Dies Lecture 2026
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Ownership of a connected university

I don't know about you, but when it's my birthday, there's always a moment when I look back on the past year, and also on what lies ahead. Today's Dies Natalis celebration, the university's birthday, is also a good opportunity for this kind of reflection. Looking at the history of our university, I see many moments of reflection and readjustment. Do we still matter, are we still relevant? That is how we went from being the Catholic University to becoming Radboud University. Where do we stand at this juncture in time? I would like to share my reflections with you, drawing on the wonderful new theme for this year, 'connecting', and I will introduce this based on my personal research experience here at Radboud University.

From birds to the decline of insects

I find the formulation of hypotheses to be an exciting aspect of scientific practice. What is the general validity of the scientific concept developed, and what are the implications? The most exciting part is then testing the hypothesis through experiments or new observations. Is our world view correct? But that is only possible if the hypotheses are testable.

In collaboration with SOVON Bird Research, here on Radboud University campus, we have analysed long-term data on bird populations. These revealed a negative correlation between the vitality of songbirds and an agricultural pesticide [1]. A neonicotinoid, a notorious insecticide. Our hypothesis was that the birds were not being poisoned directly, but that they had too little food, too few insects. But this seemed destined to remain just a hypothesis, as long-term data on the bulk of the insect population appeared not to exist. Until a group of German entomologists suddenly turned up at our door.

The Krefeld Entomological Society, an association of mainly amateur entomologists, had a large dataset on insect development in Germany. They were very concerned and asked if we could analyse that data thoroughly and publish it. We soon saw that the data had been collected with 'gründliche' precision, very well standardised and documented. In short, a dataset worthy of scientific use. Our analysis showed that

flying insect populations in protected areas had declined by three-quarters over a period of less than 30 years [2]. ‘Dramatic decline in insects’ was the headline on the front page of the national newspaper NRC.

The figure then spread around the world at lightning speed, leading to, for example, in-depth articles such as that in the *New York Times Magazine* [3]. The term ‘Insect Apocalypse’ coined here is not entirely unfounded when you consider the crucial role insects play in ecosystems. Moreover, insect larvae are indispensable to healthy soils and waters.

From insect decline to Living Lab

Not long after the wave of publicity had subsided and we had returned to our normal work, I woke up feeling poorly one morning. I think it was only then that the realisation dawned on me that the subject of my research was gradually disappearing. And that I had no choice but to do something about it — moving from analysing the decline to working on a solution. At the same time, I knew I couldn't do this alone; ecology — my field — could not solve this on its own.

I set to work within Radboud University with a group of colleagues on the interfaculty theme ‘Healthy Landscape’, with thanks to the Executive Board for financial support and assistance. Meanwhile, we received an interesting response to our insect study from very close by: the Ooijpolder. With the comment, ‘You say things are going so badly, but we think we are doing quite well here’, we were invited to come and have a look. In the Ooijpolder, farmers, nature organisations, municipalities and the provincial authority have joined forces to restore the landscape by creating hedgerows, flower strips and small ponds. In collaboration with colleagues from, among others, the Institute for Science and Society (ISIS) and the Nijmegen School of Management, we have secured National Science Foundation funding for a Living Lab project [4] to analyse the success of the Ooijpolder and distil lessons for the future.

Between science and practice: healthy soil

All PhD candidates in the Living Lab project have worked closely with people in Ooijpolder and Groesbeek. Let me highlight one topic by way of illustration: the soil. A rich soil life contributes to agricultural production and biodiversity. My PhD candidate Rosa Boone teamed up with dairy farmer Jacco van Haaren; the two of them quickly found each other in their passion and fascination for the soil [5]. I know Jacco as a no-nonsense farmer who knows what he wants: for his pastures and fields to be better connected within a cycle, doing what works, regardless of conventions. He calls this ‘logical farming’. Whereas we in science and government are developing concepts such

as organic, regenerative or circular agriculture through large-scale programmes, this is a wonderfully down-to-earth perspective.

The questions posed by Jacco and others presented new challenges that have kept Rosa's scientific mind working at full speed. She has immersed herself in the smell of the soil, which farmers have traditionally used to gauge soil conditions [6]. This meant pioneering the use of soil gases as a proxy for soil health in a new collaboration with Analytical Chemistry in our Science Faculty, and with support from OnePlanet Research Center and sensor manufacturer IMEC. This has resulted in a first publication in a leading scientific journal in soil biology [7]. In the synthesis of her PhD thesis on the development of healthy soils, Rosa has explicitly addressed how farmers can adopt new practices.

Connected science

I see this research as a prime example of connected science. Rosa's work concerns a complex network of roots, bacteria and fungi in the soil, influenced by a complex network of actors above ground. The challenges facing agriculture and nature are a typical example of a sustainability issue. This calls for a network of connections between areas of expertise and a connection to practice. I am therefore pleased with the annual theme with which Radboud University aims to position itself as 'connecting'.

The fact is, establishing and maintaining relationships takes effort; we all know that. Connecting is a verb; connecting takes time and energy, and it is something you must first set about doing yourself. The question now is: what does this mean for a connecting university? What is our role as scientists in establishing the connections? How can the university facilitate and embrace research into complex interdisciplinary issues?

My thesis for today is: As things stand, the academic system is insufficiently equipped to do so. What is missing?

Who makes the connections?

Having had a rough start to the day, I was able — given the stage of my career — to take the time to assess collaboration within the university and to set up the network with farmers, water boards and other societal partners. It took a lot of time but also yielded significant results. Although the collaboration was still in its infancy, the Healthy Landscape exploratory project enabled us to present ourselves as a credible interdisciplinary consortium. Looking back, I believe that this, together with the

compelling case of landscape restoration in the Ooijpolder, was decisive in the approval of our NWA research proposal.

I see several younger colleagues making and maintaining connections in the same way. For them, it is far less easy to invest the time in it. The norms of university assessment revolve around spending hours on teaching, securing grants and writing publications. For the department, within the faculty. But if we want to build a network of societal partners as a basis for new transdisciplinary research, researchers and lecturers must receive recognition and appreciation for their efforts in this regard. In the annual appraisal interview, and in terms of hours.

How do we make the connections?

The Living Lab project has shown me how difficult it is to connect the disciplines substantively, given the different frameworks and methodologies. Within a project, there is little time for this; there is simply too much work to be done. A connecting university with interdisciplinarity as its core business should lay a solid foundation for this and provide structural support. How do you do this? As part of this, I would like to advocate for a physical meeting place for lecturers, researchers and students. A space with roughly two functions.

Firstly, an inviting place where interested people from different backgrounds can engage in rigorous academic discussion in a respectful manner. A space that provides a safe haven for the development of wild ideas, from students to professors. Where researchers question one another critically and with curiosity, and jointly explore questions of knowledge for which you genuinely need one another. Where, for a complex issue like sustainability, the scientific foundation is laid for a moral compass, from which concrete recommendations for cooperation and policy follow.

At the same time, a centre where plans are translated into grant applications and new interdisciplinary teaching, with an indispensable role for our excellent professional services. Where impact is achieved by inviting regional stakeholders to share their questions and practical challenges. So that we can effectively focus research on complex issues within the growing number of programmes for transdisciplinary collaboration, such as the National Science Agenda (Nationale Wetenschapsagenda, NWA).

We can only do this together. Researchers could be seconded temporarily to such a centre which would encourage active and sustained contact between disciplines as part of the academic work.

Academic ownership

For a connecting university, such an interfaculty meeting place is just as essential as the library and lecture halls. Achieving this would demonstrate a commitment to tackling complex societal issues. At the same time, it is also essential that the university takes ownership of the interdisciplinary content. This relates to the following.

I suspect I am not the only one in the academic community who has woken up feeling rather poorly at some point in recent years. Declining student numbers, rising costs for salaries and energy, and the austerity measures announced by the previous government have caused — and continue to cause — a great deal of concern. However justified these concerns may be, what I saw in the reactions from the academic community was, above all, a kind of conviction. Science is the foundation for innovations that are the key to future prosperity. Science must be given free rein! Just give us that money.

In these reactions, I did not recognise the connecting university that I envisage. A university which, as our mission states, aims to '*contribute to a healthy, free world with equal opportunities for all'* demonstrates its unique role in tackling the major problems of the here and now. By showing ownership. Whilst much is being asked of citizens and businesses, science cannot focus exclusively on a distant vision, or provide technical solutions in specific areas. If that is all it does, we should not be surprised by a growing sentiment questioning whether science is actually still needed at all.

At its core, the Radboud mission involves embracing the complexity of issues such as climate change, biodiversity loss, digitalisation and social inequality. Are the integrality, interdependence and multi-layered nature of these issues not, by their very nature, major interdisciplinary scientific challenges? This is where science can demonstrate that it is needed in today's world. It is precisely here at Radboud University that this can be achieved. Because we have a good balance of strong humanities, sciences and social sciences faculties, and an academic hospital, all situated close together.

Connected for impact

In such a connecting university, no one has to go it alone anymore. For example, the collaboration in the Ooijpolder Living Lab has yielded useful insights into nature restoration and the agricultural transition. This is just the beginning. Linked to scientific concepts, we are formulating new hypotheses that we wish to test in collaboration with, for example, the Green Metropolitan Region and farmers' organisations. A new scientific playing field is unfolding at the intersection of sustainable development with behavioural change, cultural history, legislation and regulations, physical and mental health, and the regional economy.

This is merely one example illustrating how a connecting university can take ownership of complex societal issues, and how essential it is to do so right now.

Our new strategy [8] can serve as a tool in this regard, provided we do not treat it as a straitjacket, but as an opportunity, as a means to an end. If we succeed, '*connected for impact*' will become a catchphrase with a meaning of which we can all be proud. A unifying force within the campus, and one that enhances the visibility and appeal of Radboud University beyond the campus. This university, this city, this region deserve it [9].

Notes

[1] Hallmann, C. A., Foppen, R. P. B., van Turnhout, C. A. M., de Kroon, H., & Jongejans, E. (2014). Declines in insectivorous birds are associated with high neonicotinoid concentrations. *Nature, 511*(7509), 341-343. doi:10.1038/nature13531

[2] Hallmann, C. A., Sorg, M., Jongejans, E., Siepel, H., Hofland, N., Schwan, H., Stenmans, W., Müller, A., Sumser, H., Hörren, T., Goulson, D., de Kroon, H. (2017). More than 75 per cent decline over 27 years in total flying insect biomass in protected areas. *PLoS ONE, 12*(10), e0185809. doi:10.1371/journal.pone.0185809

[3] The Insect Apocalypse Is Here. What does it mean for the rest of life on Earth? *New York Times Magazine*, 27 November 2018. https://www.nytimes.com/2018/11/27/magazine/insect-apocalypse.html

[4] https://www.nwo.nl/onderzoeksprogrammas/nationale-wetenschapsagenda/thematische-programmering/living-labs-voor-het-herstel-van-biodiversiteit-in-het-landelijk-gebied

[5] Landschap van iedereen. Vijf jaar Living Lab Ooijpolder-Groesbeek. November 2025. https://vierhetlandschap.nl/wp-content/uploads/2025/11/Living-Lab-OoijpolfderGroesbeek-LR.pdf

[6] Vroeger rook de boer aan de grond: nu neemt een elektronische neus het over. Trouw, 4 April 2025. https://www.trouw.nl/duurzaamheid-economie/vroeger-rook-de-boer-aan-de-grond-nu-neemt-een-elektronische-neus-het-over~b371d8ed/

[7] Boone, R. W. C., Meurs, J., Rinnan, R., de Caluwe, H., Wakely, A. A., Takke, J.-W. C., Critescu, S.M., van der Putten, W.H., de Kroon, H., Robroek, B. J. M. (2025). Microbial scents: Soil microbial Volatile Organic Compounds (mVOCs) as biomarkers for grasslands across a land use gradient. *Soil Biology and Biochemistry, 204*, 109749. doi:https://doi.org/10.1016/j.soilbio.2025.109749

[8] Connected for Impact. Radboud University 2026-2031 Institutional Plan. https://www.ru.nl/sites/default/files/2026-02/connected-for-impact-instellingsplan-radboud-universiteit-2026-2031_1.pdf

[9] With thanks to: José Sanders — Heleen de Coninck — Astrid Souren — Rosa Boone — Huub Ploegmakers — Lottie Pohlmann — Dick van Aalst — Esther Veerbeek — Petra van Wersch — Wilco Verberk — Judith Westerink — Louise Vet. Team Living Lab Ooijpolder — Groesbeek. Team Sustainability RCSC — Green Office