

Artificial Intelligence – A Conversation with Gruff Prys from Canolfan Bedwyr

Sion Owen (Audit Wales)

Hello, this episode will be in Welsh. If your Welsh isn't up to following along then we are completely fine with you skipping to the next one.

Hello and welcome to the Exchange. A podcast produced before Archwilio Cymru. I'm Siôn Owen and I work for the Good Practice Exchange. Archwilio Cymru is the body responsible for auditing the devolved public sector. financially and in terms of performance. That includes the smallest Community Council and the Welsh Government and all other bodies that are between these two poles.

This is the first of two episodes that look at the field of artificial intelligence and its relationship with the Welsh language. This first chapter is a general conversation about artificial intelligence, the opportunities, the dangers and the relationship with the Welsh language as a modern language.

The second chapter looks at two other aspects. The regulator's relationship with the world with artificial intelligence is a big part of it, and how the translation industry faces the challenge.

There is nothing new about the idea of machines that can analyze. The development of artificial intelligence began in the years after World War II, developing steadily until a world turn came in 2022, with the launch of Chat GPT. This brought artificial intelligence to everyone in a convenient and accessible way. Attracting so much attention that all of the big software companies rushed the development of their own artificial intelligence services in order to compete. The result was article after article predicting a world change promising an answer to every question and problem by artificial intelligence.

But it's also another side. There's still a prediction that the world of work is going to transform, wiping out industries and causing large-scale redundancies. It's also even harder to tell what's the creation of artificial intelligence, or something human when looking at content on the web.

There are also environmental impacts, as the huge data centres, which artificial intelligence relies on in the background, use a large amount of energy and water. For example, around 20% of all electricity made in Ireland is used by data centres.

Now, it's important to remember that the modern world needs data centers for a lot more than artificial intelligence, but it also shows how much energy technology needs behind the scenes.

So the world is changing, changed, but again, the artificial intelligence revolution hasn't fired me so far. What's going on?

To get a better idea, we went to Canolfan Bedwyr. Canolfan Bedwyr is part of Bangor University and is known as a centre that develops and conducts research in the field of language technology, providing useful resources. They also support the University in providing services through the medium of Welsh.

They've also been using machine learning and artificial intelligence since long before it became popular, and they've been clever enough to let us get along.

I'm here with Gruff Prys who is Head of Language Technologies. Do you want to introduce yourself so that everyone knows who you are?

Gruff Prys (Canolfan Bedwyr)

That's it; as mentioned, I'm the Head of the Language Technologies Unit within Canolfan Bedwyr, then there's a team of just over twelve of us working in the field, so we're a mix of linguists and software developers.

We also produce technical resources as well as doing terminology work mainly for the education world, but the technical work relates to Welsh and English side by side obviously.

Sion Owen (Audit Wales)

Yes I've had a lot more trouble over the years than some of the resources you've done over the years without being available, the language and terminology checks and ballu.

Gruff Prys (Canolfan Bedwyr)

That's it, then people are aware of Cysill's software and the dictionary app and they're less aware of things like the text voices of speech, synthetic voices we've been developing to help people who have lost their voice to be able to communicate in Welsh and bilingually. And also work on machine translation and speech recognition, more recently, and that's becoming more relevant in the age of AI.

Sion Owen (Audit Wales)

In it, and that then means that machines work the thing out, and learn, and it's not something that is uncommon to you

Gruff Prys (Canolfan Bedwyr)

Yes, I think what's been happening over the last few decades is that we're seeing a shift from technology like Cysill, which works on a number of rules, grammatical rules, so to be able to recognise errors in your writing, to a kind of paradigm where you're creating models, you're machine learning to be able to accomplish the task, by giving examples of how it should be functioning, so, for speech recognition, speech recognition, therefore, that we give audio examples, and then examples of the correct transcription for it, and that it learns from that itself, from having enough data on how to do the task, and what we see is that that method is transferable to many different areas not just speech recognition, but machine translation and text into speech. So there's that same paradigm of being collecting a lot of data to feed it into a technological framework that can learn from having enough data how to accomplish a task, and that's going to be kind of a technological snowflake over the last decade that's accelerating as it goes on, and I think in the last few years we've seen that explode with the advances within artificial intelligence, where the thing has picked up so much speed now, that it's able to feed itself. And that the results to that are quite astounding, and to be honest, isn't it?

Sion Owen (Audit Wales)

And it's frightening, in some ways, in terms of the speed of change, and how does artificial intelligence break out from being something more specialized, to being so much more general, isn't it?

Gruff Prys (Canolfan Bedwyr)

Yes, there is, that is, I think it's an exaggeration to say that it's revolutionary. There are implications to this across all areas. We've seen technical advances in the past that have transformed certain areas. The invention of the camera for example has meant revolutionizing the way we treat what exactly art is, once there's a device that can make the work of artists who make portraits more accurate from one point of view, create portraits more accurately from one point of view, it means that you have to change your own interpretation of what art is, that it's more about seeing the impact and the individual's analysis of art, doesn't it? But what's different here with artificial intelligence is that it affects many areas. Like writing and transcribing and working in the creative world and newspapers. There are a lot of opportunities to be more efficient but also people pointing out the threat to their livelihoods and what their role is in a world where it is possible to do some of the work through technology.

Sion Owen (Archwilio Cymru) Yes, because I happen to find myself following a lot of comics artists on social media, and that reaction to the ability to create images is swirling. I don't think we've seen where the effect ends from this generation yet.

Gruff Prys (Canolfan Bedwyr)

Absolutely so in terms of its impact we haven't had enough time to use the technology yet to really see what its full impact will be on us. I think we can see the potential that the technology has to make things more efficient and easier, and to empower people. Maybe some people would say that that's a bad thing, that the art that's being created is the AI, the slop in, dom good I've heard people call it good for artificial intelligence in it? That that's a bad thing, but maybe that's a result of putting powerful tools and tools at the disposal of people who aren't used to creating images or who maybe don't have the same good taste that people who have worked in the field for years have. Our work here at the centre, anyway, is we focusing more on textual work, that side of generative AI that is involved in producing text rather than generating images, and where we see even with our own work the benefit of being able to use the technology within an office context as some kind of research assistant but need to use it appropriately? And I'm thinking what's also important is to point out that this technology is a technology that can speak Welsh from the very beginning, that these big language models, we're working with them, are those who are multilingual, who can speak English, of course, and a number of other major languages, but the Welsh language, models like Claude, by Anthropic, are surprisingly good, not far from perfect, but surprisingly good.

Sion Owen (Audit Wales)

Yes, and that's a question I've asked the question many times during my career when there's some kind of new software coming up 'ma'n look'n grêt, does he speak Welsh?' and it's nice.

Gruff Prys (Canolfan Bedwyr)

Yes and you remember the trouble we had trying to put a small tone on 'w' and 'y', it's nice not to have to fight small battles that feel marginal at times, but so much stress was caused at the time. So it's nice to be within some technological revolution from the very beginning, but I feel it's part of our work here in the unit to ensure that the technology, that its standard of in Welsh, is as good as its standard of English. And that playing some game keep up with the English is technically a mama, as we've been doing for years actually. But with so many public bodies, especially, coming under language standards that require that the Welsh language not be treated less favourably than English then it's important that we ensure that if the world more generally than Wales starts to adopt artificial intelligence within services and working patterns, that it can be done entirely in Welsh also to the same extent and that we can show consumers if the technology isn't good enough, but also help them choose which model is best in terms of its output in Welsh? So that's certainly one where we focus. So the two essential things for us that I would say is that we ensure that we are able to collect enough data in Welsh, and make that available to those people, including us who are trying to train or adapt these large language models, and the smaller

language models also for specific purposes. So that's the first essential thing. The second essential thing is to create evaluations, almost as if there are exam papers in different areas. In Welsh, to test the ability of these models, not just linguistically, but in terms of how they treat Wales and the Welsh language from a cultural and ethical and moral point of view as well. And that they're safe to use in Welsh too, which you can't. Sidestep the safety settings that are installed on the models, mainly in English, by using Welsh. There were academic papers showing that people were able to use Scottish Gaelic to sidestep the safety settings, and to get information about how to create napalm out of the machine. So the model was able to block that, if you were using English, but if you were asking the question using Scottish Gaelic, I was happy to give you the information, and then what you could do was then use another machine translation model to translate that information back then. So yes, that's where we see our role within Canolfan Bedwyr within language technologies in terms of our work on artificial intelligence, but we're also using it with our overall work. I'm surprised to see some of our software developers change their attitude about the technology over the last few months from being quite suspicious and sceptical. And I think that's important. I think it's important to question is it appropriate to use such technology here for all sorts of tasks and try to measure for each task independently of each other, is this the right place to be using the technology? But I've seen members of our team who weren't sceptical at first seeing no, this is essential to our work, it enables us to work so much more efficiently and to achieve more. You just have to get some understanding of when it's suitable to use it, and when it's not suitable in the same way?

Sion Owen (Audit Wales)

The human role then goes 'is this the right tool for this task'?

Gruff Prys (Canolfan Bedwyr)

Yes, because it can save loads of work, and it can lead you down some unfortunate path and your lead step. So in terms of how the world is going, I see that we're going to need to be thinking of ourselves as working directors and managing a team of AI workers working on tasks for us in the background, and that we're going to have to direct on that and use our wit to inform their work as a mayor, director or manager in an office, having to do whatever to an extent.

If that's the pattern, then it means that everyone can actually do more work, but you have to be careful then to pick and choose the tasks that are appropriate for the machine. For example, in our work, anyway, I'd be able to use it to do some initial research into the use of a term on the web, and to try to distinguish between the use of a term on reputable Welsh websites, which use Welsh where an editor or translator has been involved in the process, and the use of a term on a website that is a product of pure machine translation, yes, where that term doesn't reflect actual usage in Welsh. Another example would be summarizing

reports again when doing research, you don't have to read the whole thing, you can ask for a summary of the work, and our developers, for example, have been able to use the technology to create websites where there's a page where there's a control board that shows us statistics about the use of some resource. So technology for internal use for us to be tracking that usage without us necessarily having to build and determine some big broader architecture than that. So within some limitations it's extremely useful, but it can be more work than it's worth at times, and learning about that is something hard to do without starting to use it, so I'd suggest that anyone who is interested in this, and I don't think this is a good thing, at least try using something like Claude's model from Anthropic, a model like Opus 4.5, for example. I think you'd be amazed by the quality and quality of the output but of course it's not perfect, but the truth about it is also that of course it's not perfect but the truth about it is also that the output of ordinary human workers isn't perfect either, and I'm including myself as part of that.

Sion Owen (Audit Wales)

No, sometimes it's scary to go back to something and think 'what am I doing'?

Gruff Prys (Canolfan Bedwyr)

Yes, but that is, I'm using a model like Claude to give an opinion on something I've written quite originally, myself and it can be useful before writing a slightly delicate email to someone, and having some second opinion is it's drawn up professionally enough, that sort of thing, but I think what's important is that we take responsibility for the output, that we don't let its output go out without question without us having checked and taken responsibility for all that. And that's where we hear stories about lawyers citing cases in a court of law, cases that don't exist because they've tried to cut a corner and use artificial intelligence. And that there's a tendency by the models to imagine, to hallucinate answers, and they're pretty believable, and that's the problem, yes? So that it's hard to identify where that boundary is between an effective, accurate solution, and something that's extremely believable, but that's wrong and misleading. So I think, one of the other fundamentals is that you have to be a master enough at your subject area to be worthy of being a director in the first place.

Sion Owen (Audit Wales)

Yes, so from that point on, there's a real danger of giving too much trust unless you know enough to know if you're right or not.

Gruff Prys (Canolfan Bedwyr)

That's it, so I wouldn't dare to write something legal using it, because I'm not a lawyer. Yes, but where I may have some skepticism at least then that's safer ground, but having said that this is the worst the technology is going to be yes, it's going to be getting better and better going forward, so I feel we need to be part of this work in order to shepherd the technology from a Welsh and Welsh

perspective as long as we can, anyway. We can't push our heads into the sand and smirk that this technology hasn't been invented at all. I've heard people say 'nadwyd ti'n go lose your job to artificial intelligence, you're going to lose your job to someone who's in it?

Sion Owen (Audit Wales)

So, it's something else in the box and not the answer to the question of life and everything else then?

Gruff Prys (Canolfan Bedwyr)

Yes, it's a weapon, it's a tool, it's a tool. I wonder what's causing all the attention is it to be some kind of multi-tool in it? Yes, it's a multi-purpose weapon

Sion Owen (Audit Wales)

In it, and that's something that's going on, doesn't technological development make you afraid of your job new either? I remember spying on automation software fifteen years ago you see, 'oh yes, it's a job for me but you have to learn how to work with it and then the nature of your job has just changed and the hope is that they appreciate your work enough to keep you safe, that is you can move on to the new world with your job and with your profession, but as the world changes the profession changes.

Gruff Prys (Canolfan Bedwyr)

Yes, and that's what's happening in the translation world in Wales, isn't it? They've been using translation memories that recall previous translations by themselves or other members of the team, so they've been making a lot of use of technology in their work that has improved the speed, and consistency of the product, the translations and also amassing a pool of great translations from great translators in the past that can be reused as we go along, and which form training data for the machine translation models. And now also, for the artificial intelligence models, so we're contributing into these artificial intelligence models and to some extent the album is a mirror of what's out there on the web already by scraping the web and the books that are out there, and magazines and newspapers. These big companies like OpenAI and Anthropic have been able to train models that can respond across so many different topics and fields in so many different languages.

Sion Owen (Audit Wales)

Yes, so is it okay to say if artificial intelligence is on the web that can scramble it out?

Gruff Prys (Canolfan Bedwyr)

I'd say that yes, that they're scraping content from books and libraries, anything that has been digitized too yes and of course that's where we benefit from the fact that there's so much Welsh on the web. I've been to several conferences for minority languages over the last few decades, and sometimes I feel that we're not a language, that is, minority languages is a term that may not be liked by many, so there's a tendency to use the term smaller languages for resources. I'm feeling that we're necessarily a less-resourced language compared to the languages like Frisian or Cornish, some of the languages that are also represented in the...

Sion Owen (Audit Wales)

Ratings of Minority, sort of what?

Gruff Prys (Canolfan Bedwyr)

Yes, and I think the effort we have to be part of that group that includes languages like Catalan and Basque and even languages like Dutch and Finnish. There was also a semi-recent paper from Spotify that identified which languages were most represented in terms of spoken sound, so podcasts on Spotify, and Welsh was in tenth place and so we were higher than languages like Dutch and Finnish on Spotify. Maybe that's partly because there's a lot of BBC Radio Cymru's output on it as well, and that people in Finland use some other platform, yes? But that reflects that we're quite productive verbally in the media.

Sion Owen (Audit Wales)

That is, the existence of BBC Wales I think has been very important to the Welsh language over the last century, to do things in Welsh. And this too, it's also work today that that's done.

has existed since '96 I think it is, so that's 30 years of work gone to fan'na, and there was a load of activity around the turn of the century and things like Maes E and Hacio'r laith and ballu yn bodoli, 'da ni yme heddiw ar y wê yn y Gymraeg because of things like that that that have happened.

Gruff Prys (Canolfan Bedwyr)

The most important thing for any language in front of the technology is that the users of the language itself use it and I think of being recording those uses in the form of television programmes, radio programmes, on the web and by creating official documents in Welsh, and writing novels in Welsh, and educational courses, textbooks, and so on, that has meant that this kind of technology that requires data to train works in Welsh as well. The challenge moving forward, I think, will be to extend the Welsh language to those less traditional areas. I see how I can ask any question under the sun to a model like Claude. So I can ask for car bits and then it's more challenging for the model to give me an answer that includes recognised Welsh terms in a field like that than it is for me if I ask a question about Welsh History or about a subject like biology for example where there is a tradition of Welsh-medium education in that field, we have biology

terms, and we have projects here developing terms for school education and higher education also under the auspices of the Coleg Cymraeg Cenedlaethol afterwards. I therefore see a need for us to be developing terminology for other areas, so that the artificial intelligence scrapers can pick up and refer to those terms as well. But there is a question that many sociological questions arise from these new abilities: To what extent would I be comfortable dealing with completely new terms? And is that what ordinary consumers want to see?

Sion Owen (Audit Wales)

Yes. What I'm thinking as you speak, talk and say that you need to come up with the terms in the places where there are fewer of them in existence. Well yes maybe someone then uses the terms in the real world to see if they fit too, yes?

Gruff Prys (Canolfan Bedwyr)

Maybe this is where you need to work with people who develop programmes like Ralio on S4C. There's a bit of discussion of cars and car pieces up there too, yes, but maybe in terms of context and context there are also different expectations about when you're using a term like exhaust or something like that, and whether it's the equivalent Welsh term or Gwacawr? I think I've seen Gwacawr on the front of Quickfit on Ffordd Lan Môr in Bangor once and that will change later on, so there's a complex area in terms of acceptability across different contexts when discussing different terms. It's fairer to ask to use some harsher Welsh term in a place like a science exam paper where that term has been learned from the very beginning, something like respiration I say, yes. That is, no one questions a term like that or yes, because when you get to class in the first year of secondary school, it's presented to you.

Sion Owen (Audit Wales)

Yes, well it comes from a figure of authority with the authority in which you dosta, so you're questioning that don't you?

Gruff Prys (Canolfan Bedwyr)

No, but one of the things that the artificial intelligence models are going to have to understand in a way is that side of our expectations in terms of the output and the kind of thing that we're seeing is sometimes Claude would put the English term in parentheses after the Welsh term, or just give an English term or invent a Welsh term. And that's where we have as terminologists...

Sion Owen (Explore Wales)

A risk to you then?

Gruff Prys (Canolfan Bedwyr)

Yes Because these models deal with, it's not words themselves that they handle, they can break the words in the text up into tickets and these are smaller than m-

than the size of a word, and they can reconstruct them together. They have the means, therefore, to invent new terms, and sometimes quite believable, sometimes they don't work so well. Yes, but it's going to become more and more important than that there is a way of recognising which terms are recognised and possibly authorised terms depending on what the field is, of course. We're not here to be a language policeman either.

Sion Owen (Audit Wales)

Are the models, or how does the modelling then respond to spoken language, more dialectal language and syntax, because we have several dialects and syntax across Wales?

Gruff Prys (Canolfan Bedwyr)

Yes, I think our work on speech recognition has been quite revealing, so, in trying to create models that can recognise what people are saying, it becomes more apparent how annoyed people like me, who have misled many times already, I'm sure, and that is... I've lost my flow here too, so I'll get you started, I'll re-say, where someone says the same word several times, and there's personal winks, and some continuum through dialect to a more formal language, but we also need to remember that it's the spoken language that comes first, and the written language is a fairly artificial creation: 'We have to create this technology from letters and words, and so on to an extent, in our own right, and we're discussing where the boundary between words is sometimes when trying to transcribe. People talk like ma' people talk then there's words like 'yn dwyt', 'onid wyt' ydi yna falle doesn't have anything in it, then 'ynno fo' yn bod 'yn hwnnw' a yn y de ma'n tend i ddyd rwbath like 'ondife', but 'yndife' weithie. What we find is that we have had to adopt to start de, verbatim forms, quite literally in order to give that initial boost to the model. So, we're only transcribing those sounds that we hear, and if we're hearing someone say 'ti, ti, ti, ti'n' we'll have to transcribe all of those 'ti's' too. Is that the end point is that we'll have a dozen or more different forms of 'ti'n gwybod', 't'mo'? T'mo'? Yes? We used to miss them too, and there's a normaliser then comes on top of that afterwards to try to 'create' something that's more in line with what you'd see in subtitles that have been respected and corrected in quotation marks, yes to a degree smoothing more than correcting. But that's what we're caught between wanting to reflect personality and what was said, and readability from the point of view of someone who doesn't necessarily come from the same geographical area where that dialect is known to them. On the screen, is there a limit to how much you can show in this way? So that's a consideration when subtitling. But I would even argue that you need slightly different guidelines for different TV programmes. Suppose that the interview has taken place and that they want to use that on Hansh and Hansh is a programme for young people in itself which is more flexible we come in terms of the standard of the language and

then that we want to use the same interview on the news we say, there may be different expectations around the exact way that would be subtitled, maybe the written forms in the subtitles for the news will be different. This is the kind of thing that we hope to discuss more on with the companies and organisations that subtitle. It also shows us a case in trying to deal with these words under us comparing them with our list of recognised words that are in Cysill. So what do we call a lexicon of all the mutated, run forms if they are verbs or adjectives or adjectives can also run quickly? And the plural and singular forms, all of which we have in an open list available on our GitHub website, but we can therefore see which of these spoken forms are not recognised, but there are a lot of them. And what do we see to what extent is there that setting a standard, something like Cysill is trying to make it unsuitable in some contexts as well, and we have to accept that, but the world has also changed then that our standards are more flexible than the standards of the people who worked on this kind of thing before us too and that we have to be because the medium itself has changed from more formal published books when publishing a book was much more costly yes to podcasts where you can put a mic on a table and have two people talking about football or something like that and that too high an editorial standard is artificial and unsuitable in it?

Sion Owen (Audit Wales)

In it, is there a load of incredibly detailed questions sometimes, and sometimes technical in it?

Gruff Prys (Canolfan Bedwyr)

That's the thing and I'm thinking we're going to have to adopt a rather verbatim approach to transcription to begin with, so that we're building, so that we're able to just proceed, yes? And that we're then able to create specific principles and decisions for some of the wordforms on the basis of evidence within our data. We know, for example, that S4C subtitles usually standardise ti'n hysbys i 'ti' suffix 'mod'. Yes, so there's an element of doing this already, but it's a little bit different from the requirements for TV subtitles because we have to think about people using speech recognition to transcribe for courts and for meetings not meetings but health sessions.

Sion Owen (Audit Wales)

But the contexts are different then, aren't they?

Gruff Prys (Canolfan Bedwyr)

Yes and there's more need here than then to get a feel for how he got what he got to say, to say, if that makes sense. And then anyone can download that data, including the artificial intelligence machines, and those then in turn add that to his store of information as he trains them. So, as we see that they have a pretty strong understanding of dialectal formation, they can even offer things like how to

pronounce English words using Welsh orthography, we saw that being generated by someone, somewhere accidentally. Yes and that's a problem for us when transcribing, timod wyt ti'n swrnynu pan os taswn i'n deud actually, o dwi actually fan of this, sud i should be writing actually, when do we accept that that's a Welsh word and do we use 'actiwali'? A da ni'n vedere bo' bobl yn derbyn rwbeth fath 'rili'. But our transcriptionists and our model need to have some guidance and an element of consistency here, and that's quite difficult, but these models will be, they're ready, they can be used Microsoft Co-Pilot, they can speak Welsh with me at the moment, but it's like beginner learners respond, but in a couple of years that will be very good I guess, so these language models are going to be multimodal, which can respond in text form and verbally, in a way, using synthetic voice, the kind of voice that we're also producing that sounds very natural

Sion Owen (Audit Wales)

And that brings me to, what else am I thinking about, is this a danger? Or, more, is there anything we should be worried about, or be vigilant about it, isn't it?

Gruff Prys (Canolfan Bedwyr)

Like any powerful tool like I mentioned earlier, but also, there's usually no protection in the law already in place for misuse. So, if an AI produces something that already exists, produces your article, then it's already violating copyright law and it shouldn't have done that. A lot of what we're seeing people blaming AI for doing things that people can already do and being punished for already doing it. But of course the concern with AI is that it makes that misuse so much easier, doesn't it? And that scamming people is easier. And that has been a concern of ours as well, especially as our synthetic voice is more and more natural to the extent that we can deceive someone, there is a real person. So, we've discussed with bodies like Ofcom how we're making sure that people are aware that this kind of technology exists in Welsh, because I'm concerned that Mrs Jones in Llanrug would be able to receive a phone call from someone claiming to be a bank manager in Welsh, and more credible because of that, even though it's a synthetic voice and a script that has been developed.

Sion Owen (Audit Wales)

The other side of making the technology as good as it might be is the flipside, dark right?

Gruff Prys (Canolfan Bedwyr)

Yes, and we feel a responsibility for that. We therefore have to educate people about the existence of the technology and the dangers. But the truth about that is that the dangers are then so much greater in English really.

Sion Owen (Audit Wales)

One of the advantages of being one of the languages and cultures on the minority spectrum then?

Gruff Prys (Canolfan Bedwyr)

There are of course opportunities that come with this technology as well as the threats. I think the opportunities are so much bigger than the threats too. We can't close, Pandora's box, even if we think it's the worst thing to ever be invented, there are real opportunities to facilitate the use of Welsh in Wales. We were talking about the challenge for translators in Wales. The feeling I have is that we don't have enough translators in Wales to translate what is needed to translate in reality, so I don't see this as a threat to the livelihood of translators, but as an opportunity for us to see more provision available through the medium of Welsh, and we therefore need to be clear that we are not willing to see artificial intelligence as an excuse to reduce the budget that is being spent on the Welsh language, but to have an opportunity to increase the amount of Welsh there is and as I am talking about the areas that have not been traditional Welsh, that it is also an opportunity to expand the use of Welsh into less traditional areas as well. That we don't have to limit our use of the Welsh language to some sort of different little retreat, yes?

Sion Owen (Audit Wales)

Yes, if used responsibly and effectively, it then helps us within the context of public services and provision for the public to achieve policy objectives that have already been stated many times and again?

Gruff Prys (Canolfan Bedwyr)

That's it, so it's an opportunity for us to expect that there is more Welsh available and that we're able to use the Welsh language especially with public bodies that we're able to adopt an attitude of 'Where is the Welsh language? Mae'r technoleg yn enable this', or that the technology enables this so that you're more willing to share your training data with those who are willing to train or adapt the models and improve them and that we need to be on that track, rather than worrying excessively about the challenges that are coming. I think what we're interested in is hearing more about where people in Wales have already started using it in English, because there's pressure on the English side to be cutting costs and doing more by using artificial intelligence. Obviously, if you're working in the public sector, those services need to be working for Welsh users as well. So it's important to be aware of that from the outset and understand how the performance compares to the performance in English before going too far down the lane of having invested time and money working with partners who provide artificial intelligence services who don't necessarily understand the standards and the linguistic side of using the technology.

Sion Owen (Audit Wales)

And so we always come back to the person who holds the widget and uses the widget who is responsible for the output, then doesn't it?

Gruff Prys (Canolfan Bedwyr)

Yes, and I think the important thing is not to be overly seduced by the output to the point that you forget it.

Sion Owen (Audit Wales)

But in that magic there's incredible potential to make things better too, right?

Gruff Prys (Canolfan Bedwyr)

Yes, yes, and I'm hopeful. I really feel that there's potential here, but there are challenges too, and there are challenges. Sociological, legal challenges, challenges related to these social questions about people's livelihoods, and should work be determining that someone gets a living at all? You think, if technology can do this work instead of people, should we be forcing people to do work to earn their bread? And these are questions that are more suitable for politicians at the end of the day rather than people who are developing technology and linguistic weapons. What we can't do is pretend that this technology hasn't been developed. I think we also have to be careful that there are people, a lot of companies and a lot of organisations and artists who use the technology. But they're not open about it, because there's a commercial advantage to doing it, and there's a stigma to be, now, to be admitting that you're using it. So, there's a danger that we're splitting into two different tracks within the economy and within the workplace of people who are using it and benefiting from it, and other people who are sticking along and going to be after it, that would be my first concern, and then I'd end by echoing what I said I'm worth it even if you're not very interested in the technology you're trying to use a model like Claude's model, the French male Claude, so, not Credit to God, sort of thing. Specifically the same Opus 4.5, the best one they have, but the quality of the Welsh output is surprisingly good. It's not perfect, but that's why we need to develop evaluations that are increasingly more sophisticated. We've developed some that looked at OpenAI's ability to answer questions like yes/no in Welsh, that is 'yes', 'yes', 'nac ydw', 'medaf', 'oes', 'do', correct, but the last time I used Claude to test some of these I was almost perfect at doing so, which is better than a lot of Welsh speakers to be honest. So give it a go and make informed decisions about whether the technology is a technology that is useful to you.

Sion Owen (Audit Wales)

So above almost anything else, it's important that we all try to understand it.

Gruff Prys (Canolfan Bedwyr)

Yes.

Sion Owen (Audit Wales)

And then I think it's a really neat place for us to come to the end and thank you very much for a very interesting conversation and for the time you've given us.

Gruff Prys (Canolfan Bedwyr)

Thanks a lot.

Rhian Jones (Audit Wales)

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