *Daily Nation*, on July 30, 2015, at the time when Barack Obama was the president of the US and Obama-mania in Kenya was still vivid.

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In the picture, Barack Obama is kissing a frog and then he appears rather disappointed or even disgusted. And the frog says, "What did you expect, a prince?". You can see in the left upper corner that there are letters GOK written on the frog, which stands for Government of Kenya. This abbreviation can only be understood by Kenyans, international audiences would probably not know what it stands for, so clearly the caricature is meant for the local, Kenyan audience only. But it uses Western culture and imagery, because the frog turning into a prince comes from a Western tale, not from a local African story. I have observed that this kind of Western imagery is very common in Kenyan caricatures, not only those by Patrick Gathara but also by other artists, who draw from Western folk stories, ancient mythology, European history, etc. So, we can find an African president portrayed as a Roman emperor wearing a toga and so on. It seems that we really live in a global world and we share a lot of global culture. And we need metaphors and a whole conceptual system that would be clear to everybody. I started to wonder, is it good or bad? On the one hand, it's good because we can communicate if we have this global culture and a global conceptual system and draw from one repertoire of imagery. But on the other hand, it makes me a little sad as an Africanist that in this particular case local artists don't use local culture. Eventually it's a question of who we are. What part of us is local and what part of us is global and how much of us is one way or the other. I know I didn't respond to the question as I should have but I just wanted to share with you these thoughts that the question provoked.

Adam Głaz: There was definitely an optimistic note in what you said. And apparently, we do stand a chance of producing this kind of global discourse that will be beneficial to us all, given that English is internationally recognized, although not totally global, but like any other language it is an ethnic language with its own conceptual system.

Lera Boroditsky: Can I add one thing? Speaking of optimism, I think with the climate crisis all of the messaging tends to be rooted in the emotions of fear and shame. The issue is very urgent and people are constantly being told to be afraid and to be ashamed of their actions. In my experience it's not the best way to inspire people to imagine a better world. I think a set of messages that might be more effective are ones that inspire people to imagine what a future for themselves and their children and their children's children would look like if we were to address the crisis. And one way to do that is to get people to think about time in a much longer scale than we typically do. I'll give you one example of framing that's so simple, but I think it's so effective. There's a foundation in San Francisco called the Long Now Foundation and they specifically focus on long-term thinking. Whenever they announce an event or send out a flyer for any kind of thing they're doing, they don't list the date as March 7, 2023 – they list it as March 7, 02023. So, they change the scale of time that they're operating on. Every time you see a date for an event or any communication from this foundation, you're immediately invited to think about how long the future is and to imagine what kind of future you want it to be. And it's such a simple framing shift, but it's so powerful. Every time you see the date you think, "Oh, my mind has just opened to a much, much longer future than I now really operate in".

Vasyl Starko: Yeah, I agree that a positive message would be more effective in spurring people into action. And I think that one of the messages could be referenced to the future generations. Mature people, whether they have children or not, begin to think: Okay, what are we leaving for the next generation? Maybe this climate crisis will not affect me personally, but there are younger people, my children or my grandchildren. So, what can we do to leave the planet in a better shape for them. And so the message could be phrased around this idea and it could be quite powerful, I think.

Neil Cohn: In addition to that, while I agree that a positive messaging is also important, the framing as it stands is largely agentless as if it's just the thing that is happening, as opposed to a select group of people who have been doing this to the environment. And while many people, if not most people on the planet, have been contributing in some way, it's largely a small select group of people who are causing the primary damage to the environment

and escalating it through systemic means. If you have a set of framing that is completely agentless and doesn't address the who and the why the things are happening, well, how are you supposed to change that if there's no clear thing to be opposed to or to seek to change?

Lera Boroditsky: Worse, the way it's talked about is *climate inaction* when that's the opposite of the problem: it's aggressive action against.

Neil Cohn: Right. So, I think a set of positive framing would be useful but I wouldn't mind, you know, some revolutionary sort of language as well that's highly agentive.

[Voice from the side:] The culprit, right?

Neil Cohn: Yeah. To stop kind of, you know, washing over what the actual cause is. It's not just CO_2 magically going into the air. There's a causal action and that causal action has to be acknowledged as well.

Adam Głaz: Thank you. This has become such an in-depth discussion but I suggest we move on to the next point, and, in fact, why don't we combine points 2 and 3 into one? There's a teaching element in both of them. In point 2 the question is: we've been doing cognitive linguistics some of us for decades, others for years, still others for months maybe. We have insights into conceptualizations that have a profound cultural element to them, like cultural metaphors, metonymies, schemas, and models. And then do we use those or would we like to use those in teaching, for example teaching foreign languages or in learning them? And then a related question goes with translation. How have those insights contributed to our practice as translators and translation teachers, especially under the pressure of artificial intelligence? Let me offer a personal vignette. Up until maybe two years ago, as a teacher of translation, I pretended that Google Translate was not around. I basically did all kinds of translation exercises with my students and I specifically told them not to use Google Translate. You need to practice your mind etc. I cannot do this now because everybody's using machine translation. Professional translators use Google Translate or DeepL to actually produce their work. So how can I tell my students not to do this? We certainly have to restructure the way we think about translation, the way we do translation, and the way we teach translation.

Lera Boroditsky: I don't teach translation and I don't do professional translation, but I can offer maybe a bit of a historical perspective on technology in general and our fears around it. For thousands of years, humans have been

inventing things that we have predicted would replace humans. So, forklifts of course took away a lot of need for lifting labour. That has turned out to be okay. We still build a lot of things, and there's still plenty of building jobs. When Excel and spreadsheet technology became widely available, people said, well, now what will accountants do? That'll wipe away the profession of accounting. But it actually turns out people just wanted more accounting and accountants just multiplied because now it was so much easier to do it. And I think with translation a very similar thing could happen. There's still value that is added by a person who can look at the translation and change and correct things, but many more things could be translated. Many more things could become available in lots and lots of languages because there's this extra power that's added at the front end. And with language technologies like ChatGPT we also have fears because maybe that's the end of truth or the end of whatever. But people have for thousands of years been predicting the end of language. Generally it's teenagers that are destroying language. You can find texts that are thousands of years old complaining how teenagers are bringing about the end of language. Then the printing press was going to destroy language because it was going to make it available to all of these commoners. When Don Quixote was published, was is often called the first novel or the first single-author work of fiction, clerics argued that it was dangerous and should be banned because a single-author work of fiction is just a bunch of lies. And if people were to read fiction, their heads would be filled with lies and then they wouldn't be able to tell truth from lies anymore. Of course, now we make children read fiction, so we've changed our opinion on whether or not fiction is dangerous. We've had the same arguments about video games, about all kinds of heavy metal music, all kinds of other genres of expression that people could participate in. And so, I think ChatGPT is certainly a disruptive technology; it changes the premium on what human labour can do in translation. But I don't think it's going to be as scary as it seems from the front end. I don't think we should fear it the same way that the clerics feared novels.

Peter Stockwell: Can I follow that up? I agree with Lera's relaxedness about technology. I mean, we've got to be clear that what is being called artificial intelligence is not remotely artificial intelligence. It's a prediction pattern recognition of large language models.

Adam Głaz: Well, I was just using the expression that's on the market.

Peter Stockwell: I know. But it has absolutely no chance of ever being artificial intelligence using that approach. Quite a lot of my work is in science fiction, both as a fan, as a reader, and as a someone who studies science

fiction professionally. And I also am a massive technology fan. We spent a lot of money at Nottingham developing digital courses and trying to use the latest technology to do it. Essentially, we travelled the world and stole everybody's best ideas to try and make it work. What they're trying to do with things like ChatGPT is just solve the Turing test, but it's the wrong test. Alan Turing in the early 1950s published sort of criteria for how good a computer could be in discourse. If you had a computer in another room and there was discourse coming out and you could ask it questions, could you tell whether it was a person or not? Ironically, he published that in a journal called *Mind* but he's not talking about a mind. He's talking about the effects coming from behind a wall. And you can see this yourself; I've done this in class loads of times, it's the classroom practice of found poetry. So, if you clip up this set of questions you gave us up and drop the words around and then assemble them in a particular way and then print it out and give it to your students – it's a poem. If that's all you tell them, they'll do a brilliant analysis of it; they'll find connections between the things; they'll see huge cultural importances. They'll identify coherence and metaphorical demands across the thing; they'll spot poetic effects of assonance and alliteration and possibly even rhyme and meter. They'll talk about the layout and they'll try and establish what the meaning of this definite article is etc. And if you tell them how you got it, how you just assembled it, their attitude completely changes. First of all, they feel cheated and they get annoyed with you, and secondly, they abandon everything they just did. The reason why is that there's no mind behind it, and they know that. So, knowing and assuming that there's a mind behind the thing or not radically changes the way we interact as humans with this discourse. There's a brilliant science fiction novel by China Miéville called *Embassytown*, which is entirely based on the idea that only the assumption of mind gives consciousness to other things. If you don't have that, you literally don't exist. And the aliens there don't believe that we have consciousness because they don't believe we have minds until they get fooled into thinking that we do one way or the other. So in fact I think we're a long, long way away from artificial intelligence in the sense of mind. And one of the reasons that we know that is precisely because of all the advances in cognitive science over the last thirty or forty years; we can confidently say that whatever this is, smart as it is and useful as it is and apparently intelligent as it is, it really isn't artificial intelligence. I'm quite keen on somebody developing artificial intelligence, but none of these multinational corporations are going to do it because it's not in their interest. The reason that there's a big hype and fear of ChatGPT and other AI at the moment is driven by the tech companies, who say, "Oh, look, this is going to be really terrible. We need to develop a solution to it. And we have the solution to it". So, they're selling us the problem

and the solution at the same time. Sorry, that's more depressing than Lera's position. But there you go.

Neil Cohn: I can give another depressing addendum to that, which is to tie it back to the first question. People forget that many of these models are all taking enormous energy costs, which are unaccounted for in many ways. I think I saw a statement recently that every time somebody runs a search or whatnot on ChatGPT, it takes about a bottle's worth of water to cool the servers that are using this electricity. Add that up as much as you people are using ChatGPT now and you have a lot of water that's being used basically by these companies to fuel their artificial intelligence models, while other places like Southern California are rationing water. And so, you have a kind of unaccounted-for energy use. Same thing with energy costs. I believe there was a calculation at one point that if you run a computational model, it requires potentially more energy cost and CO_2 protection than a flight would cost. It's not that you type it into your computer and it just magically does the thing that it does, but it's linked into an energy grid and that energy has to come from some place. So there's this hidden cost to all of these technologies that are ever growing and that are also contributing to the climate whatever we want to call it. These added energy costs that we should be aware of as people do this sort of research.

Vasyl Starko: Well, I happen to be a translator, so I can give you my perspective. I would put ChatGPT into a category of its own. I mean, it's worth a discussion of its own, but other systems that perform machine translation, they're not going away. Whether you like them or not, you need to learn to live with them and use them for the better. The effect that they have already had is that they produce translation fast. It's cheap, it's ubiquitous. They cover a lot of the need for quick translations that could not be covered by human translators, so there is definitely a benefit in that. When you think about the profession of translators, there's been an effect on that, too, because these systems can translate large bodies of text very quickly. Professional translators sometimes use them. You can run your original through DeepL or Google Translate and then you just do postediting. So, I think students in translation studies should be taught how to postedit. They should learn the types of mistakes that these systems are prone to make, and you need to be really aware because some of those mistakes are very hard to catch. You just become enchanted with the flow of the translated text and you miss the mistakes. Some of them are really bad mistakes. So, you have to be really attentive and know how these systems work. But what this does to professional translators is it cuts their salaries because the translation companies would pay you a lot less to postedit than to translate from scratch. And then there

are people who cannot translate so when you become a better translator you will reap more benefits. At the lower levels of quality of translation, these machine systems will basically replace human labour, like if you don't need a very high-quality translation, just use Google Translate as they do with media outlets in Ukraine. They often run the original text, whether it's in English or in Russian, through Google Translate and just post it as news and you can see that nobody has really edited it. It's really bad, but it's published already! But once you get higher and higher in terms of the quality as a professional translator, then you begin to see the benefits. So, the challenge is how to get there. You need practice; you need somebody to commission a translation and then you develop and grow professionally. But it'll take a while before you reach the level where your work will be valued and cannot be replaced by a machine. I think it's happening also with creative artists to an extent, with these generative systems they can create a lot of art, and they're going to be used. So, it's only at the higher level, you have to reach that higher level, and then you can stay there and develop and hope that these systems will not catch up too quickly. We don't know what will happen in a year and two years and how good they will become. But they're here to stay. We just need to learn to live and coexist with them and use them to our benefit.

Adam Głaz: That was part of my question. At the point that we are now, where do you think we might end up in five, ten, twenty years if it's at all possible to predict? Twenty years seems like a lot of time these days, even a year may be totally unpredictable.

Peter Stockwell: I just want to jump in again on the teaching thing. One sort of big panic that's happened across universities particularly is assessment. You know, there's a sort of suspicion that students will just get ChatGPT to write their essays and the essays are all right. You know, they sort of get a mid-grade usually, and if the student's smart enough to take the water-marks out, you'll probably not find it. And of course the panic is how do we get round this? And very few people are saying maybe it's the assessment that's the problem. Maybe the whole ideology of assessment in universities was the mistake because actually it's quite a recent thing. The idea that you have students come to a university and then you benchmark or test them to feed into your industrial complex, that's really only been a late 19th-century, 20th-century idea. We didn't bother with that before then. You know, you went to university, hung around for a bit – I'm thinking of Oxford or Bologna or medieval universities. And then if you hung around for long enough, you got your degree. There was no test, no exam, you didn't have to prove yourself. So this is a recent thing and if there's one good thing that might

come out of the panic about ChatGPT cheating, it's actually that what we do with students maybe needs to be reframed.

Vasyl Starko: I'll just add one thought about teaching and you're asking for predictions. Here is a wild prediction: we're going to have robots or machine systems replacing teachers to an extent. It's already happening in China. Instead of hiring tutors, they've built a system based on AI that teaches math. Because math can be segmented, it's algorithmic, it's logical, it's pre-programmed to run certain problems and explanations. So, it can be suited for that kind of job. But with the growth of technology in natural language processing, you can imagine that there'll be a system that can process natural language responses, that would know how to correct mistakes, that would know how to generate texts, how to speak to you, and then why would you need a teacher? It's a lot cheaper to buy a robot like that and have a bunch of students interact with that robot around the clock if they want to. We're not there yet, but that's a possibility.

Adam Głaz: One other thing that came to mind when you talked about postediting is actually pre-editing. Translators would pre-edit the original before they run it through DeepL or Google Translate because they can apparently predict these tricky places in the original text and they don't want the algorithm to make mistakes. So they would, you know, smooth out the metaphors and ambiguities and so on, so as to produce a text that has as few metaphorical excursions as possible, and then there's less postediting. I don't know if that counts as cheating on the original author. Are we being "faithful" to them? What's the ethical side of it? I'm not teaching that skill, not yet, but should I?

Vasyl Starko: Us humans may be asked at a certain point in the future to write our text to better accommodate machine translation. Just avoid any wild figurative language because it'll be more difficult for our system to translate it into a bunch of other languages. That's already happening. The manuals that large corporations produce – they're machine-translated so the people who write these texts have limitations on the vocabulary and structures that they are allowed to use so that they could be reliably translated with these machine translation systems without any major problems. But you can think about a bigger scale on how that can happen.

Adam Głaz: Iwona, you have waited long enough.

Iwona Kraska-Szlenk: Thank you. I'm afraid I don't have any opinion on translation and artificial intelligence. But I can perhaps relate a little to the

second question, which I interpret in this way: what did cognitive linguistics give me practically as someone who has been teaching the Swahili language for many years? We usually associate cognitive linguistics with semantics and conceptualization, but it has many other aspects as an approach based on usage. After being a generative linguist for quite a while, when I got interested in cognitive linguistics and other usage-based approaches, I felt that a completely new world opened up for me as a linguist. I discovered things I would have never thought about before, as for example, the frequency factor and its role in various linguistic phenomena. I also discovered that the perspective of language usage could be very useful in teaching a foreign language, in my case, Swahili. For example, many things can be explained to students in a very easy way by appealing to frequency of use. One case is allomorphy rules. Like many languages, Swahili has a certain number of irregular morphophonemic alternations which are difficult for students to understand and learn, but if we appeal to frequency, everything becomes very easy, because various irregularities can be explained by the same process of frequency-triggered reduction. The language usage perspective naturally goes together with the socio-cultural commitment of cognitive linguistics. This aspect is extremely important in foreign language teaching, especially in the case of a language like Swahili, in which certain details of the socio-cultural setting have to be taught very early, as for example in the case of greetings and other phatic expressions and "small talks", which appear during the first few classes in the language course but have a lot of cultural content in them. Only when the students are aware of the full cultural context, can they learn the language and properly function when they try to use it.

Adam Głaz: I think we have some time for questions, comments from the audience. Feel free to make a comment, contribute to discussion, but also ask questions to the panel or specifically to any of the members.

Władysław Chłopicki: I might have a rather provocative comment, or maybe it's not provocative at all. I've been thinking about cognitive linguistics over the years and I developed a conviction that cognitive linguistics or cognitivism is a state of mind. I feel very comfortable at cognitive conferences, maybe I've got a compatible state of mind, and I don't feel very comfortable with people who are alien to it. And I'm not just talking about linguists, I'm talking about just about anybody, particularly people in authority who are not familiar with non-discrete categories. Also in my teaching, I have found it very helpful to explain various concepts to students using fuzzy, overlapping categories. But then again, there's always a kind of minority who cannot relate to this.

Adam Głaz: Anyone who would like to respond to that?

Neil Cohn: I guess one of the challenges of cognitive science and the study of the mind is that people often subtract out the notion that there is a mind behind the things that they are thinking of. You see this also in cases of semantics where you would think, well, you know, "words refer to things out in the world" as if there's no intervening mind that has some sort of conceptual structure associated with it. And so part of the challenge of doing research on cognition is how you access something that is not really accessible, or at least not on the surface forthright. I can also see where it would be a challenge if you are saying, "well there is this thing that we are not recognizing that is motivating behind everything" – and somebody has no acknowledgement of that additional component. Then it seems strange and it would be hard to relate. So that's, I guess, one connection there.

Peter Stockwell: I spend quite a lot of my life working alongside and going to conferences of people who fundamentally take a different view of things to me because I work in a very broad based linguistics and literature department. All my literary critical colleagues have a completely different approach to what they see as their object of analysis. See, I'm even translating it into my own terms, they wouldn't call it that. I think that you can do that sort of dispassionately. I can think, well, they've come from a different tradition and they're trying to do things within the research questions and parameters and paradigms of their position, even though I fundamentally disagree with quite a lot of the things that they do. But at the same time, it's how you deal with that interpersonally is the key thing. So I get to go to quite a lot to linguistics conferences primarily, then applied conferences, and then stylistics conferences, where there are people using language and linguistic models to talk about literary, political and ideological readings. And then there are also subject specific literature conferences on Dickens or Modernism or whatever happened to be interesting in that week. And what's really striking is how different they feel just on an interpersonal level. There are completely different conventions of talking to people and of asking questions. At a literature conference, for example, the way this would work is that each of us would get up and make a massively provocative statement full of generic sentences with absolutely no modalization or hedging whatsoever, almost put a flag in the ground. And then someone from the audience would get up and give an equal speech to try and demolish every aspect of that argument. At the end of papers, you know, someone asking a question would essentially give a mini paper themselves, and the gist of it is often: that isn't the paper that I would have given, this is what you should have done. I'm presenting it as if that's bad, but it's just part of the culture. And then I

could pick things out with linguistics conferences equally that are unnecessarily hostile – you get this in different academic cultures across the world, where the idea that massively aggressive, hugely oppositional questioning is the way that you progress the discipline rather than something that's a bit more accommodated or adjustive at the edges. So actually I'm used to dealing with different sorts of cultures and different ways of doing things. Intellectually it's fairly straightforward because you're just framing – it's easy. I think the harder thing is the interpersonal thing; how it changes you as a person. It changes your identity in different settings. I think that it's very interesting trying to deal with different cultures while still sticking to your own basic principles of what you're interested in, even when you come across paradigms that are fundamentally opposite to the way that you do things yourself. That can be quite difficult and very tribal. I've been working, very broadly drawing on cognitive science to talk about literature for thirty odd years now, but even then, if something better came along, I'd be the first person to jump ship. Because what stylistics is for me is applying our best current knowledge of language and mind to literary reading and understanding. And at the moment, for me, that means cognitive science. But if somebody pops up next year and produces a completely different way of thinking about these things, I tear my card up and instantly go across to that ship, just to mix my metaphors.

Adam Głaz: More questions?

Dylan Glynn: Just to rejoin to the last two comments. I'm a usage-based linguist, I work with frequency statistical modelling. But I was once doing work with stylistics, narratology and metalepsis and these sorts of things. And my co-author just didn't understand what I was doing because, for her, she assumed that not every utterance is equal. I always assumed that they are, because as a linguist I'm trying to make generalizations about language and grammar. And then one day we were talking to each other and I just realized she's right. It's about the input into the system – not every utterance is equal. She said, you're treating all of the examples in these novels as having an equal contribution to our understanding of the problem and I don't understand it. And I'm like, yeah, you're right, they're probably not. Some examples are going to be more important than others and have a bigger influence on whatever you try to model. And since then, I've spent much of my life trying to work out how we can add those factors, those variables from usage-based linguists to our models. What I'm saying is that there are very good arguments for challenging yourselves and going to different disciplines even if the traditions and ways of doing things are very, very different. Like, I find literature conferences very challenging.

Adam Głaz: Thank you. Well, I'd like to thank everyone, all the plenary speakers for being here, contributing your talks and participating in this debate. We're all very tired but happy. I speak for myself but I think I'm also speaking for lots of people here.

Transcribed by Anna Wyrwa
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