The language of academia

This speech was delivered by Rector Magnificus Peter-Paul Verbeek in Dutch during the 392nd Dies Natalis celebration on Thursday, 11 January 2024.

Today, our University celebrates its 392nd birthday. On 8 and 9 January 1632, Gerardus Vossius and Casparus Barlaeus delivered the inaugural lectures that marked the official opening of the predecessor of the University of Amsterdam. Vossius and Barlaeus gave their lectures in Latin. More than that, they even adopted Latin versions of their own names, as in Dutch they were simply 'Gerard Vos' and 'Kaspar Van Baerle'.

The fact that Latin was the language of instruction rather than Dutch 392 years ago is something we take for granted today. That is simply how things were back then; our academic gowns are a remnant of that past, and we still issue our doctoral certificates in Latin – in fact, we recently updated the wording on those certificates to make it more inclusive.

Meanwhile, English has taken on the role of Latin as the scientific 'lingua franca.' Many programmes at our university also offer an English-language variant, generally alongside a Dutch-language option. This role of English in Dutch higher education has sparked significant societal debate. An increasing number of political parties consider it undesirable for so many international students to come to the Netherlands. They present diverse arguments, ranging from the necessity of maintaining accessibility to higher education for Dutch students to the lack of student housing and the alleged costs associated with international students when they leave after completing their studies.

A central element in this discussion is language:

there is a widely shared sentiment that Dutch must be preserved as the 'academic language.' There is now a proposed law aiming to significantly reduce the number of English-language bachelor's programmes and subject all English-language programmes to an assessment of their effectiveness.

Thus, on our 392nd anniversary, we might be on the eve of a significant change. A perfect opportunity to subject this role of language to closer examination. Because, from my perspective, the discussion lacks an important aspect, which is what language does to us as a university: how it influences the way we communicate with each other, but also how we can explore things and connect with society.

I will divide my remarks into three parts. First, I want to talk about the *internal dialogue* we are taking part in at the university: how does language inform the kind of university community we are? Next, I would like to address the *dialogue between academic disciplines:* how can we foster communication between the various disciplines within academia? This pertains not only to the language of words but also to the language of data, which increasingly serves as a lingua franca. And third, I want to talk about the latest language to invade academia: *the language of generative artificial intelligence,* based on large language models that offer us a non-human conversation partner that is creative if not always reliable. How can we responsibly integrate this new technological language into the academic world?

1 Official language: the necessity of billingualism
Let me begin with the official language at our university. I remember the period, shortly after I finished my PhD, when the department I was working in began to internationalise. My small sub-discipline of philosophy was still in its infancy

Het gesproken woord geldt.

in the Netherlands, while the truly interesting developments were taking place in the United States. Instead of just reading those texts and then publishing about them in Dutch, the younger generation felt a need to participate in the global discourse. Along the way, our research group gained international recognition, and before long, international students were eager to come study with us and international scientists wanted to work with us. Within a decade or two, an entire world opened up – quite literally.

Similar stories can be told about a great many academic disciplines and departments in the Netherlands. The government strongly encouraged this development as well. The top global position that the Dutch academic and scientific community holds – despite receiving much less government funding than in many neighbouring countries – is largely down to that internationalisation. And it was the language that made this possible: English assumed the role that Latin once played in our universities.

What language did to our research, it also did to our education. It gave rise to an international learning environment where students from diverse backgrounds and perspectives come together. This holds immense value for the academic development of students in our globalised world. It's not without reason that many Dutch students prefer the English-language variant over the Dutch-language one when choosing a degree programme.

But there is a downside as well. The growth in international student numbers has proven exponential, resulting in pressure on the accessibility of our education, for Dutch and international students alike. What began as an effort to be inclusive does not always yield an inclusive result. At times, it seems like two separate worlds exist within the university: the internationals and the Dutch citizens.

A former PhD candidate of mine once pointed

out that this is a result of our English skills. She explained that, by speaking English with everyone else, Dutch people retain a secret language for themselves. There is always a point when we suddenly switch to Dutch and all the international people find themselves abruptly excluded. The only way for us to be truly inclusive is to ask those who come to the Netherlands to acquire basic proficiency in Dutch. This will also yield the most motivated students, who come here not just for the high-quality and affordable education taught in English, but because they want to take part in that education in *the Netherlands*. And it will also enable international students to participate in socially engaged course components, such as community service learning.

The language we speak affects our connections to society as well. As I laid out in my speech during last year's Dies, the university has become more social in nature, and society has an ever-stronger need for science and academia. This connection between the university and society places demands on our language of instruction as well. We are an *international* university located in the *Netherlands*. Dutch is the language of the society that pays our way and the society to which we contribute. At the same time, we strive for global impact, which requires use of the English language: we aspire to contribute to global societal challenges such as sustainability, inclusivity, health, and responsible digitization – the core themes outlined in our Strategic Plan.

In short: the language of instruction at our university exerts a fundamental influence on our core tasks: education, research and social impact. And both Dutch and English are crucial to those aims. Dutch is the language of the country in which we are located, where many of our students will go on to find jobs and where we contribute to society, including through our education. At the same time, English is the language of academia and the scientific community, making English indispensable in an academic degree programme – especially when our top position in

The spoken word counts.

the global academic community draws talented students to the Netherlands, where they enrich the educational experience of all students. English is also the language in which we are able to contribute to global societal challenges.

This means that the current debate as to whether Dutch or English should be the language of instruction at the university, and the language in which the Bachelor's programmes are offered, completely misses the point. A good university has both local roots and an international focus. Only through *bilingualism* can universities effectively carry out their core tasks.

This means that the current political debate on the university language and the language of instruction in bachelor's programmes is really missing the mark. We seem to be stuck in a dilemma between English and Dutch, but that is a false dilemma. Universities can only effectively fulfill their core tasks based on bilingualism. The answer to the excessive international influx is not simply 'reverting to Dutch.' This influx can be effectively regulated by setting a maximum limit on the number of students in the English-language variants of programmes – something the current legislative proposal actually aims to enable. Dutch can be preserved by making bilingualism the norm, always offering both an English-language and a Dutch-language track for a programme. However, this has a significant implication: everyone – students and staff – must be proficient in both Dutch and English, one fluently, the other at a basic level.

By attempting to curb international influx through language, the current legislative proposal overlooks the essential importance of bilingualism. A good university is locally rooted and internationally oriented. Only widespread bilingualism, with a numerus fixus on English-language tracks, does justice to the unique nature of the university in the 21st century.

2 Language of research: Data science as a language of the in-between

Controversial philosopher Martin Heidegger asserted that 'language is the house of being'. By this, he meant that the language we speak determines what we are able to think. The language of science determines not only how we engage in dialogue with each other and with society, but the very things we research as well. And that is the second perspective from which I want to address 'the language of science'.

Our university is becoming increasingly interdisciplinary: faculties and disciplines cooperate in a myriad of ways in order to answer scientific questions and help find solutions to societal challenges. Such cooperation between disciplines requires them to speak each other's language, to understand how the other party talks about reality. Is there such a thing as a common language? How can we talk about what is unknown and new and still understand one another?

It is often said that philosophy is the language of all sciences and that mathematics is the language of the exact sciences. Data science can easily claim a place in this category. In describing the world, we use not only concepts – taken from philosophy – and formulas – drawn from mathematics – but data as well, which can then be studied, defined and connected with the help of data science. All three are valuable to us as we strive to answer scientific questions.

In recent years, the UvA has taken major steps in this area by developing data science as an interfaculty research language. It has become a language that not only serves to advance the individual disciplines, but has also created a 'space' in between those disciplines. Our UvA-wide Data Science Centre, which is embedded in all faculties, makes it possible to explore new avenues of science, to ask new questions and to chart new courses in pursuit of answers.

The spoken word counts.

One great example of this is the recently-opened HAVA Lab: a UvA-wide research programme and laboratory focusing on 'Human-Aligned Video AI', led by Cees Snoek. Video-oriented artificial intelligence is gaining in influence and has tremendous potential, not only in terms of social applications but for scientific research itself as well. In the HAVA Lab, researchers from all faculties work together to develop video AI based on knowledge and insights from every discipline and to ensure that these systems not only work accurately but are also in keeping with human and academic values.

Data science has, in recent years, grown to become a defining characteristic of the UvA's profile. It is therefore fitting that we have established our Data Science Centre in the library: the place that was once associated with literature and the arts but at our university is now more and more functioning as a 'data library'. Data science is a shared language of science and academia for the 21st century, just as Latin once was and as English has increasingly become. And while the construction of our new library building progresses, we are also working to further expand the Data Science Centre as a shared interfaculty space where data provide us with a language to facilitate dialogue between disciplines.

3 Artificial language: ChatGPT and the future of academia

This brings me to the third way in which language has begun to influence academia. As scientists, we are in dialogue not only with *each other* and with *reality*, but also with the *computer systems* that play a role in how we conduct our scientific pursuits. A year ago, the world was astounded by ChatGPT, an artificial intelligence system capable of producing language on its own.

For science, this is a disruptive innovation. We can now ask a system to write an essay about any subject at all, to write an evaluation of a given article or to help us get started with writing a research proposal. The system then does so in a

way that is indistinguishable from human work, making it difficult to determine whether certain texts or insights actually come from the mind of a student or scientist or were created by a computer system. On top of which, we cannot count on these systems to tell the truth. The perception that they draw from an enormous reservoir of knowledge and then present that knowledge is false. Simply put, these systems have learned to 'talk' by predicting, as accurately as possible, what the next word or the next sentence should be. ChatGPT is like a parrot that has no idea what it is saying.

In this way, generative AI presents a challenge to two core aspects of academic work: *authorship* (can the author still take responsibility for their scientific claims?) and *veracity* (will we be able to ascertain whether claims to knowledge are true, when these claims are based in part on generative AI?). This is quite the sticking point. It gives rise to major questions about how we conduct examinations: are students the authors of the papers they submit? And to questions about our education in a broader sense: what must we teach students to prepare them for a world with AI? And, last but not least, questions with regard to our research: what is good methodology, and what constitutes academic integrity in a world with AI?

There are therefore strong calls for regulatory oversight of this technology. If you ask me, such oversight should focus not only on prohibiting what we don't want, but more importantly on creating the conditions necessary to achieve what we *do* want. I like to draw a comparison between artificial intelligence and earlier technologies that yielded a new infrastructure around which to order our thinking, such as the written word or the printing press. Writing changed our memory, because it allowed us to write things down rather than remembering everything ourselves; the printing press democratised knowledge by making it possible to disseminate texts widely rather than keeping them hidden behind thick monastic walls. Artificial intelligence is causing an equally

dramatic shift in our thinking: it helps us to establish connections that would otherwise escape us, and it sparks our creativity.

The challenge is not to perceive this technology as a replacement for the role of the scientist but as a mediator of that role. Similar to how the calculator transformed mathematics education and the computer revolutionized mathematics, without signifying the end of arithmetic and mathematics. AI encourages us to redefine and fill in our role as scientists. We will devote a great deal of energy to this in the coming year. In cooperation with VU Amsterdam, a task force has been established at the UvA for the purpose of identifying current developments and predicting new ones. We have also set up a working group to help us find concrete ways to incorporate generative artificial intelligence into our education. In doing so, the key questions will be how we can further enhance the quality and integrity of our science in interaction with generative AI, so that we can continue to further develop our methodologies and ensure the ongoing quality and integrity of our work.

In conclusion
Dear listeners, the future of our university is closely entwined with the languages we speak. Bilingualism is the essence of a Dutch university: only when we can talk with each other and with our colleagues all around the world in both Dutch and English can we remain a university that contributes to science and society, both in the Netherlands and around the globe. What's more, here at the UvA, we speak the language of the 21st century: through data science, we explore new ground and forge new connections between disciplines. And lastly: to a growing extent, our University is in dialogue with artificial intelligence systems. In interaction with artificial intelligence, we develop new knowledge and insights and contribute to a society that lives with AI, without letting AI determine the course of our scientific work. Together, we will redefine our academic core

values of integrity, responsibility and care: these values are as deeply relevant as ever, and we must reinterpret them to align with the current era, 392 years after our university was founded. I wish each and every one of you a fantastic Dies celebration – onward to an exciting 393rd year!

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