Universiteit Utrecht

The University in Transition

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Prologue

The coronavirus pandemic proved once again that universities are vibrant, resilient institutions with a strong capacity for adaptation. In just a few days, almost all our courses shifted to remote online teaching, and we were able to continue with much of our research by changing parts of the method or structure, rescheduling tasks, creating flexible lab working hours, and so forth. In addition, the pandemic also, yet again vividly illustrated how vital fundamental-, and particularly also applied research is for society, especially when the research is conducted in an international context. New vaccines, medications and treatment methods were developed and tested at an awe-inspiring pace. Interdisciplinary research took off, as the biochemical, biomedical, and social sciences, and humanities, as well as public administration and economics, all joined together to investigate the complex issues that arise in a global pandemic. Transdisciplinary research, in which knowledge institutions collaborate with not-for-profit institutions and private companies, also played an important role.

At the same time, we also see that in parts of society there is extreme scepticism about the results of scientific research, especially when based on those results citizens' rights and freedoms are being limited. This applies to the government's many measures to combat the pandemic, but also to measures concerning climate change. On social media, alternative truths quickly sprout, reducing scientific knowledge to 'just an opinion'.

Over the past few years, universities have been facing other challenges as well. Academic freedom and institutional autonomy are under threat in many places, even in countries where they had once

seemed unassailable, like the United States. Political parties increasingly express demands that universities, in their education and research, adhere to political and ideological opinions. At the same time, there is also pressure from societal parties to terminate certain collaborations because of ethical and ideological views. University staff are met with the stain of heavy workloads and pressure to perform, in combination with serious competition for funding because of inadequate financing. Particularly the pressure to perform has raised fundamental questions: which results are worth the effort? And for whom do we aim to produce those results? In essence, questions about the legitimacy of the university.

These issues, in turn, raise the question of how the university will develop in the future. To us, an even more interesting question is: how do we *aspire* that the university will develop in the future? This brings up the highly critical question: what is the *ideal* university? This could easily lead to futuristic daydreaming, which would only bring fleeting enjoyment. Instead, we've challenged ourselves to come up with a beckoning perspective that is firmly rooted in reality, and the developments we observe around us every day.

Of course, there is constant thinking about how the university is developing. This has resulted in some interesting publications over the past few years, like the one in the Netherlands by former UU Rector Magnificus Bert van der Zwaan, titled *Higher Education in 2040. A Global Approach,*[1] in which he discusses the higher education system in European and international contexts. There is also the publication by Floris Cohen, with the enticing title: *'De ideale universiteit'* (The Ideal University), in which he largely draws on a number of fundamental principles to design a new university, which in part surprisingly resembles the university as we knew it in the (distant) past.[2] These and many other publications in the Netherlands and abroad have inspired thoughts, and led us to the conclusion that it might be worthwhile to

[1] Van der Zwaan, B. (2017). *Higher Education in 2040: A Global Approach*. Amsterdam University Press.

[2] Cohen, H. F. (2020). *De Ideale Universiteit: Ontwerp van een Uitvoerbaar Alternatief.* Prometheus.

brainstorm about the future of the university based on developments in its core tasks: education, research, and societal impact. Those core tasks are developing within the context of the most important change in the contemporary academic culture: the trend towards Open Science. In essence, this change is about the university's desire to further embed itself in society by increasing to address major social challenges at local, regional, and global levels in its education and research, but also by giving back more to society.[3] Particularly in this context, how are education and research currently developing?

First and foremost, the university is shaped by its people. As such, it is therefore important for us to consider how the university community is developing today, and how it could ideally develop in the future. Evidently, this means that we should look at how the university is organised. The following considerations give rise to the main themes of this book: education, research, society, community, and organisation. We will complete the whole with a brief historical sketch and an epilogue that synthesizes the main conclusions and beckoning perspectives.

Our modest ambition extends beyond merely describing what we believe to observe: we further aim to describe which future developments we expect and consider desirable. In some cases, we also describe the steps needed to realise certain ideals. And of course, these steps also serve to spark discussion.

Many people are of importance when it comes to determining the future of the university. The first are the members of the university community itself: its students and staff. Then, of course, there are also politicians, policy makers and opinion leaders. Beyond that, there are many other stakeholders in society who are, to say the least, interested in the functioning of the university and can exert influence at decisive moments, such as during elections. These include public institutions, but also the business community, both of whom are extremely relevant in the Netherlands and abroad.

With this broad audience in mind, we have tried to write a book that is as accessible as possible, with plenty of room for explanation and

[3] Chapter 2 deals with the development of Open Science in more detail.

examples. As all three of us are affiliated with Utrecht University, and we have drawn extensively on our own experiences, it will come as no surprise that quite a few examples are drawn from how we do things in Utrecht. This, however, does not make it an 'Utrecht vision', nor do we want to set Utrecht University as an example. On the contrary, we believe that the topics we deal with are relevant to all Dutch universities, to at least some extent. High-quality research is, by definition, international, and as such the university world is also by definition an international one. It is a world where the European Union has become increasingly important over the past years, both in terms of policy and for research and education funding. This book will therefore deal with the international, and in particular European-, context in some detail.

This international context obliges us to define what we mean by a 'university': the institutions that are often referred to internationally as 'research universities'. These are not, as is generally thought, universities that give priority to research. They are higher education institutions that conduct research as the basis for their activities, and where research therefore also forms the basis of education, contrary to higher education institutions, where this is not primarily the case. In an international context, these institutions are often referred to as 'universities of applied sciences'. Dutch Higher Professional Education (HBO) fits into the latter category. In practice, the distinction between these two types of institution is not so black-and-white; universities of applied sciences also pay increasing attention to (applied) research. As such, it is understandable that the two types of institutions are increasingly considered to be equal, certainly within the EU. However, there also remains a valuable and defensible difference between institutions that focus on educating people who can generate new, high-quality knowledge, and those that focus on training people who can apply such high-quality knowledge (and also conduct further research into these applications).[4] This book is mainly about what happens at the first type of institution. That being said, much of what we write will

[4] See also: Vereniging van Samenwerkende Nederlandse Universiteiten – Vereniging Hogescholen (VSNU-VH). (2019). *Position Paper VSNU-VH doorontwikkeling binair stelsel*. Retrieved from: verenigingh ogescholen.nl

also be relevant to HBO institutions, especially in the field of education. But modesty also befits us here, for we are not intimately familiar with universities of applied sciences.

Many people have inspired us in this project, amongst whom numerous national and international authors. Equally valuable to us, however, were the insights that close colleagues and students were willing to share. When we started working on the topic, we held three meetings with students and colleagues of whom we were sure they had affinity with, knowledge of and experience in the three main topics we wanted to discuss: education, public engagement, and the university community. Our invitation to participate in what we called 'expert meetings' received an enthusiastic response. We were highly motivated by the participants' input, as well as their engagement. Afterwards, we were told it was a pity that there had not been room for more people to attend, and that the opportunities to meet were limited. There is really no better way to discover that a subject you're working on is so relevant to so many people. We wish to thank all the participants in these 'expert meetings', as well as those who could not attend but provided us with written input. Their names can be found in an appendix.

Entirely in line with the Open Science philosophy, we made the first version of this work publicly available in a digital pre-print version in July 2023, on an open platform provided by the *Publishers of Trial and Error*. This brought us numerous responses, suggestions, and examples. Discussion sessions with colleagues and students about (parts of) the book further enriched our thoughts. In this revised version, we have made corrections and, to some extent, responded to questions and suggestions in reaction to the previous version. We've noticed that the book has sparked a wide range of discussions and perspectives. We welcome this, because our intention was precisely to spark and fuel dialogue. In our opinion, these discussions cannot - and need not - be included in the book in their entirety. The *Center of Trial and Error*'s website provides an open platform for further discussions, and we welcome both critical and empowering feedback and look forward to the evolution of thinking in this area.

As authors, we divided the work among ourselves. Manon Kluijtmans took on the primary responsibility for the chapters on education

and community. Frank Miedema had primary responsibility for the chapters on the transition to Open Science and those on interaction with society. Henk Kummeling set up the other sections. The final product, however, is the result of an in-depth collaboration, for which we claim joint responsibility. In this context, we would also especially like to thank Maarten Post, who fulfilled the role of critical co-reader. He paid particular attention to the accessibility of the texts, and he made sure that the chapters are somewhat streamlined linguistically, while allowing the signature of each particular author to remain visible. The chapters are obviously related, but we also wanted to ensure that they are each individually easy to read and understand.

One person who certainly deserves our special thanks is Claire Stalenhoef, who was a UU student in the Legal Research Master's programme when the first version was written. She helped collect and compile research material, and also coordinated the expert meetings. Claire provided valuable substantive feedback, and also ensured that we kept the student perspective in mind as well. The same goes for Manar el Amrani, who took over her responsibilities halfway through the project. Claire and Manar 'orchestrated' the author team, which was certainly a challenge given the writers' distinct schedules. With seemingly inexhaustible enthusiasm and attention to detail, they definitely got their jobs done.

We would also like to thank Eva ten Hoor, who supported the writing team in the revision from pre-print to final version. Our thanks also go out to Robert Smith and Hanneke Olivier who arranged for the eagerly awaited English translation. And, of course, the entire team at the Centre of Trial and Error who made it possible to publish this book on an open platform. Both the Dutch and English versions are available on their website.

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September 2024

1 A Brief History of the University

I • IN THE BEGINNING...

The university, as an institution, has a long history. It traditionally began in the year 1088, with the founding of the University of Bologna.[5,6] But the origins of the university actually go back much further, to the year 859, when the University of Al-Qarawiyyin was founded in Fez, Morocco.[7] Since then, the institution has enjoyed an extraordinarily successful rise in Europe and the rest of the world.[8] All this time, the justification for the institution of the university as such has never been called into question. The same can't be said for the *idea* of the univer-

[5] To avoid misunderstanding: this was not the year that *science* was born. Science arose much earlier, in other parts of the world such as China, Egypt, Babylonia, and, of course, Greece. There were also various teaching systems, some more organized than others, e.g. the school of Aristotle. See: Cohen, H. F. (2010). *How Modern Science Came Into The World: Four Civilizations, One 17th-Century Breakthrough* (pp. 3-4). Amsterdam University Press.

[6] The founding dates of universities are actually the subject of several historical myths. For example, Rüegg & De Ridder-Symoens demythologise the foundation of the University of Bologna: "no such event took place in 1088"; see Rüegg, W. & De Ridder-Symoens, H. (1994). *History in Europe, Vol I* (p. 4). Cambridge University Press.

[7] Hoque, M. N. & Abdullah, M. F. (2021). The World's Oldest University and its Financing Experience, a Study on Al-Qarawyyin University (859-990). *Journal of Nusantara Studies*, *6*(1), 24-41. doi.org/10.24200/jonus.vol6iss1pp24-41

[8] The World Higher Education Database (WHED), compiled by the International Association of Universities and UNESCO, includes data on more than 20,000 universities (including approx. 5,000 in Europe), and more are added every year. See: whed.net

sity, however. What purpose should the university actually serve? The answer to that question has always been subject to debate and revision, even up to the present day.[9]

In Europe, universities initially offered education in theology for the benefit of the Catholic Church, under the patronage of a secular ruler.[10,11] The founding of the University of Leiden in 1575 illustrates how the creation of a university often also had political motivations, and was primarily considered in the context of state government and political identity. William of Orange deliberately intended Leiden to serve as an alternative to other, more Catholic-oriented universities. One of the new university's missions was to train resilient and discerning citizens, 'so that the enemy would never again impose his searing tyranny and oppression of religion, or the liberties of the country, whether through force or through cunning'. To make that possible, training was needed not only 'in the right knowledge of God', but also in 'the liberal arts and sciences'.[12] Universities had already become imbued with the understanding that society, as well as central and local administration, needed more than just theological knowledge. Professional training had already been offered to doctors and lawyers, and for administrators in general.[13,14] Even then, these courses were not merely education aimed at a specific profession, at least in the early phase. It is striking how many medieval universities had a similar basic curriculum for all study programmes. This included general education and language mastery, with a special focus on proficiency in Latin,

[9] See also the aptly titled collection of essays: Verbrugge, A. & Van Baardewijk, J. (Eds.). (2014). *Waartoe is de Universiteit op Aarde?* Boom.

[10] Verbrugge, A. (2014). De Universiteit en de Zorg voor de Hoogste Kennis. In Verbrugge, A. & Van Baardewijk (Eds.), *Waartoe is de Universiteit op Aarde?* (p. 208). Boom.

[11] Van der Zwaan, B. (2017). *Haalt de universiteit 2040? Een Europees Perspectief op Wereldwijde Kansen en Bedreigingen* (p. 32). Amsterdam University Press.

[12] Quotes obtained from: Van Stipriaan, R. (2021). *De Zwijger: Het Leven van Willem van Oranje* (p. 441). Querido Facto.

[13] Verbrugge, A. (2014). De Universiteit en de hoogste zorg voor kennis. In A. Verbrugge & J. van Baardewijk (Eds.), *Waartoe is de universiteit op aarde?* (p. 209). Boom.

[14] Langereis, S. (2021). *Erasmus: Dwarsdenker: een Biografie* (p. 87). Bezige Bij.

rhetoric -speaking and writing with persuasive power-, and logic.[15,16] The emergence[17] and embrace of Aristotelian logic in particular, which focused on autonomous systematic thinking, ensured that universities began to function more independently from ecclesiastical and secular authority. This development was reinforced during the Renaissance that followed the Middle Ages. By drawing on sources from classical antiquity and focusing on the best literature of the time, the moral dimension of education shifted. The formation of virtuous people was still the priority, but virtue was defined not so much in the eyes of God, rather than in terms of aptitude to fill responsible positions in society and public life.[18] The rise of humanism, with its focus on the value of human beings, critical thinking and evidence, and its wariness of theological dogma, has had enormous significance in this regard.

2 • ENLIGHTENMENT

During the Enlightenment period of the eighteenth century, a fundamental change took place: thinking became dominated by 'reason'. Science, and with it, universities, definitively freed themselves from religious norms, and even some secular norms, by focusing entirely on objectivity.[19] Two principles arose that are still considered to be core values of universities today: independence and neutrality.[20] This period also witnessed the rise of civic culture; church and nobility no

[15] Van Bommel, B. (2014). De Teloorgang van Algemeen Menselijke Vorming. In A. Verbrugge & J. van Baardewijk (Eds.), *Waartoe is de universiteit op aarde?* (p. 175). Boom.

[16] Cohen, H. F. (2010). *How Modern Science Came into the World: Four Civilizations, One 17th-Century Breakthrough* (p. 81). Amsterdam University Press.

[17] Cohen, H. F. (2010). *How Modern Science Came into the World: Four Civilizations, One 17th-Century Breakthrough*(p. 79). Amsterdam University Press.

[18] Van Bommel, B. (2014). De Teloorgang van Algemeen Menselijke Vorming. In A. Verbrugge & J. van Baardewijk (Eds.), *Waartoe is de universiteit op aarde?* (p. 176). Boom.

[19] That is a label we affix from a largely retrospective point of view, as we often interpret historical developments through concepts that were little- or unknown at the time.

[20] Van der Zwaan, B. (2017). *Higher Education in 2040: A Global Approach* (p. 34). Amster dam University Press.

longer set the tone, but rather 'ordinary' citizens. The organisation and actions of the state became objects of analysis and criticism. Much more attention was paid to 'the people', their history, language, and ideology, and this had practical consequences for the university and university graduates' role in society. In the words of Verbrugge, they increasingly became incubators for journalists and revolutionaries.[21]

3 • BILDUNG WITH RESEARCH

This brings us to another milestone in the history of university development, namely that of 'Bildung'. A tremendous amount of ink has been, and still is being, spilled on the idea of Bildung from different (idealistic) perspectives. Here, we follow the line set out previously by Francot and De Vries.[22] They point to the work of Horlacher, in which Bildung is seen as a holistic concept aimed at realising a better society; economically, morally, and politically.[23] University education was considered to be vital for the realisation of this ideal. The ideal of Bildung is forever linked to the academic and statesman Wilhelm von Humboldt, who argued that the most important function of the university is to unite students in a community dedicated to science, and to secure their total freedom to exchange knowledge and insights and develop themselves in an environment steeped in science, without being subject to coercion or constrained by direct purposes.[24]

Von Humboldt was given the opportunity to put his ideas into prac-

[21] Verbrugge, A. (2014). De Universiteit en de hoogste zorg voor kennis. In A. Verbrugge & J. van Baardewijk (Eds.), *Waartoe is de universiteit op aarde?* (p. 209). Boom.

[22] Francot, L. & De Vries, B. (2010). Adieu von Humboldt? Over Domme Organisaties en Slimme Mensen. In L. J. Dorsman & P. J. Knegtmans (Eds.), *Het Universitaire Bedrijf: Over Professionalisering van Onderzoek, Bestuur en Beheer* (pp. 74-7). Verloren.

[23] Horlacher, R. (2004). Bildung – A construction of a History of Philosophy of Education. *Studies in Philosophy and Education*, *23*(5/6), 409-26.

[24] Francot, L. & De Vries, B. (2010). Adieu von Humboldt? Over Domme Organisaties en Slimme Mensen. In L. J. Dorsman & P. J. Knegtmans (Eds.), *Het Universitaire Bedrijf: Over Professionalisering van Onderzoek, Bestuur en Beheer* (pp. 75-6). Verloren.

tice as a senior official in Prussia's Ministry of the Interior. To this day, the foundation of the University of Berlin (now known as Humboldt Universität) in 1810 is considered one of his most important legacies. But his ideas are just as pertinent today. A few elements deserve special attention. First is the idea, which actually dates back to the Enlightenment, that education should be free from state interference. It is also important that education should focus on individual, inner self-development, such that individuality should be developed through the exchange of experiences with others. Social bonds and interaction are therefore crucial in education. Finally, and this cannot be emphasised enough, because it is often left out of discussions about the ideal university education, according to Von Humboldt the university should guarantee an optimal climate for Bildung precisely through the union of education and research.[25]

Von Humboldt's enduring significance lies in this institutionalisation of the combination of education and research in the university. At the same time, the university developed from a disseminator of existing knowledge into an institute in which new knowledge was acquired. He saw this combination of education and research as the distinguishing feature of the university.[26] As we will illustrate below, this essential combination in Von Humboldt's thinking has occasionally been forgotten in the years that followed.

4 • RESEARCH WITHOUT BILDUNG?

Today, *Bildung* is mainly seen as an anachronistically romantic ideal for education. But people often forget that an essential component of Von Humboldt's ideal of *Bildung* includes scientific research. Some say that the founding of the University of Berlin mainly marked the rise of the 'research university'. Expanding knowledge became the university's primary mission.

[25] Francot, L. & De Vries, B. (2010). Adieu von Humboldt? Over Domme Organisaties en Slimme Mensen. In L. J. Dorsman & P. J. Knegtmans (Eds.), *Het Universitaire Bedrijf: Over Professionalisering van Onderzoek, Bestuur en Beheer* (p. 76). Verloren.

[26] Van der Zwaan, B. (2017). *Higher Education in 2040: A Global Approach* (p. 35). Amsterdam University Press.

"The university's primary task became providing the financial, logistical and other resources that facilitate the production of new knowledge. Starting in the late 19th century, research seminars, graduate schools, specialised research institutes and laboratories were created at almost all European and American universities", according to Van Bommel.[27] This development continued into the twentieth century. Knowledge also expanded in the natural sciences, biomedical sciences, agriculture, and engineering. This was enthusiastically encouraged by governments, especially after World War II.[28]

According to Van Bommel, nothing has changed our perspective on academic training more radically than this redefinition of the university as a research institute:

> *"The academic status of modern university teachers rests not on their ability to form students intellectually and morally, but on the 'innovations' or 'discoveries' they have to their credit."*[29]

Although Van Bommel's point is debatable[30], it is undeniably true that general education gradually received less and less attention from universities. This has had consequences for the status and role of the social sciences, and especially the humanities[31], which had played such a dominant role at universities in the past, especially in the context of general education. The loss of status of these research areas was further exacerbated by the fact that they were able to make less obvious

[27] Van Bommel, B. (2014). De Teloorgang van Algemeen Menselijke Vorming. In A. Verbrugge & J. van Baardewijk (Eds.), *Waartoe is de universiteit op aarde?* (p. 178). Boom.

[28] Miedema, F. (2022). *Open Science: The Very Idea* (p. 1). Springer.

[29] Van Bommel, B. (2014). De Teloorgang van Algemeen Menselijke Vorming. In A. Verbrugge & J. van Baardewijk (Eds.), *Waartoe is de universiteit op aarde?* (p. 178). Boom.

[30] The importance of education as a primary task of the university, including the significance it should have for academic careers, has (once again) been widely endorsed in recent years. That was already the case in some places even before the emergence of Open Science. See Chapter 3.

[31] This division of fields of science is actually a later innovation.

or spectacular discoveries, which in turn had negative consequences for their funding. We will return to this topic later on in the book.

In addition to the issue of the relationship between the different areas of science, people began to pay more attention to the relationship between teaching and research as core university tasks. Teaching became a 'burden', in part because university careers were mainly built on the basis of research performance. This development has contributed to an existential crisis in the university world. But there are several interrelated facets to this crisis that should be taken into consideration.

5 • PRELUDE TO FUNDAMENTAL QUESTIONS FOR THE UNIVERSITY

The university's nature and significance changed substantially in the 1960s, as its doors opened to students who no longer solely came from the 'upper class'. Finally, intelligent students from all walks of life could benefit from the best education, which also gave access to the best, or at least highest-paid, jobs in society. The result was a massive influx of students. This had a relatively short-term effect and a long-term effect. The short-term effect was a growing focus on social problems, national politics, and the state of the world. This in turn led to demonstrations, occupations, protests and demands to reform curricula, and the discontinuation of contacts with universities in countries with a dubious human rights record.[32] With the rise of neoliberalism in the 1980s, this type of idealism became less iconic. What remained, was the question of how to govern a rapidly growing university, which included groups with new and different ambitions. Before, the university had been characterised by professors' self-governance, with the assistance of a few part-time professional administrators. The professionalisation and democratisation of university governance were necessary, but they remain a difficult combination to this day.[33]

[32] For a recent reflection, see Kennedy, J. (2022). *Back to the Sixties? Community Engaged Learning and The Future of the University* [Inaugural lecture]. Utrecht University. Retrieved from: uu.nl

[33] See also Chapter 6, Section 2.

The influx of students also led to the emergence of an extensive support apparatus. Such bureaucracy naturally brought with it rules, procedures and accountability obligations.[34] This development was further reinforced by the fact that the necessary funding of the universities lagged behind the influx of students, so universities had to think even more in terms of efficiency. This was compounded by the Dutch government's implementation of a succession of austerity measures starting from the 1980s. The time in which to complete a degree was limited and, under pressure from the government, some study programmes were scrapped.[35] Eventually, the Dutch government only financed the nominal duration of studies, making every 'long-term student' a burden on universities, not only in terms of financial resources, but also a threat to the quality of education due to the dilution of resources. The pressure on research funding was increased, as research funds were removed from direct government funding and put into a separate organisation, initially called the Organisation for Pure Scientific Research (Organisatie voor Zuiver Wetenschappelijk Onderzoek), which was re-named the Dutch Research Council (Nederlandse Organisatie voor Wetenschappelijk Onderzoek, NWO) in 1988. Researchers could then bring in research funding by competing according to conditions set by NWO.

These developments, certainly also in the Netherlands, had major consequences for universities' internal functioning. Inadequate government funding forced universities to think of ways to increase efficiency, which in turn led to economies of scale, centralisation, and further bureaucratisation.[36] This all resulted in questions about what room was left for academic independence and freedom and the professional autonomy of individual staff members.

The funding shortage also led to a search for other financial sources,

[34] On the consequences of that reporting obligation, see: Van de Donk, W. (2023). *Bakens en beweging, Over universiteiten* [Speech] (p. 13). Tilburg University.

[35] The first is the result of the Two Phase Structure Act, and the deletion of courses was based on the paper 'Selective shrinkage and growth'; more on this in Chapter 6, Section 2.

[36] Van der Zwaan, B. (2017). *Higher Education in 2040: A Global Approach* (p. 61). Amsterdam University Press.

such as the business community. In the 1980s, the concept of the 'entrepreneurial university' emerged in the Netherlands. In acknowledgement of science's practical importance for society, people began to argue that the university should do more with its scientific knowledge. Critics soon saw this as a form of kowtowing to the business world.[37,38] This was of course not so surprising, considering the context of the austerity-driven Lubbers cabinets in government at the time. While attention to greater social relevance is not entirely inappropriate in principle (about which more later), from the outset the context of the funding issue coloured the quest for external funding as a threat to the university's academic values.

In the field of research, seeking external funding has become the driving force. This is true in general, whether the funding comes from the government or businesses. But it applies especially to funding in the form of NWO and European Research Council (ERC) grants, which have become very dominant for individual career prospects - and are perceived as prestigious. Such funding is often allocated thematically, with the result that certain researchers, themes, and disciplines are less likely to receive funding. This has led to an imbalance in the funding of research fields, with medical, technical, and natural sciences attracting by far the largest share of funding in the Netherlands and around the world. In the Netherlands, for example, 70% of the academic staff are employed in these fields.[39,40]

The quest for external funding, including private funding, has made

[37] See Alexander Rinnooy Kan's fascinating speech at the opening of the academic year of the University of Twente on September 5, 2011, entitled: *Naar een ondernemende universiteit: u nadert uw bestemming?* As the spiritual father of the term 'entrepreneurial university', he mentions the former rector of the UT, Prof. Harry van den Kroonenberg, who first used the term in a 1985 article. Of course, this development also tied in to the emerging neoliberal thinking in the West, with UK Prime Minister Thatcher and US President Reagan as important political predecessors.

[38] We actually agree with Dorsman that the focus on efficiency which accompanies neoliberal thinking is not inherently a bad thing. The concern is mainly how to prevent its excesses. See: Dorsman, L. (2023). *Universiteit in Crisis? De universiteit Utrecht 1986-2021* [Inaugural lecture] (p. 32). Utrecht University.

[39] Miedema, F. (2022). *Open Science: The Very Idea* (p. 7). Springer.

[40] Van der Zwaan, B. (2020). The Transformative Power of the University. In L. E.

the university a highly competitive environment. Under the influence of neoliberalism, which emerged in the 1980s, and the ideas of New Public Management, which sought to control quality by formulating it in terms of measurable units, certain 'metrics', such as the Hirsch index[41], became dominant measures for the allocation of research funding.[42,43,44] All this has led to a certain culture of publication and assessment, which not only limited the scope for setting one's own research agendas, but also created an academic 'king of the hill' competition; those with the most and the highest awards sat at the top of the hill, and were seen as leaders whose example had to be followed. It has also contributed to a sense of loss of autonomy, increased workload, and also sometimes feelings of unsafety within the research domain. The leadership culture has also been explicitly identified as a cause.[45,46] In many fields of research, but again especially in the medical, technical, and natural sciences, the main incentive for scientists became to start their own research group as soon as possible, and to make it as successful as possible in terms of numbers of publications, financial resources and staff. This all affects the relationships between individuals. Universities became more characterised by a culture in which academic status and age dominated decision-making processes. In this context,

Weber & B. van der Zwaan (Eds.), *The University at the Crossroads to a Sustainable Future* (p. 233). Association Glion Colloquium.

[41] A discipline-dependent indicator, which aims to measure the scientific impact of someone's publications by the number of citations of an article.

[42] Lorenz, C. (2014). Feiten Fiksen, Over Tellen, Meten en Zeker Weten. In A. Verbrugge & J. van Baardewijk (Eds.), *Waartoe is de Universiteit op Aarde?* (p. 77 et seq.). Boom.

[43] See also Chapter 2.

[44] Dorsman, L. J. & Knegt, P. J. (2010). *Het Universitaire Bedrijf: Over Professionalisering van Onderzoek, Bestuur en Beheer* (p. 8). Verloren.

[45] The Royal Netherlands Academy of Arts and Sciences (KNAW). (2022). *Rapport Sociale Veiligheid in de Nederlandse Wetenschap*. knaw.nl/publicaties/sociale-veiligheid-de-nederlandse-wetenschap-van-papier-naar-praktijk-0, in which the organisational structure and its power differentials are considered to be important causes for social unsafety.

[46] Naezer, M., Van den Brink, M. C. L. & Benschop, Y. (2019). *Harassment in Dutch Academia: Exploring Manifestations, Facilitating Factors, Effects and Solutions*. Landelijk Netwerk van Vrouwelijke Hoogleraren. Retrieved from: lvhn.nl

some also argue that universities have developed from a democracy into a gerontocracy, in which vested interests predominate, with the resulting serious risks for innovation.[47]

The difference in external financial incentives and accountability regimes made it seem logical to separate teaching and research organisations within the university. That undermines one of Von Humboldt's ideals: linking research and education based on the idea that academics are formed by acquiring new knowledge. This organisational division has had major consequences for university HR policy and the relationships between staff members. As careers were built on research performance, for many teaching became a 'burden' that you had to 'buy out of' if at all possible. For a long time teaching became work for the 'junior employees', who took on the bulk of the work on temporary contracts, without time for research. It was easy to predict that this would create dissatisfaction among teachers, and that it would affect the quality of academic education.

One development that unmistakeably had major consequences for the university is the trend towards internationalisation. In a way, this trend returns the university to its roots, because universities originally had strong international ties - at least in Europe - with considerable mobility among both students and staff, facilitated by the fact that they shared a common language: Latin. In the nineteenth century, universities became more nationalistic, with more focus on their own history and language.[48] This has only changed in recent decades, in part because the European Union, in an effort to promote European unity, began to encourage student exchanges through programmes such as ERASMUS.[49] But a much more important motivation was the realisation that research is by definition universal, and that its quality and development benefit enormously from international contacts and

[47] Miedema, F. (2022). *Open Science: The Very Idea* (p. 11). Springer.

[48] Verbrugge, A. (2014) De Universiteit en de hoogste zorg voor kennis. In A. Verbrugge & J. van Baardewijk (Eds.), *Waartoe is de universiteit op aarde?* (p. 210). Boom.

[49] And with TEMPUS ('Trans-European Mobility Scheme for University Studies'), this ambition for exchange extended far beyond Europe. See: European Commission. (1990). *Trans-European Mobility for University Studies (TEMPUS)*. CORDIS – EU research results. Last edited: May 30, 1990 Retrieved from: cordis.europa.eu

cooperation. That even applies to disciplines that ostensibly have a primarily national frame of reference, like law or language studies. Here, too, appearances can be deceiving. Much of the research that takes place in these fields has an international context and international significance.

This 'internationalisation' has had positive effects on the quality of education and research. In many disciplines, an ' international classroom' contributes enormously to students' understanding and academic education and development.[50] The effects of internationalisation on the quality of research are even less controversial. One area of debate remains, however, that internationalisation should not only result in international publications; that there should still be plenty of room for research that pays attention to specific national, regional, or local issues.[51]

Internationalisation also has some less positive effects. The influx of more students puts even more pressure on the teaching organisation, exacerbated by the fact that EU students are allowed to enrol under the same (financial) conditions as Dutch students. Only non-EU students (or to be precise: non-EEA students) may be charged higher fees.[52] Internationalisation has further intensified competition between researchers. International collaborations between universities were mainly motivated by success in that competition, as measured by the 'metrics' discussed earlier. As a result, official collaborations are largely limited to the 'high-ranked' universities based on the Western model which is discussed in Chapter 2. In-depth collaborations with universities from developing countries are rare. This is all the more

[50] Sawir, E. (2013). Internationalisation of Higher Education Curriculum: The Contribution of International Students. *Globalisation, Societies and Education*, *11*(3), 359. doi.org/10.1080/14767724.2012.750477

[51] Wilkinson, R. (2013). English-Medium Instruction at a Dutch University: Challenges and Pitfalls. In A. Doiz, D. Lasagabaster & J. M. Sierra (Eds.), *English-Medium Instruction at Universities: Global Challenges* (p. 324). Blue Ridge Summit: Multilingual Matters.

[52] For the broader financial and economic perspective, see: Bolhaar, J., Kuijpers, S. & Nibbelink, A. (2019). *Economische Effecten van Internationalisering in het Hoger Onderwijs en MBO*. Centraal Planbureau. Retrieved from: cpb.nl

remarkable because universities' mission statements often include the goal of contributing to solutions to the 'grand challenges'; the most pressing problems we face at both the national and global levels.[53]

This touches on the university's fundamental role and legitimacy in society. By appealing to the Enlightenment ideal of independent research free of value constraints, universities have mainly argued: 'leave us alone and then we'll do what's right'. This claim has proved problematic for several reasons. First, in the field of science itself. The fixation on metrics and the desire for and necessity of scoring in 'high ranked journals' have made academics much more focused on their own needs above the needs of society. To put it bluntly: it has become 'Science for Scientists', rather than 'Science for Society'.[54] But it would be going too far to place all the blame on universities' shoulders. Governments and other external financiers have also made big contributions to these problems. The fixation on spectacular 'discoveries' and economic effects[55] has resulted in a university dominated by the medical, engineering, and natural sciences. Even though for the analysis and solution of the major problems society faces, such as poverty, inequality, nutrition and health, coherence, the functioning of democracy, raising the young, sustainability, climate change, *etc*., other

[53] Leebron, D. W. (2020). The Global and the Local: Constructing a Distinctive Role for Universities in Shaping the Future. In L. Weber & B. van der Zwaan (Eds.), *The University at the Crossroads to a Sustainable Future* (Glion Colloquium Volume #12, pp. 180-1). Association Glion Colloquium. Retrieved from: glion.org/the-university-at-the-crossroads-to-a-sustainable-future-2/

[54] We will deal with this in more detail in Chapter 2, Inset 2.2. For more information, see: Owen, R., Macnaghten, P. & Stilgoe, J. (2017). Responsible Research and Innovation: From Science in Society to Science for Society, with Society. In G. E. Marchant & W. Wallach (Eds.), *Emerging Technologies: Ethics, Law and Governance* (pp. 117-26). Routledge.

[55] See the 'top sectors policy' from 2015, which aimed to promote public-private partnerships between business, ministries and knowledge institutions. According to the Minister of Economic Affairs, who is responsible for the policy, this entails that "public knowledge institutions - in addition to their public duties [are] encouraged to deploy part of the research resources on themes relevant to business." See the Letter to Parliament by Minister of Economic Affairs Eric Derk Wiebes and Maria Cornelia Gezina Keijzer, *'Naar Missiegedreven Innovatiebeleid met Impact'*, July 13, 2018, DGBI-I&K/18148309, p. 1.

disciplines are also explicitly needed, in particular the social sciences and humanities.

This cocktail of issues has brought the university into a state of crisis that has become especially acute since the early twenty-first century. Universities now face existential issues. Have we become too focused on research, at the expense of our education mission? Has the urge for efficiency, with its many rules, procedures, and accountability obligations, eroded the autonomy vital for scientific research? Have we focused too much on economically/financially quantifiable and measurable activities? In other words: has the 'financialisation' of the university simply gone too far? And the most fundamental question of all is: are we still doing what's right, in the light of our role in society and our responsibility regarding society and its problems?

6 • FINAL CONSIDERATION

The existential crisis atmosphere has prompted many to reflect on the situation. Remarkably, it was mainly a group of Dutch academics who took initiative to fundamentally address these problems and to the identify potential solutions.[56,57] It has set in motion a movement that, if the signs are not deceiving, is leading to a major cultural change in the university, and is now known worldwide as the movement towards Open Science.

In essence, Open Science is about strengthening, or perhaps even restoring, the connection between science, and in particular science in universities, and society. On the one hand, the goal is to make society's needs much more central to university education and research, locally, regionally, and globally. The intention is to draw society inside the walls of academia. But also to give more back to society by making the results of our work freely available, in the form of publications and data. This

[56] Huisman, F. G., Dijstelbloem, H., Miedema, F. & Mijnhardt, W. (2014). Wetenschap in Transitie. Zeven Zorgen voor de Universiteit. In A. Verbrugge & J. van Baardewijk (Eds.), *Waartoe is de Universiteit op Aarde?* (pp. 111-24). Boom.

[57] Dijstelbloem, H., Huisman, F., Miedema, F. & Mijnhardt, W. (2013). *Science in Transition, Waarom de Wetenschap Niet Werkt Zoals het Moeten wat Daaraan te Doen.* Retrieved from: scienceintransition.nl

bypasses the commercial publishers, who profited immensely from the system in which research prestige was mainly based on publishing in a few highly regarded journals. The quality of these journals was determined in part by the reputation of the peer reviewers and the academics in their editorial boards. But of course they can still continue their work outside of a commercial context. All this is based on the idea that the results of research funded *by* the public should also be freely available *to* the public.

Open Science also concerns education. This isn't limited to making learning resources, developed at universities, available to the general public. Open Education also involves educating students in the Open Science philosophy and fostering an open attitude to activities like seeking partnerships in and for society, involving multiple disciplines to find solutions for problems, promoting open debate, being open to different audiences (including inclusivity and continuing education for professionals), and last but not least, appreciating the importance of education in these contexts.[58]

New ways of recognising and rewarding the achievements of university staff is crucial in the context of Open Science. The number of publications and researchers' place in the 'rankings' should no longer be the main determining factors for an academic career. Teaching performance and public engagement should be given much greater weight. We should also pay much more attention to 'team science'*;* the quality of teaching and research is determined by collaboration in groups; not only between academics, but also with those often referred to as 'support staff'. Alleviating individual competition should foster an open academic culture. All of this will of course have consequences for leadership at the university.

We see the development towards Open Science as both fundamental and irreversible.[59] With that in mind, in the following chapters we aim to explore what the university might look like in the future.

[58] Wijngaards-De Meij, L., Zunderdorp, K., Groenouwe M., de Knecht S. (2023). Memorandum 'Plan of action Open Education'. Retrieved from: uu.nl

[59] Miedema, F. (2022). *Open Science: The Very Idea*. Springer.

2 The Transition to Open Science

1 • INTRODUCTION

The prologue and the previous chapter mentioned that if the university wants to add more value to society, both regionally and internationally, then it will have to reflect on itself and its role in the public sphere and fundamentally change how it organises its work. To that end, the university must enter into an open relationship and interaction with society and with its various 'publics'; the 'stakeholders' of various current social problems and issues. The university is still too 'introverted', allowing too much of academic life to be determined by the classical ideas about science that are still very dominant, and that largely determine the internal criteria for quality and choice of subjects. This is a problem when it comes to optimally focusing our research and education agenda on the big problems society faces.

This chapter discusses the current transition to Open Science[60], which is gaining international support because working according to the Open Science principles is expected to foster these changes in the academic community. This makes the transition to Open Science a key element in thinking about what the university should want to become by 2030 and beyond, and will require us to think about the compre-

[60] We use the term 'Open Science' because it has been the term of choice internationally for several years. That means it includes all of the sciences, including SS&H. Open Science is understood to include research and education, so 'Open Science and Education' would perhaps be a more accurate description.

hensive interpretation and implementation of Open Science.[61,62] It will involve open co-creative interaction with society, Public Engagement, but also sharing publications, research data and other products of the academic community paid for with public funding, as much and as quickly as possible in a responsible manner.[63] That way, results produced anywhere in the world can be used and applied quickly, anywhere and by anyone. The guiding principle is that the university feels responsible and works with and for society.

By working more openly and transparently within the university, we are responding to society's signals, often heard in the public debate, that science is a 'black box' that is completely obscure as to how it arrives at its claims - and often quite firm statements - on current affairs.

> *'Isn't that also just one researcher's opinion? Isn't it coloured by their own perspective and interests?'*

By making the process of university knowledge production open wherever possible, people outside the academic community can get a better view of the process by which claims are created. That it is not simply the result of one brilliant individual's work, but rather of robust discussions between international experts about experiments, studies, data, and their interpretations.

Since 2010, the academic community has become more aware that our way of working does not correspond at all to this image of open science. Many consider it as a 'classical', almost mythical ideal, but we rarely share our products, our publications are not free to read, and our data are inaccessible behind payment walls. This lack of access is directly related to potential readers' financial resources, which is a major problem everywhere, not just the Global South. This shows there are serious obstacles in the organisation of the academic community to shaping an open attitude and open relationship with society.

[61] Miedema, F. (2022). *Open Science: The Very Idea*. Springer.

[62] Fecher, B. & Friesike, S. (2014). Open Science: One Term, Five Schools of Thought. In F. S. Bartling (Ed.), *Opening science*. Springer.

[63] Originally it was Open Data, but FAIR was added, which stands for Findable, Accessible, Interoperable and Reusable; see: go-fair.org

These barriers will be discussed below in the context of the Open Science issues that focus on actions needed to address the barriers. Open Science and Public Engagement are about a genuine relationship between science and society that is mutually beneficial and essential for both parties. In this movement, which will be placed in a brief historical perspective below, an open interaction between society and the university must be maintained through its staff, who are active in research and teaching. This goes beyond science communication; instead, it aims for co-creation to address society's problems, setting the research agenda and the vision on education, the production of data and results, and the joint testing of new insights in the relevant social context. Finally, but according to insiders most critically for the success of the transition to Open Science, crucial is modernising our way of recognising and rewarding university staff. This involves the assessment of research and education, but also of academics and the many other members of staff who work at the university. We deliberately chose the word 'modernise', because it is an adaptation to the demands of our modern age, and that applies to the entire transition to Open Science and the effects it has on the university. The new ways of working, and the diversity of their results, require different actions and a fundamental cultural shift that the current evaluation system neither facilitates or encourages. As such, adapting our mode of evaluation to this new way in which university staff actually works, is another prerequisite for the transition to Open Science.[64]

The Open Science way of working ('the practices') will improve the quality and impact of research and education, and have an essential and decisive effect in shaping modern society. In the process, the complexity of global society and the urgency of the problems we face every day imposes itself on us. These problems call for solutions involving new technology and innovations, but also for new insights regarding the possible and proper interventions to help shape society. This all will require an understanding of historically determined cultural and socio-economic differences and geopolitical situations. That is precisely where the multidisciplinary approach of team science is essential, with

[64] Miedema, F. (2022). *Open Science: The Very Idea* (pp. 67-108). Springer.

researchers from the more exact disciplines and the humanities and social sciences truly working in teams together. In the spirit of Open Science, these teams will also increasingly include stakeholders from society, to generate optimal results and policy options. In a nutshell, this is 'The Promise of Open Science' as expressed by the EU, but recently also beautifully formulated by UNESCO.[65]

Open Science, as a major international movement to modernise science and academia, is still very young. It was only in 2015 that the European Union brought a number of projects under the umbrella of Open Science with the title 'Open Innovation, Open Science, Open to the World', first in a speech by Carlos Moedas and later in a book in May 2016.[66] As we will discuss below, this helped promote the themes of Open Access, FAIR/Open data and Citizen Science/Public Engagement. These initiatives were already operational, with the goal of sharing knowledge and research results with society. The issue of Recognition and Rewards was added with a high priority in the spring of 2016, in part as a response to the 'Amsterdam Call for Action on Open Science'.[67]

Separate initiatives for Open Access, FAIR/Open data and Citizen Science/Public Engagement were already underway in the EU and elsewhere in 2016, but Recognition and Rewards were not yet a major international concern. Back then, work was being conducted in a number of countries, mostly at a local level, to modernise evaluation systems for research, universities and researchers. In the EU, a number of working groups were energetically formed as early as 2016, to advise on both the indicator to be used and on how the evaluation of university staff should be adjusted.

The EU Open Science Policy Platform (EUOSPP) combined and drove these various activities. In 2017, a project was launched to explore the implementation of Open Science in the different member

[65] United Nations Educational, Scientific and Cultural Organization (UNESCO). (n.d.). *Open Science: Making science more accessible, inclusive and equitable for the benefit of all*. unesco.org/en/open-science

[66] European Commission. (2015). *Open Innovation, Open Science, Open to the World*. digital-strategy.ec.europa.eu/nl/node/10395

[67] See: government.nl

states. It immediately became clear to the participants that this should involve very different trajectories for the member states, in line with their local, socio-cultural, legal, and political situations.[68]

2 • THE THEMES OF OPEN SCIENCE

This chapter offers a brief summary of Open Science, based on its four major themes. Although Open Science in education has only recently received explicit attention[69], education is an integral element in this context and, as we will discuss elsewhere in this book, education is obviously a major issue for the university of 2030 and beyond. Open Education is already a theme in UU's Open Science Programme, see Figure 2.1, as well as in the Dutch National Open Science Programme.[70]

2.1 *Open Access and FAIR Open Data*

Open Access and FAIR Open Data and Software are international movements that arose from, and were facilitated by, the digital revolution that has transformed society since 2000, as well as the university's practice of education and research. The higher goal of these two

movements is to make the knowledge produced (articles and all other forms of data or products of research and education) available to a very broad group of stakeholders. Available, not just to our colleagues, but also to other disciplines, institutions, and businesses, anywhere in the world. The idea is that knowledge produced with public funds is a 'common good', which should be made available to and for society as soon as possible.[71] This leads to complex issues that affect the role of

[68] Miedema, F. (2022). *Open Science: The Very Idea* (pp. 179-210). Springer.

[69] De Knecht, S., Van der Meer, M., Brinkman, L., Kluijtmans, M. & Miedema, F. (2021). *Reshaping the Academic Self: Connecting Education & Open Science*. Zenodo. doi.org/10.5281/zenodo.5345573

[70] Utrecht University. Open-education. *Utrecht University* Available via: uu.nl.

[71] This is one of the normative principles, ideals of the classical sociology of science Merton described in the middle of the last century. See: Miedema, F. (2012). *Science 3.0, Real Science, Real Knowledge* (Chapter 4). Amsterdam University Press.

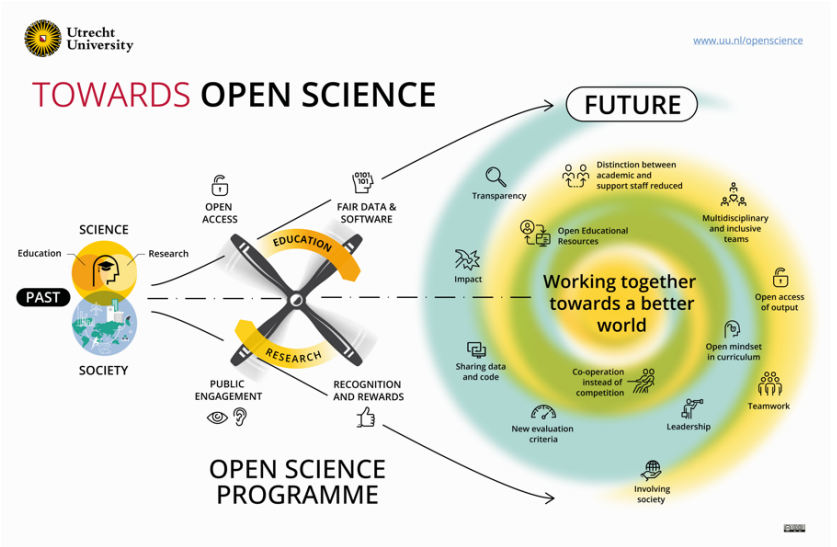


FIGURE 2.1 Utrecht University Open Science Programme 2023

the commercial publishers who publish academic journals and books. Those articles are only accessible to readers with paid subscriptions, (often through university libraries).

The transition to Open Access has gained momentum over the past few years. In the early days, starting from 2002, it was mainly limited to 'position papers' and 'declarations' and local efforts spread across Europe, North- and South America, Australia, and Africa. But since 2015 there have been a number of broad institutional initiatives. The most prominent example is PlanS by CoalitionS, an international coalition of public and non-profit organisations that subsidise research and require results to be published immediately via Open Access.[72] CoalitionS was founded in Europe in 2018 by Science Europe, the EU and the Wellcome Trust, but has since gained members from other continents, such as the Bill and Melinda Gates Foundation and the Howard Hughes Medical Institute. Very recently, the US government has also

[72] See the website of CoalitionS: coalition-s.org

introduced the requirement that articles resulting from government-funded research must immediately become available via Open Access.[73]

These actions are motivated by the fact that knowledge, in the form of articles and books, is not freely available through commercial publishers, as well as by the exorbitant price increases of subscriptions to electronic journals, and the associated commercial interests. As a result, articles and research data have become even less accessible to researchers and audience(s) with fewer financial resources. They simply cannot afford the subscriptions.

PlanS initially focused on publication in Open Access journals by paying an 'Article Processing Charge' (APC). That means authors and their institutes pay for the publisher to publish their articles Open Access. This makes articles accessible to readers, free of charge. Publication via so-called 'repositories', has also been encouraged. This has had a strong impact in advancing the debate on Open Access and Open Data. But it is not a long-term solution. APC payments, like subscription fees for readers, are, after all, just as much of a barrier, only now for authors and their institutions instead. The fees for APC have risen significantly over the past few years, and even exorbitantly for the most 'high impact' journals. This, for instance, concerns journals with a good reputation, because they have a higher 'Journal Impact Factor' (JIF)[74]. Journals like Nature, Science, Lancet and Cell. These are examples of journals that have high subscription costs, but allow authors to publish their articles Open Access - for a fee. Authors are charged the APC, which is a form of 'hybrid Open Access', also known as 'double dipping'. For publishers, it has the benefit of duplicate revenue streams: subscription fees *and* APC. It is lucrative for publishers speculating on the 'addiction' to high JIFs, especially among researchers and members of review committees from the exact and biomedical disciplines. We

[73] Brainard, J. & Kaiser, J. (2022, August 26). White House requires immediate public access to all U.S.-funded research papers by 2025. *ScienceInsider.* science.org/content/article/white-house-requires-immediate-public-access-all-u-s--funded-research-papers-2025

[74] JIF is a measure of the frequency with which articles in a particular journal are cited. That frequency then determines the journal's status compared to other journals.

will deal with this in more detail below in the context of Recognition and Rewards.

Because we face a gap between rich countries in the Northwest and poor countries in 'the Global South' and Eastern Europe, the latter face a disadvantage in science and the transition to Open Science. The wealthier researchers who feel the need to publish in their 'favourite journal' can afford even the most expensive APCs. Researchers from countries in South America or Africa who want to publish in those same journals can rarely afford to do so. It is also good to realise that, even in the prosperous West, financial opportunities between academic disciplines are historically very unequal. Simply compare funding for biomedical and natural sciences to that of the humanities.

So, in 2022, CoalitionS called to move beyond the model of APCs in the transition to Open Access, and to finally switch to non-commercial public Open Access publishing platforms.[75,76] Those publication channels should then be funded from centralised public resources, with Open Access being the standard and with quality control via peer review.[77] Our colleagues from South America constantly remind us that this has long been the dominant model with them, until it was threatened by PlanS' promotion of APCs.[78]

It should be noted that the team of researchers bear most of the responsibility for the quality of their work, but some responsibility also lies with the institute. An institute's reputation should not be based on the JIF, which does not correlate with actual impact and quality, but rather on the intrinsic quality and actual impact of research results, data, claims and other research products published from within the

[75] Plan S. (2021, September 3). *Diamond unearthed: shining light on community-driven Open Access Publishing*. Plan S. coalition-s.org/diamond-unearthed-shining-light-on-community-driven-open-access-publishing

[76] Becerril, A., Bosman, J., Bjørnshauge, L., Frantsvåg, J. E., Kramer, B., Langlais, P., Mournier, P., Proudman, V., Redhead, C., Didier, T. (2021). *OA Diamond Journals Study. Part 2: Recommendations*. Zenodo. zenodo.org/records/4562790

[77] Preferably 'open peer review', in which the names of the authors and reviewers are made public.

[78] Beigel, F. (2021, June 28). Latin America could become a world leader in non-commercial open science. *The Conversation.* theconversation.com/latin-america-could-become-a-world-leader-in-non-commercial-open-science-161019

institute, on a 'Diamond' platform or a 'prepublication repository'[79], and in books and journals. Merely passing peer review, it has been widely shown, is not an entirely reliable seal of quality.

INSET 2.1.
THE FORMS OF OPEN ACCESS PUBLISHING.

There are different forms of *Open Access*:

Gold Open Access: publication in a fully *Open Access journal* that does not charge a subscription fee. Usually, gold *Open Access journals* charge publication fees, also known as Article Processing Charges (APCs).

Hybrid Open Access: publication in a 'traditional' subscription journal that offers *Open Access* publication for individual articles on payment of an Article Processing Charge (APC).

Green Open Access: publication in a closed journal and subsequent archiving of a version of the publication in a trusted *Open Access repository*. Publications can be archived upon publication or afterwards, depending on the journal's policy. Often, self-archiving of the *final author's version (post-print)* is permitted after an embargo period.

Diamond Open Access: publication in a fully *Open Access journal* or platform that does not charge publication fees (APCs). Publication and hosting costs are paid by one or more organisations, associations, or networks.

FAIR Open Data and Software is the publishing, and thus providing usable and reliable availability (FAIR), of research data and software and code. Considerable attention is already (and rightly) being paid to this, as it is an important part of what a university should do in promoting Open Science. It encourages interdisciplinary collaboration

[79] Such an archive or repository contains data or articles that are not yet peer reviewed or accepted by journals.

between colleagues in research and education, and interactions with different stakeholders in global society. Aside from the enormous financial, technical and facility issues and conditions that need to be addressed to make it possible for staff and potential users, there are also ethical and political considerations. Ethically opening up datasets may be in conflict with legitimate legal restrictions and privacy objections, or possible misuse for military purposes. The motto is therefore: 'As open as possible, as closed as necessary'.

As with Open Access, there are legitimate concerns about the unequal balance of power at national and global levels.[80] We saw during the COVID-19 pandemic what a massive impact data sharing can have at the international level, when immediate sharing of genetic information about the virus and publishing the raw data on which publications were based were briefly the standard practice. There are also many great examples in education, the computer sciences, cybersecurity and energy and climate research. But there are also some concerns. Sharing data and code will favour researchers and the public from rich countries over residents of poorer countries, because they have more opportunity to exploit that information, as there is more funding available in rich countries for reuse or commercial and other profitable applications. These are not new problems suddenly rearing their heads in the university; they are problems that the academic community has struggled with before. Consider, for example, the years 1939 to 1945, around the development of the atomic bomb, and after that in the relationship with the Soviet Union during the Cold War. For most of us, especially since 1989, that is a distant past. But studying the specific history of the interactions between science and society is very illuminating today, and provides insights for current geopolitical discussions. During the Cold War, for example, the results of certain scientific research were deliberately not disseminated to other parties. This structural political and socio-economic inequality is of such a fundamental nature that we need to anticipate and mitigate it as much as possible in the context of Open Data and Code in Open Science.

[80] UNESCO. (n.d.). *Open Science: Making science more accessible, inclusive and equitable for the benefit of all*. unesco.org/en/open-science

Another risk involves naively sharing data with parties who could misuse it. This could include using data or code for politically and ethically undesirable practices. This cannot always be prevented, but the researcher who produced the data or code should always be very alert to the possibility. They should also be aware of the debate about sharing data and code with parties in countries with authoritarian governments that could use the data and code for military or oppressive purposes. Geopolitics also plays a role here. And here, too, the motto is: 'As open as possible, as closed as necessary'. We should note that in the world of today, there is not just *one* science, with *one* set of norms and values. Open Science depends on an open society, with an open democracy, and it does not function, or at least not so well, in countries without an open society and open democracy.

Open Innovation

When sharing data in an 'international community of inquirers', agreements must be made on how the parties involved can benefit. There are examples in the field of drug development, where universities, having developed knowledge and patents, and pharmaceutical companies wanting to bring medicines to market, timely made agreements regarding how, where, and at what price those medicines would become available. In the process, the researchers were able to negotiate lower prices for low and middle-income countries. This differs from the neoliberal free-market economy we find ourselves beset with in the Western world, so it is a difficult, but important new path to take.[81] There are also many initiatives around the world that encourage Open Innovation between companies and academic partners. Novo Nordisk Foundation is one example.[82]

The underlying, structural, social inequalities are linked to geopolitical, national, and social structures that make many of these things difficult or impossible and are not in the academic community's power.

[81] Nederlandse Federatie van Universitair Medische Centra. (n.d.). *Valorisatie: Maatschappelijk verantwoord licentiëren*. nfu.nl / themas / randvoorwaarden - wetenschappelijk-onderzoek/valorisatie

[82] See the website of the Novo Nordisk Foundation: novonordisk.com

But the university must always take them into consideration and make them a priority on the international agenda.

2.2 *Public Engagement: Science with and for Society*

Public Engagement takes many forms and has a wide variety of outcomes. The classic example is so-called 'Citizen Science', and involves citizens and non-academic researchers participating in scientific research, for example by making observations and collecting data. Public engagement, however, goes much further. It involves research based on a question formulated by researchers and citizens working together, and translates into a research project that is carried out by both. This usually involves testing the new knowledge and/or the newly developed product in the context in which the citizens' question originated. Public participation can also lead to the development of new teaching methods and resources that address social problems. Wonderful examples of this participatory science have been described in every academic discipline, from medicine, psychiatry, pedagogy, international law, local political problems related to human-caused damage to environment, and habitat and welfare, to equal treatment (inclusiveness) in all kinds of social situations, such as education.

The main point is that the researchers involved are convinced that this co-creation can lead to useful results that will actually reach potential users. This is supported by a wealth of empirical research. If a researcher not only aims to apply potential results in society, but also to co-create from the very early stages of articulating the question, it can reduce the distance between the researcher and the potential user, maximising the chance of making an impact. 'Distance' here can mean literal, physical distance, as in physically working together, but also mental distance, in the sense of understanding one another.

[83] Authors Inset: Marjanneke Vijge and Anissa Triyanti.

INSET 2.2.
CHARM-EU: AN EXAMPLE OF PUBLIC ENGAGEMENT.[83]

One example of public engagement in which social stakeholders formulate a research question that researchers, social actors and students address together takes place within the CHARM-EU Master's programme 'Global Challenges for Sustainability'. In this first-ever European joint degree Master's programme, students simultaneously pursue hybrid education linked to challenge-oriented, transdisciplinary research at five universities. During the Capstone, the final phase of the Master's programme coordinated by Utrecht University, social stakeholders (companies, NGOs, government agencies, etc.) formulate a sustainability challenge for which they seek a solution. Teams of students from the five CHARM-EU partner universities work under the guidance of researchers and civil society actors to analyse the problem and come up with solutions, recommendations and/or prototypes. The sustainability challenges vary from year to year and involve different disciplines and geographical areas within and outside Europe. Some challenges address global issues, such as how the United Nations can encourage companies to implement and monitor the Sustainable Development Goals. Other challenges focus on local issues. One of the Capstone teams designed a smartphone app as a playful and educational way to stimulate Utrecht residents to explore the region's urban farms and gardens. In South Africa, Capstone teams are analysing ways to manage conflicts between people, livestock, and wildlife around Kruger National Park. The team starts by formulating a problem statement based on discussions with local community leaders and other stakeholders in the park. This requires flexibility, interdisciplinarity and cultural sensitivity to analyse and address problems from multiple perspectives in ways that locals can accept. They then integrate scientific and indigenous knowledge and share it through a local transdisciplinary research centre; a satellite campus of the University of Pretoria. The centre conducts research and training in the fields of livestock disease control, conservation, and sustainable living in the park. Through the project, the students conduct internationally recognised research, as well as building local capacity and designing innovative solutions for local problems that also affect neighbouring countries. The teaching methods in the

> Capstone were developed under the leadership of Utrecht University by a transdisciplinary team of researchers and teachers from the five partner universities, in collaboration with civil society actors. it creates a direct link between research and education pertaining to societal issues, and results in joint learning processes by all stakeholders. CHARM-EU is a European university alliance that serves as a testbed for innovations and institutional changes to support Open Science and Public Engagement among the nine CHARM-EU partner institutions.

There is currently a host of Open Science Declarations, recommendations, implementation plans, and strategies issued by the EU, the UN and UNESCO, governments and institutions around the world. In the spirit of Open Science, most researchers, and most universities nowadays, believe that a big part of our research should contribute to helping solve society's problems.[84] A lot of research is being conducted to help people make the right decisions, for example in a political debate. That means universities and their research and teaching staff are making conscious choices for topics and problems that demand research and new forms of education. As part of this transition, universities will increasingly move towards thematic profiling of their research through a substantive and organisational process.

2.3 *University Profile and Strategy*

If they want to achieve their goals, universities will have to decide on the major themes and topics that can add maximum value and have optimal impact in the academic community and in society at large, based on their individual strengths. By applying this strategy, the quality and excellence of university research will be judged not by the number of publications in Science and Nature, but rather by the actual value and impact on society and the academic community. That will bring universities and researchers very close to the public, private

[84] In that context, see the initiatives around RRI ('Responsible Research and Innovation') in the context of the European Framework Programs.

and political arenas, and will pose urgent questions about universities' relationship with society. These questions touch on classical academic issues: values-free science, neutrality, but also on our responsibility towards society. Which universal, and possibly also more local, values and norms should the university propagate?

The researcher will encounter people with different perspectives, fears, experiences, desires, political beliefs and underlying patterns of norms and values that strongly influences the citizens' interpretations of scientific work. Consider the approach to the COVID-19 pandemic, or the nitrogen crisis in the Netherlands. Some citizens will not feel supported by the information academics bring to the table. Many will point to those researchers presenting different claims and facts than the consensus, and to the different contexts in which the research was conducted. The differences between the research context and the actual environment where the results are thought to apply are extremely important. They can be used to call into question the evidence that supports scientific claims. This form of argument is similar to how lawyers break down evidence in court cases into preconceived ideas, context-dependent assumptions, interpretations and methods. That makes these discussions substantially different from those the researcher has with peers about their work, where cognitive ('scientific') arguments prevail and are often kept 'neatly' separate from judgements about the work based on social, socio-economic, political and cultural considerations.[85,86] Neatly separated in the sense that in academic discussions, both sides try to separate the cognitive from non-cognitive norms and values, where the latter category can often be left out of the picture.

In the era of 'positivism', the dominant classical image of science as practiced from 1930 to 1970, the boundaries between the worlds of citizens and science were often kept strictly separate. External influence on science, of any kind, was taboo. But science and society were both constantly developing in parallel and at a rapid pace, and that

[85] Jasanoff, S. (1992). What Judges Should Know about the Sociology of Science. *Jurimetrics*, *32*(3), 345-59. doi.org/10.1177/030631298028005007
[86] Jasanoff, S. (2012). *Science and Public Reason.* Routledge.

has continued into the present day. These developments involved a constant interaction and mutual influence between science and society, with both reacting to and anticipating each other's 'behaviour', ideas, communication, and actions in the public sphere. This often affects the progress of scientific research, either directly or indirectly. Recent insights in philosophy of science show that researchers always operate from the norms and values of their socio-cultural context in their research and academic debates. In fact, these can be very important in research, and should always be made explicit and brought up for discussion.[87]

2.4 *Reflexivity*

Truly understanding and empathising with the problems faced by a citizen, patient, or child from a migrant background, teacher, CEO, or public servant, and what the problems mean for the researcher's position, attitude and engagement, is the most important factor in the quality of participatory research and Public Engagement. To a large extent, this involves the university and researcher reflecting upon their own position in the relevant social context of research, and on their own experiences, expectations, norms and values.

Researchers are faced with dissent as 'society speaks back', and there is a high degree of uncertainty about the status of our scientific claims. Classical authority has disappeared. As has been extensively discussed elsewhere, that authority was based on an idealised image of science ('The Legend') that has now been replaced by a realistic narrative of how we arrive at knowledge claims in science and how they are always being tested, rejected or improved through constant discussion and research.[88] Interactions should not be about appealing to absolute knowledge or facts, but rather to demonstrably 'robust and reliable' knowledge that has proven its worth in continuous debate with colleagues and through actions and interventions in the lab, a testing

[87] See discussion of the work of Shapin and Longino in: Miedema, F. (2022). *Open Science: The Very Idea* (pp. 15-66). Springer.
[88] Miedema, F. (2022). *Open Science: The Very Idea* (Chapter 4). Springer.

environment, a clinical trial, or even the real world. Speaking of the latter, it is very important for the researcher to be aware that knowledge and knowledge claims have always been produced and validated in a particular environment, or 'setting', and social and cultural context. The field of medicine, for example, has a long and disappointing history of this with regard to medication efficacy. New medicines have often been tested and validated in trials that generally involved patients strictly selected for age, gender, ethnicity, and certain disease characteristics. As a result, they were not always representative for women or people from other continents.[89] There are many examples of this in the development of antidepressants, but also medicines for oncology, cardiology, and patients with immune disorders. Another great example in medicine is the completely different way in which HIV spread in Sub-Saharan Africa compared to Amsterdam and San Francisco. In Sub-Saharan Africa, the virus mainly spread through heterosexual contacts, rather than homosexual contacts. People here initially approached the problem from our Western frame of reference, with its dominance of sequential heterosexual relationships and the probability of spread positively correlated to the frequency and nature of heterosexual contacts. But that didn't appear to be a plausible explanation in African countries with massive numbers of HIV infections among heterosexuals. Contacts with anthropologists and sociologists in Africa eventually facilitated the relatively late 'discovery' of the cause for this difference. It turned out that these countries in Africa had - and still have - completely different culturally determined heterosexual relationships. These networks of multiple, simultaneous sexual relationships between men and women could explain the rapid spread of infection among both men and women through heterosexual contacts. It also explained the much greater spread of HIV among young and new-born children.[90]

[89] Epstein, E. (2007). *Inclusion: The Politics of Difference in Medical Research*. University of Chicago Press.

[90] Miedema, F. (2010). *Wetenschap 3.0. Van Academisch naar Post Academisch Onderzoek* (Chapter 9). Amsterdam University Press.

2.5 *Recognition and Rewards*

With the institutional transition to Open Science described above, it has quickly become clear in the EU and elsewhere that a successful and lasting transition and implementation will require a new way of recognising and rewarding researchers and their research. The system that Robert Merton, as early as the middle of the last century, described as a 'reward system', desperately needs to be updated.[91] If we visualise 'the credibility cycle' as shown in Figure 2.2, we can see at a glance how it works out in day-to-day practice. At several points in the cycle, assessment criteria and the indicators derived from them largely determine our evaluation of quality and are therefore decisive for awarding grants and awards.[92] These indicators play a major role in recruiting academics, deciding on academic appointments, permanent contracts and promotion to the positions of assistant, associate or full professor.[93] As Figure 2.2 shows, the system of Recognition and Rewards can be considered as the 'business model' of modern science. Concepts such as quality and excellence are defined using the indicators and criteria used explicitly (and sometimes implicitly) around the world, and there is a hierarchy in the academic disciplines that is all too familiar in the academic community. Here lies a real challenge for the university over the coming years, especially with regard to the enormous and growing hyper-competition for academic positions, for the allocation of grants and the associated application pressure, and of course the workload and burden placed on applicants.

Many authors have shown how the system of Recognition and Re-

[91] Merton, R. M. (1973). *The Sociology of Science: Theoretical and Empirical Investigations.* University of Chicago Press.

[92] Hessels, L. K., Van Lente, H. & Smits, R. (2009). In Search of Relevance: The Changing Contract between Science and Society. *Science and Public Policy*, *36*(5), 387-401. doi.org/10.3152/030234209x442034. Below is an adaptation of Latour and Woolgar's (1986) 'credibility cycle' published by Hessels in 2009: doi.org/10.3152/030234209x442034

[93] Moher, D., Naudet, F., Cristea, I. A., Miedema, F., Ioannidis, J. P. A. & Goodman, S. N. (2018). Assessing Scientists for Hiring, Promotion, and Tenure. *PLoS Biology*, *16*(3). doi.org/10.1371/journal.pbio.2004089

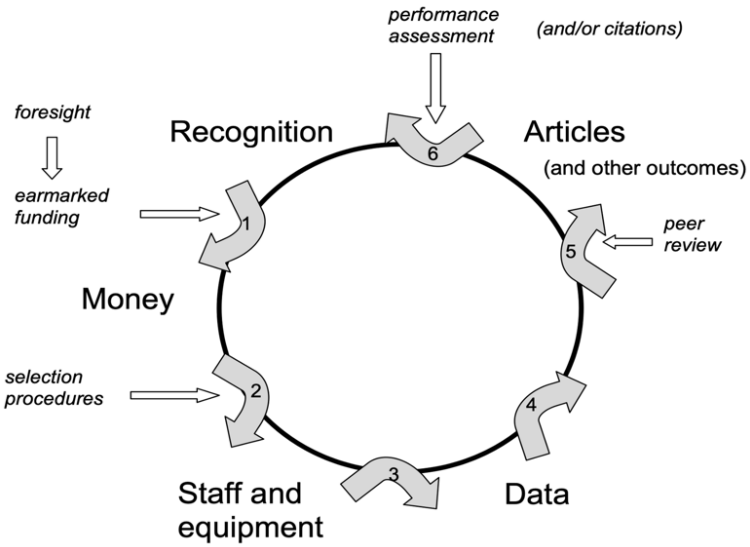


FIGURE 2.2 The 'Credibility Cycle' Source: 'Figure 3' from Hessels, 2009.

wards has developed rapidly since the 1990s.[94] Other works have dealt with the classical perspectives on science upon which that evaluation system was built, which Ziman and Kitcher have called 'The Legend'. Figure 2.3 illustrates why the dominant evaluation system will not facilitate, let alone promote, the transition to Open Science.

Despite this, since 1995 it has become common practice to use the Journal Impact Factor to determine the quality of individual articles and the quality of their authors' work. Editors and associate editors steer towards acquiring articles that are sure to attract attention, for example because the research is very fundamental, very current, new, and ground-breaking. These articles simply attract the most publicity, both within and outside the scientific community. And this is where the classical views and ideologies of science play a decisive role. Through publicity and citations, editors hope to obtain an even higher

[94] Wouters, P. (2014). The Citation: From Culture to Infrastructure. In B. Cronin & C. R. Sugimoto (Eds.), *Beyond Bibliometrics, Harnessing Multidimensional Indicators of Scholarly Impact* (pp. 47-66). MIT Press.

JIF for their journal. This is connected to the journal's reputation, but also the 'subscription and APC fee'. This fee for *Nature*, for example, has already exceeded 10,000 euros. Voilà: the revenue model of commercial publishers.

The JIF and the journal's reputation play a defining role, despite its obviously faulty basis, especially in the exact disciplines and the vast field of biomedical sciences. But this phenomenon has since been replicated in economics, and even the social sciences.

The 'Legend' is perhaps best characterised as follows:

> *"'There is a unique 'scientific method' that guarantees the objective truth of general, universal, and timeless theories and claims. These claims allow for understanding, prediction, and control of our world (nature/men). The method is logical-empirical and has a firm foundation. Facts and values, science and non-science, are neatly separated, which makes science objective and neutral. This method explains the success of the 'hard' sciences; the 'soft' social sciences and humanities are methodologically problematic."*[95]

Metrics shape Science

What does it imply that 'metrics' are the determining factor? To understand this, we should consider everything that happens within the 'credit cycle': getting articles accepted in a prestigious journal via peer review, being rated as 'excellent' based on that achievement, acquiring research grants and academic positions based on that rating, and then easier access to years of nice and hefty (and prestigious) grants via the 'Matthew Effect'. There has been widespread international criticism of the use of these metrics for at least a decade. Experts, by the way, had been expressing criticism for much longer. The Declaration on Research Assessment (DORA) is an international movement, started in 2012 and signed by many institutes and individuals, calling for a ban on the use of the JIF in this way. Its implementation by institutes

[95] Miedema, F. (2022). *Open Science: The Very Idea*. Springer.

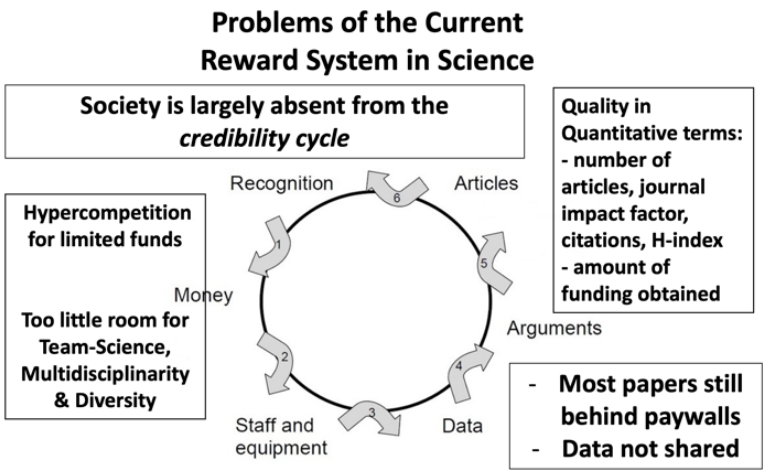


FIGURE 2.3 Problems of the current dominant reward system in science. (Miedema, 2022).

has only started taking off in earnest since 2015 and is now part of the Recognition and Rewards project in many institutes.[96]

DORA focuses on this manifestly faulty use of 'poor proxies for quality and excellence', and on broadening the criteria for assessment and evaluation. But it is not only a problem for the academic community. We have to realise that a lot of research of very high quality and high scientific and/or societal impact is not of interest to journals with that high JIF, and that the JIF is decisive even in committees that have to assess very different research proposals for grant providers. This means the choice of research topics in some major disciplines and domains is not determined by actual quality and impact.[97,98]

In the field of biomedical and health research, in 2016, the Health

[96] See for The Declaration on Research Assessment (DORA): sfdora.org

[97] For the position paper, see: scienceintransition.nl/over-science-in-transition/position-paper

[98] Responsible Metrics. (2022). *The Metric Tide Revisited*. responsiblemetrics.org/2022/08/11/the-metric-tide-revisited/

Council of the Netherlands issued an advisory report under the ominous title '*Onderzoek waar je beter van wordt*' (Research That Makes You Better). This report, requested by the Minister of Health, Welfare and Sport, was prompted by the aforementioned publications claiming that the research agenda was too determined by metrics, rather than by social and clinical impact. The advisory report therefore called for a change in the assessment of research and researchers based on more inclusive criteria, such as also the social relevance of research.[99] This is why Recognition and Rewards was made an integral part of the Open Science programme in the EU and in many institutions in 2016.

Despite the fact that the biases of 'The Legend' have been demonstrated by philosophers and sociologists for decades, they are unfortunately still very prevalent in discussions about science in the academic community, government, grant makers, academic institutions (including the Royal Academies) and in the media. The classical perspective on science holds the societal impact and 'societal need' of applied and technological sciences in lower esteem than 'pure' fundamental science, 'blue skies science' or 'curiosity-driven science'. The qualification 'curiosity-driven' is suggestive and incorrect, because all research involves curiosity, to solve problems of any kind. In this classical dichotomy, formal quantitative 'hard' science is dominant over 'soft' qualitative science, as in the humanities and social sciences. This is despite the proven value offered by both in addressing major social problems, such as the climate crisis, growing inequality, and the COVID-19 pandemic.

In the Netherlands, much progress has been made in recent years by the UNL (formerly VSNU), NWO, NFU and KNAW, as expressed in a quote from the position paper, '*Ruimte voor ieders talent*' (Room For Everyone's Talent).[100]

[99] gezondheidsraad.nl/documenten/adviezen/2016/10/12/onderzoek-waarvan-je-beter-wordt

[100] Nederlandse Organisatie voor Wetenschappelijk Onderzoek (NWO). (2019). *Position paper 'Ruimte voor ieders talent'*. nwo.nl/position-paper-ruimte-voor-ieders-talent

"This requires a system of recognising and rewarding scientists and research that:

1. enables diversification of more dynamic career paths to promote excellence in each of the core domains;

2. does justice both to academics' independence and individual qualities and ambitions, as well as team performance;

3. emphasises the quality of the work and places less emphasis on quantitative results (such as number of publications);

4. Promotes all aspects of Open Science; and

5. fosters high-quality academic leadership.

Open Science

We must pay specific attention to creating more space for Open Science. This new approach to science gives both the individual academic and other stakeholders the opportunity to collaborate and contribute to, and to utilise, the scientific process. This means that academics should share the results of scientific research more widely with society, make research results accessible, and involve society in the research (for example through citizen science). Open Science is inextricably linked with the modernisation of the system of recognition and rewards. It requires time and effort from researchers that cannot automatically be devoted to traditional scientific outputs such as publications, but which can have a major impact on society and science (for example by sharing research data)."

At Utrecht University, we have been working on a comprehensive, inclusive assessment of our academic staff within the framework of our Open Science programme, entirely in line with DORA and the aforementioned projects and their underlying visions. We've drawn up an outline for the implementation of such an assessment protocol, which will have to be elaborated by the various faculties and departments and Strategic Themes. This is where the real work begins: what

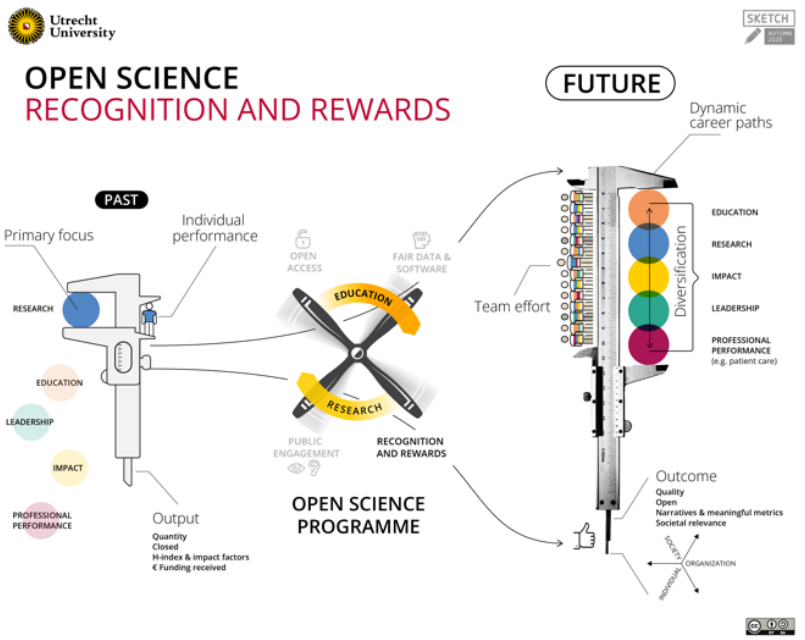


FIGURE 2.4 Discussion diagram 'Recognition and Rewards', Utrecht University 2021

do impact and quality mean in these very different contexts? How do you come up with good narratives and criteria?

In addition to research in the narrower sense, we now have a strong focus on education as well, but also on academic activities related to 'academic duties'; efforts that promote the quality of research and education practice. See Figure 2.4 for a discussion diagram developed in 2021 to inform discussions about the topic at Utrecht University. This includes peer review, committee work with grant makers, but also time spent promoting and doing FAIR/Open Data, Open Access and Public Engagement and the corresponding academic leadership. These are activities that should have an important place in a modern evaluation of research, education, and our staff, precisely because of their versatility and plurality. In other countries, these movements, are already visible to a greater or lesser degree in national protocols for

evaluating research and academics, and many transitions are already underway.

INSET 2.2.
THE RESEARCH EXCELLENCE FRAMEWORK.

In the UK, the Research Excellence Framework (REF) (2014) was a response to the Research Assessment Exercise (1986-2008), which steered very much towards the classic academic output of '*science for science's sake*' and paid little attention to the applied and 'soft' sciences. The REF gave explicit attention and weight to societal impact in the assessment of university research. Since UKRI distributes research funds to institutions based on of REF scores, this has immediate financial implications as well. The classic 'OxBridge' universities and their epigones no longer received the highest scores and largest amounts more or less automatically as before. The newer, more regionally focused universities gained a more favourable position in the REF.[101]

The Strategy Evaluation Protocol (SEP)

In the Netherlands, the UNL, KNAW and NWO adopted the SEP 2021-2027 in the year 2020, and it has been in effect since 2021. The SEP is a new protocol for the national assessment of research in universities every six years. It focuses heavily on narrative, on substantive and strategic evaluation by experts and peers, with less emphasis on quantitative indicators. The use of JIF is not allowed, and information about the H-index, numbers of publications, or grants acquired is used only to support the narratives. It places much greater emphasis on leadership, academic culture, and talent management.[102]

[101] Barker, K. (2007). The UK Research Assessment Exercise: The Evolution of a National Research Evaluation System. *Research Evaluation*, *16*(1), 3-12. doi.org/10.3152/095820207X190674; see the REF website: ref.ac.uk

[102] Vereniging Samenwerkende Nederlandse Universiteiten (NSVU), KNAW & Nederlandse organisatie voor Wetenschappelijk Onderzoek (NWO). (2020). *Strategy Evaluation Protocol 2021-2027.* Available via: universiteitenvannederland.nl

THE SEP 2021-2027

The research unit's self evaluation:
• Vision, strategy and aims of the research are outlined
• Results: Narratives (supported by data)*
• Free choice of indicators for impact

Evaluation is in relation to the unit's strategy

Three criteria:
Research Quality, Societal Impact and Viability

Four Aspects:
1. Open Science practices and efforts
2. PhD policy and Training
3. Academic Culture (Openess, Safety, Inclusiveness, Research Integrity)
4. Human Resources Policy (Diversity, Talent Management

*Compatible with DORA

In the EU and in several countries outside the EU, universities are now paying more attention to modernising the assessment of research, education, and university staff. Under the leadership of the European Association of Universities (EUA), Science Europe[103] and the European Commission's Directorate-General for Research and Innovation, a 'Coalition for the Advancement of Research Assessment' (COARA) was formed in January 2022, which drafted an agreement for implementation of research evaluation over the next few years.[104] The coalition entered its next phase in autumn 2022, agreeing on an organisational structure involving more than 350 universities, univer-

[103] An association of public organisations that fund or conduct research, see: scienceeurope.org

[104] Directorate-General for Research and Innovation. (2022). *Reforming research assessment: The Agreement is now final*. European Commission. research-and-innovation.ec.europe.eu

sity umbrella organisations (UNL, EUA, LERU, COIMBRA), public funding bodies (Science Europe) and young academics from more than 40 countries. All universities in the Netherlands and the umbrella organisations UNL and NWO have signed the Strategic Evaluation Protocol.[105,106]

Fundamental research in the social context

The transition to a system of Recognition and Rewards that facilitates and rewards the necessary changes in science outlined above is essential for society, governments, the public and universities to ensure the universities' continued impact in the twenty-first century. This new Recognition and Rewards system will have to reflect the desired plurality of research and researchers in the academic community. Quality and excellence are very much bound by context and determined by the strategy and goals of the institute, department, and team. The new system will also have to reflect the plurality and diversity of society in the university staff, especially with regard to equality, diversity and inclusion.

For many, this will mean a logical and proper adaptation to the demands of the times. Others feel that it goes against their idea of excellence in science and academia.[107] That means the transition touches on very deeply held, and sometimes very different, beliefs of professionals that determine their reputation, prestige, position, and power in academia and beyond. This can feel like a loss, especially for researchers of all ages in the 'hard' sciences, because they belong to the disciplines high up in the old hierarchy. Some fear that fundamental science will lose out in this transition, in which the scientific agenda is guided more by questions from society compared to the situation after 1945. The concern is that those questions will mainly deal with

[105] See the COARA website: coara.eu

[106] KNAW. (2022, October 11). *Nederlandse kennisinstellingen tekenen Europees akkoord Evaluatie van wetenschappelijk onderzoek*. KNAW Nieuws. knaw.nl/nieuws/nederlandse-kennisinstellingen-tekenen-europees-akkoord

[107] Poot et al. (2021, July 19). *Nieuwe Erkennen en waarderen schaadt Nederlandse wetenschap*. Science Guide. scienceguide.nl/2021/07/nieuwe-erkennen-en-waarderen-schaadt-nederlandse-wetenschap/

short-term problems and applied or technological research, so no truly new knowledge will be produced that could have long-term impact. However, our experience in the patient lobby for research into cardiological diseases, AIDS, cancer, lung diseases, depression, and autism, for example, shows that there is actually widespread support for fundamental research, if the researchers also work on problems that could provide short-term solutions.

Aside from the fact that there should and will always be plenty of room for curiosity-driven science, the history of science and innovation has taught us time and again that research in the context of very concrete societal problems can - and should - take the form of very basic research. So referring to fundamental research as 'curiosity-driven research' is misleading, because applied research is also very much driven by the researchers' curiosity. It is precisely the mix of more fundamental and applied research that can have a great deal of impact when carried out in close proximity to real-world practice. The classic example is Pasteur, who did very fundamental work in response to pressing questions from his time. That's why this kind of use-inspired fundamental research has been referred to as 'Pasteur's Quadrant'.[108]

From a very different perspective, objections to abolishing bibliometrics also come from institutions and countries where metrics are used to counter nepotism and political appointments, for example, and where metrics are actually used as an objective indicator. This is understandable, but given the discussion above, using 'poor proxies for quality' is not the right way to counter the practice of problematic appointments.

Over the next few years, The Coalition of The Willing (COARA) and other efforts should pay close attention to national and cultural differences in the design of systems for Recognition and Rewards.[109] Pluralism and differences in pace are essential. It seems like a logical de-

[108] Stokes, D. E. (1997). *Pasteur's Quadrant: Basic Science and Technological Innovation.* Brookings Institution Press.

[109] European Commission. (2017). *MLE on Open Science: Almetrics and Rewards*. projects.research-and-innovation.ec.europa.eu/en/statistics/policy-support-facility/mle-open-science-altmetrics-and-rewards

velopment, and many have argued that such a Coalition of the Willing should be set up for education assessment as well.

3 • OTHER INSTRUMENTS

Clearly, Open Science forces us to use different tools and different forms of research and education. First, students should be trained not only in the conduct of science, but also in reflecting on the daily practice of science. We foresee that the future university may offer a continuous learning track for 'reflection and scientific literacy', aimed at teaching students how to independently reflect on the position of science in society, as part of a core curriculum in every Bachelor's, Master's and PhD programme. This curriculum will focus on what science, research and the university should be in the present time and our world. In research and education, we will have to innovate together with many different societal partners to bring society, its questions and experiences inside the university lecture halls and laboratories. Open Science must also be visible and guiding in the nature of our education, goals and formats. For more on this topic, see the chapter on education.

We must also develop tools for knowledge dissemination other than the classical scientific output. This output should be an essential complement to the classical articles, including open access and open data, which are mainly aimed at fellow academics. Assessing educational impact should look beyond student satisfaction; we should include quality, but also the role and position of education and how we can reach different target groups in and through education. We have a wide range of communication forms at our disposal today, via an extensive range of media. Many of these are already being used, such as podcasts, media appearances, written or spoken blogs, video recordings of social interactions and science shops. Theatre and music in various forms can also be used to reach a diversity of 'audiences'. These - often interactive - forms of communication are perfectly natural for young people, but for colleagues who grew up in the even more classical university from 1980 onwards, these may not seem like 'academic' products at first sight. Staff will have to be trained and encouraged to develop these tools and to use them appropriately. As we described above, the uni-

versity is modernising the evaluation (assessment) of its employees and criteria for recruitment and selection procedures, so that its employees are recognised and rewarded for all these forms of academic output and impact.

4 • LOOKING OUTWARDS

Over the next few years, the university will have to direct its view outwards even more than is already the case. In societies that are highly knowledge-intensive and are becoming more so increasingly, the university and its knowledge production is an essential factor. Such knowledge may be technical or technocratic, but the last few decades have also shown that the social sciences' and the humanities' contribution to insights and developing solutions is indispensable in today's complex, ultra-modern society. Indeed, researchers from very diverse disciplines will increasingly need to work together in research projects in collaboration with societal stakeholders.

Until around 2010, most universities focused on the international playing field, on competing in the global market of higher education, research, and rankings. That has changed for several reasons since then, with universities becoming more involved in regional and national issues. At the national level, in the Netherlands and abroad, we are increasingly seeing regional alliances emerge between universities, university medical centres, and universities of applied sciences. The goal is to seek substantive synergy and complementarity, which is necessary to address complex societal problems in an adequate and socially responsible manner.

5 • THE EU AND BEYOND

For universities and other higher education and research institutions in the EU, it is crystal clear the European Union will rapidly and substantially increase in importance for the strategy and positioning of universities. This will arise from a well-considered short- and long-term EU strategy, and will certainly involve the allocation of much of its financial resources to institutions and member states. The EU has for

some time been considering its position in the global arena, and paying more attention to developments in the US, China, and Russia - the big players - but also those in countries in 'the Global South'. The contribution of R&D and education to the EU's economic, social, cultural, and democratic development are of eminent and decisive importance in that EU strategy.

The EU has a long tradition of directing research, innovation, and education towards excellence, but in doing so has also explicitly towards connections with problems in society. For decades, this involved deploying financial resources via the European Research Council (ERC) and more strategically thematically formulated programmes. HORIZON 2020 and HORIZON EUROPE make this very clear, with mission-driven R&D setting the agenda. The EU continues to take an active and directive stance regarding Open Science as well.

In 2017, they decided to take an important and critical step forward with the European University Initiative.[110] Here they actively seek to establish long-term alliances between at least seven universities and universities of applied sciences from different member states. In the process, a European Campus is being built across geographical, historical, cultural, and socio-economic differences. The ambition is bold, and ranges from European Degrees, increased mobility and attracting top talent, to new European entities of higher education, research, and innovation. Research will focus on innovation in education, and on research around major issues and missions at European level. These alliances, which should grow to include 500 universities and universities of applied sciences over the next few years, are committed to European challenge-based research and education, with a focus on complex issues and challenges in society. The EU intends to allocate funding for research and education along the path of the alliances.[111] Clearly, these steps are a response to geopolitical developments since 2016.

The outward perspective should extend beyond Europe for several

[110] European Commission. (2022, January 18). *Read-out of the weekly meeting of the von der Leyen Commission by Margaritas Schinas, Vice-President of the European Commission, and Mariya Gabriel, European Commissioner, on higher education* [Video]. EC Audio-Visual Service.

[111] In this context, see the website: charm-eu.eu

good reasons. The UNESCO 'Recommendations on Open Science' made that very clear once again.[112] Growing inequality around the world deserves our constant attention. In addition to the necessary political actions to promote universal human rights, open society, and democracy through international relations and cooperation, there are also expectations for the role of science. Many of the problems we face today are not confined to national borders but play out on global or continental levels. And as we discussed above, they are usually problems of such a complex nature that they require teams of experts from various academic disciplines, recruited from the various countries and regions involved. This is the only way for research and education to contribute to finding politically workable and broadly acceptable solutions to problems like the climate crisis or combating extreme inequality.

It is the university's task to impress upon their staff the necessity of this approach in the 'EU and Beyond'. This must be embedded in the curriculum, and be applied to the inclusiveness and diversity of staff and the research agenda. So here too, it is important for us to reflect on the university's identity and position in society; in this case the global society. Advocating and guarding EU norms and values, such as open society and liberal democracy, should guide our research and education choices. This is normative, but based on undisputed human values.

6 • CONCLUSION

We have discussed a number of current important developments that affect the relationship between the academic community, university education and research, and society at large. The transition to Open Science, which emphasises an open perspective and attitude towards society, is not a non-committal study room exercise. It is clear that the university community must respond to the many strong signals from society, due to the urgency of the major issues we now face. Until

[112] UNESCO. (n.d.). *Open Science: Making science more accessible, inclusive and equitable for the benefit of all*. unesco.org/en/open-science

fairly recently, we believed that we had things under control, whether it was the economy, infectious diseases or wars. We believed the climate crisis would be solved by technically savvy academics. But that has largely turned out to be an illusion. At the same time, we also know that we desperately need scientific insights, and must combine them to start tackling the big challenges we face. Constant, intense attention from academics and the entire international university community is needed to address the United Nations' Sustainable Development Goals through the exact sciences, biomedical ingenuity, and engineering. But we also desperately need the insights from research in the humanities and social sciences. Society and its problems are certainly not merely technical in nature; they are perhaps to an even greater extent socio-cultural, and so are the solutions.

Actions that will contribute to this, have been mentioned above. They will require universities to reflect on their role, their identity, how they function, and their relationships with society. This is where the diversity of the context plays a major role; regional and national, but also cultural and historical. Based on this reflection, universities will need to take actions, many of which have been discussed here in general terms. These actions will be expressed in choices regarding content, education and research, and the organisation of the university that facilitates these actions and choices. That will place high demands on leadership: not just academic leadership, but also administrative leadership, which is essential in shaping the university. These are some big questions that touch on our pattern of values, responsibility, strategy, and mission, directing, resource allocation, cooperation at various levels, and modern HRM policy. We will discuss all of these aspects in more detail elsewhere in this book.

3 Education

1 • EDUCATION FOR SOCIETY

Society is changing, which calls for Open Science and a changing university. From 'ivory tower' to participation in, and interaction with, both the local and global environment. This has implications for research, as we explained in detail in the previous chapter, but just as well for education. Education is the activity through which we possibly have the greatest impact on society. We often talk about the societal relevance and impact of research, but without education, there would be no university. And through its educational role university has a major impact on society in several ways.

The main impact of education is, of course, on and through students. To begin with, education has a direct civil effect for the student: a degree gives access to qualified positions and empowers them professionally (qualification and socialisation). In addition, and just as importantly, education has a major impact on a person's self and who one wants to be in society (subjectification)[113]. This means that education influences both what one's skills are and how these can be used, but also how one wants to utilize those skills in society. In short, a university education affects a person's relationship with society. Education therefore not only has an immediate impact via a degree, but also a lasting influence on the rest of one's life, and therefore on the impact a person will have in society.

[113] Biesta, G. J. J. (2020). Risking Ourselves in Education: Qualification, Socialization, and Subjectification Revisited. *Educational Theory*, *70*(1), 89-104. doi.org/10.1111/edth.12411

In addition, education also affects teachers and others involved in providing the education. Through the design, delivery and assessment of education, a teacher relates to one's discipline: its knowledge and epistemology, its current practices and research. The best way to reflect on your expert knowledge is to think about how to educate students in it. This effect is further enhanced by questions and interactions with students or colleagues and others in the educational team. Designing, implementing, and testing education forces you to reflect on the essence of what you want to convey. This, in turn, leads to reflection on your expertise and your field in relation to society, and to reflection upon your own person and position. So, a role in education does not just equal a neutral transmission of knowledge. To begin with, we can only create the conditions under which learning can take place; the learning is done by the student. But education is not neutral in content and form, either. The choices teachers make forces them to relate to what they teach and how it is taught, both individually and as a team. Finally, education can also have concrete, immediate benefits. This may not apply to all educational activities, but it does apply to education with practical components and (co-)creation or production as part of the learning process. Some examples include an academic or societal internship, a project in a neighbourhood or city, or a design assignment in collaboration with societal stakeholders. The learning outcome should always come first in such activities, of course, but the societal outcome can also be part of it. Concrete projects, including those for external stakeholders, can be highly motivating and instructive, and the returns can be seen as a direct contribution of education to society.

In short, it is important to realise that education impacts society in a multitude of ways. And that the effects of educating students continue long after graduation. It is therefore important to consider explicitly what purpose our education serves. What the effect of education may be on those who participate in it. After all, through education, the university has a long-term and fundamental influence on the society of the future.

2 • THE EDUCATION OF THE FUTURE?

What purposes do we want to educate for? As we explained in the chapter on Open Science, universities have a responsibility to address societal challenges through education and research. We strive to prepare our students to contribute to society, the environment, health, and well-being, and to ecological, economic and social sustainability. The complexity and interconnectedness of major societal issues calls for collaboration both in research and in higher education: inter- and transdisciplinary[114], inter-institutional, and trans-national. Digitisation, and in particular Artificial Intelligence (AI), is going to have a major impact on everything we do and raises many issues, not in the least ethical and social ones; see Inset 3.1.

INSET 3.1.
ARTIFICIAL INTELLIGENCE (AI) IN EDUCATION AND RESEARCH.[115]

The field of AI has developed rapidly in recent decades, especially in the area of learning systems (machine learning). Some early highlights of this development include generative AI systems like ChatGPT. AI has also found broad applications: almost all scientific fields use AI in research, from predicting protein structures in biochemistry, to tracing a pseudonym to a book's real author.The emergence of ChatGPT has led to many developments in education as well. Generative AI can assist with writing essays and the production of educational materials. Learning AI systems can also help staff spot patterns, such as dropout risks. But there are drawbacks and challenges to each of these applications; the tools should not be used for purposes beyond decision support, and the tools need to know what bias (prejudices) they were trained with, and what ecological footprint their training has left. Research is being conducted at many levels to learn how science education and research

[114] This involves the integration of scientific and real-world insights to find solutions to complex real-world issues.

[115] Authors Inset: J. T. Jeuring & A. P. J. van den Bosch.

> can use AI responsibly and inclusively, without disadvantaging specific groups.
> The rapid development of AI in education and research, as well as in society, demands new competencies from both students and staff, in terms of knowledge and understanding of the underlying technology and the ethical aspects of its use.

Open Science requires thinkers with a broad outlook and an open attitude. It requires students who can think independently and critically from a disciplinary or multidisciplinary foundation, while being open and equipped to cooperate between and across disciplines. And thus are able to collaborate both within and outside the own discipline, as well as with societal partners and other stakeholders. This way they may contribute to collective knowledge and progress, and to a sustainable and inclusive society. Importantly they must also be aware of the importance of constant development, and develop the necessary skills to that end. A famous quote by Malcolm Forbes is apt here: 'Education's purpose is to replace an empty mind with an open one'. In the vision we outline here in this book, such an open mind not only entails being open to one's own development, but also to other perspectives and cooperation: to Open Science.

To foster such an open perspective, curricula should provide students with opportunities for reflection and contemplation, encourage initiative, and allow fallible projects. Making mistakes, where this is without endangering oneself or others, is not penalized and is seen as part of the process. However, learning from your mistakes is imperative. Curricula should provide room for individual choices, and encourage and reward personal leadership and initiative. After all, we are educating the formal and informal leaders of the future: intellectual thinkers who can reflect and act on the constant changes in society and the major challenges it faces. And to optimally fulfil our role in society, universities should not only prepare students for lifelong learning, but also provide continuous education in order to do so. That way the university can stand in a continuous knowledge relationship with society.

Not only society is constantly changing. Being part of that society, individual students as well as the student population at large are also constantly changing. New generations grow up in different circumstances and contexts than the generations that teach them. This is something to be constantly aware of and which requires close collaboration with students in the designing and delivering of education. Students not as passive recipients, but rather as active agents in a lively learning- and academic community. The recent COVID-19 pandemic has clearly illustrated how we are all connected globally, and how fast developments can occur. The pandemic also taught us to reinvent how we interact. An entire generation was forced to maintain social distance during a crucial two years of their lives. The consequences will continue to reveal themselves in the coming years, but it is already clear that major changes are taking place. COVID-19 may have been exceptional in its extent, but it illustrates a process of change that will not stop anytime soon. It is therefore crucial for the university to remain constantly in tune with society and its needs for knowledge and education. That will require adaptability and innovation in our curricula, in close cooperation with students and societal stakeholders regarding both its design and implementation.

The aspiration of Open Science thus requires fundamental adjustments to education and the education system as a whole. We will elaborate on this vision below, starting by briefly looking back at history. We already touched on history of universities in Chapter 1, but in the current chapter we focus specifically on the most important developments for education. We will then continue with making a case for change, followed by elaborating our vision on education based on five principles: OPENNESS, TRANSFORMATION, EMPOWERMENT, FLEXIBILITY, and COLLABORATION. These principles pertain to content, form, and organisation of education. We conclude the chapter with several preconditions for making this vision possible.

3 • LOOKING BACK IN TIME

Although knowledge institutions existed before the Middle Ages, including in Asia and Africa, the contour of today's universities finds its

origins in medieval Europe. Chapter 1 described this genesis in detail, so we will limit ourselves here to a few broad outlines. In the Middle Ages, universities were primarily focused on education, hence the origin of the term 'professor'. Universities arose from academics' needs to meet and exchange knowledge. The initial focus was on preserving and passing on existing knowledge, which changed only very slowly. It was not until the early nineteenth century, about two centuries ago, that universities truly began to focus on research. That happened under the influence of the Enlightenment ideal, and was shaped institutionally by Von Humboldt in Berlin, who proclaimed the combination of research and teaching to be the foundation of academic education. The church had also lost influence by then, and although the government often still had considerable leverage (Utrecht University, for instance, was named *Rijksuniversiteit Utrecht* (Utrecht State University) until 1992), universities increasingly became autonomous, and academics gained intellectual freedom in thinking, research, and teaching. In Chapter 6, we will look more closely at the current tensions and dilemmas concerning academic freedom, since this also remains of importance for the future university. Here we will settle on the realisation that the fundamental changes occurring in the nineteenth century have laid the foundation for today's university education.

So, academics were given more and more freedom to conduct research in the nineteenth and the first half of the twentieth century. Knowledge was expanding and becoming more specialised. Those with most expert knowledge were considered to be the best lecturers, and teaching was mostly approached as 'sending'. Experts orated, in ever-larger lecture halls, about their own fields of expertise with students as passive recipients. Large oral or written exams at the end of a learning period (say, a semester or year) were the student's way of demonstrating sufficient learning. The second half of the twentieth century saw a change in the idea that an expert was also automatically a good teacher. In the field of pedagogical and educational sciences the insight emerged, and soon found general acceptance, that teaching is not an innate capability but an expertise that can and must be learned. This realisation brought about movement first to primary and secondary education, before it was accepted by higher education.

In the 1980s, Shulman wrote about the knowledge foundation needed for teaching at a university.[116,117] Based on his work and that of others, recognition increased that teaching is a profession in its own right. His work is influential up to this day, especially his concept of 'pedagogical content knowledge': the integration of specialist and pedagogical knowledge. Around the same time people began to question the excessive dominance of research in academic careers. In 1990, the President of the Carnegie Foundation, Ernst Boyer, wrote a pioneering report titled 'Scholarship Reconsidered: Priorities for the Professoriate'.[118] In it, he denounced the dominant idea at the university that equated being an academic with being a researcher, and that publications were the bar by which academic productivity should be measured. He argued that education was an academic task in itself, and redefined scholarship along four overlapping domains: teaching, discovery, integration and application. This report is still widely cited and has put the educational role back on the map as part of the academic's work. We emphasize here that 'scholarship of teaching' involves more than mere delivery of education. It also includes being knowledgeable on subject-didactics and applying. this knowledge in the design of education, which can be seen as overlapping with 'scholarship of application' and 'scholarship of integration'. Also, it includes studying the effects of one's own teaching, which can be sees as overlapping with 'scholarship of discovery'. Boyer rightfully stressed that the four academic types of scholarship overlap one another.

The realisation that, even as a top researcher, one can - and must - learn to teach, combined with the awareness that the educational role had received too little attention, led to the rise of teacher development at universities starting in the 1990s. In the Netherlands, Utrecht University took the lead by making university teaching qualifications compulsory, starting from 1995. A basic qualification was introduced

[116] Shulman, L. S. (1986). Those Who Understand: Knowledge Growth in Teaching. *Educational Researcher*, *15*(2), 4-14. doi.org/10.3102/0013189X015002004

[117] Shulman, L. S. (1986). Those Who Understand: Knowledge Growth in Teaching. *Educational Researcher*, *15*(2), 4-14. doi.org/10.3102/0013189X015002004

[118] Boyer, E. L. (1990). *Scholarship Reconsidered: Priorities of the Professoriate*. Carnegie Foundation for the Advancement of Teaching.

as condition for permanent academic appointments, and a senior qualification was introduced as a condition for promotion to associate-professor and full professor. The basic qualification was subsequently adopted nationwide, and in 2006 a mutual recognition agreement was signed by all Dutch research universities. At that time, this put the Netherlands in a unique position in the world. Almost all countries have since then introduced university teaching qualifications, but only a few have structurally embedded teaching qualifications in academic appointment and career policy, such as in the Netherlands. Teaching qualifications in other countries tend to be either voluntary or punitive in nature. As a consequence, the development opportunity may not reach the entire teaching population but only enthusiastic teachers or those who have it imposed on them due to poor performance. Although obligatory university teacher qualification risks being experienced as a bureaucratic hurdle, advantages are that it pertains to all academics and that it sends a clear signal that universities value good teaching. Advantages thereby seem to outweigh the disadvantages.

Although over the years attention to the development of didactic skills for university teaching has increased, specific knowledge on higher education, as well as its organisation and system, has lagged behind. Subject-didactics is a well of knowledge for primary and secondary education, but only in a few academic disciplines has it become a domain of its own in higher education. For instance, research into medical education has developed into a specialist field of its own,[119] but many other disciplines lack such a tradition. Recent interest worldwide in 'educational scholarship' – such as Scholarship of Teaching and Learning (SoTL), in which academics conduct inquiry into their students' learning[120] - shows that this is currently on the rise in other disciplines as well. Linking educational research and practice in higher education is essential in designing and developing evidence-informed education at universities. Many of today's didactic and educational

[119] Norman, G. (2011). Fifty Years of Medical Education Research: Waves of Migration. *Medical Education*, *45*(8), 785-91. doi.org/10.1111/j.1365-2923.2010.03921.x

[120] Felten, P. (2013). Principles of Good Practice in SoTL. *Teaching & Learning Inquiry: The ISSOTL Journal*, *1*(1), 121–125. doi.org/10.2979/teachlearninqu.1.1.121

insights come from research in primary and secondary education, and need translation and context-specific, practical knowledge for application in higher education. That applies to our didactic approaches, but possibly even more so to major systemic educational innovations. For policy and organisational changes, available knowledge is even more scarce than for teaching and learning approaches, even though consequences might be quite far-reaching. Starting in the 1990s, the Netherlands experimented with a wide range of educational reforms, focusing mainly on the fundamental renewal of secondary education through innovations with somewhat opaque names like 'basisvorming' (basic formation)', 'studiehuis' (study house), 'tweede fase' (second phase), and 'nieuw leren' (new learning). These innovations were prescribed by the government and led to considerable turmoil. In 2007, national organisations of students and pupils sounded the alarm. A subsequent parliamentary enquiry found that innovations introduced since the 1990s were controversial because political support was considered more important than support in the educational work field, that its scientific justifications were often insufficient, and that the voices of teachers and pupils were insufficiently heard.[121] Similar experiments were also carried out in higher education from 1998 onwards, though on a smaller scale. A central component of these innovations was Problem-Based Learning. It was introduced in the Netherlands in 1975 at the University of Maastricht, based on the philosophy and models developed at two medical faculties in the United States in the 1960s.[122] Maastricht was a new university, and had introduced this educational model with minor modifications on an institution-wide level. This gained worldwide recognition. Although this innovation was not without criticism, elements of Problem-Based Learning have penetrated throughout higher education in various forms and nuances, both in the Netherlands and abroad.

In 1990, 29 ministers of higher education in Europe signed the

[121] Sociaal en Cultureel Planbureau. (2008). *Rapport Vijftien jaar onderwijsvernieuwingen in Nederland*.

[122] De Smet, P. J. (2023). *Traditioneel versus Problem-Based Learning*. Consulted on May 26, 2023, from: docplayer.nl/375255-Traditioneel-versus-problem-based-learning.html

Bologna Declaration, which instituted a major change in the education system. This declaration of principle aimed to create a common European higher education area, with the goal of bringing the knowledge society to as many Europeans as possible, promoting mobility by introducing a Bachelor-Master structure, mutual recognition of diplomas and credits, and establishing independent quality control. In the Netherlands, the latter was implemented through an accreditation system with an independent supervisory body: the Dutch-Flemish Accreditation Organisation (NVAO), charged with the task of monitoring quality and promoting a culture of quality. Study programmes are evaluated according to a five-year cycle. The aim is to achieve an optimal balance between quality promotion and quality control, while limiting the administrative burden for individual study programmes and promoting a culture of quality at the university.

Through combined attention for educational knowledge, teacher professionalisation, and quality culture, Dutch universities have placed a strong emphasis on curriculum thinking. A university education is more than a loose collection of individual components. It is a coherent, sequential whole that adds up to more than the sum of its parts. Nevertheless, there is a tension between curriculum thinking, especially when embedded in inflexible quality systems, and our pleas for more open curricula, or parts of the curricula in light of the below outlined developments that we believe are important for the university of the future. Our vision certainly still places emphasis on curriculum thinking as a core principle but also calls for openness and flexibility within curricula and in corresponding quality systems; curricula that facilitates individual pathways, and prioritises societal engagement, open learning objectives and personal development. The pitfall of excessively strict quality structures and accountability culture is that the university can become a cookie-cutter academic factory, rather than a rich and stimulating learning environment for critical thinking and individual growth. The university gaining tendencies of a learning factory has been the negative effect of neoliberalism as it has emerged since the 1980s, as we described in Chapter 1. If returns on investment is put first, the university degenerates into a place where there is little room for open exploration and personal growth. Compromising the

idea of a university as a true learning community, where people learn from and with one another.

Another tension that can arise from curriculum-based thinking is one between education experts and the specialist academic community. Optimal education definitely requires didactic insights, but always in close connection to specialist knowledge. Academics who specialise in the education of their discipline, who integrate didactic and disciplinary knowledge and conduct educational research within their discipline, are crucial for building bridges between education in their field of expertise and the educational sciences.

4 • A PLEA FOR CHANGE

As we mentioned in the introduction, research activities became so dominant over the course of the 20th century, that education began to play second fiddle. This stood in apparent contrast to the dramatic rise in student enrolments. But it was precisely under the pressure of those large numbers that education gradually lost the characteristics of a community, of learning with and from each other. Education increasingly became a simple matter of sending and receiving. Massive lecture halls became emblematic of university education.

Also, learning and working were strictly separated. For academic education, you went to university directly after secondary school, and after that you would start working. Even the introduction of the Bachelor-Master structure hardly changed that. A Bachelor's degree was - and still is - rarely considered to be a final qualification at research universities in the Netherlands. Students usually continue with a Master's degree programme directly after completing their Bachelor's degree. Depending on their career path, this is then followed by a PhD track or the job market. The situation is a bit different at universities of applied sciences: there, many more students finish with a Bachelor's degree, and fewer go on to do a professional Master's and may enter professional masters, often with ample work experience. Until very recently, contacts with university alumni focused mainly on fundraising and relationship management. Education for professionals, for the purpose of continuing education, was not a serious part of uni-

versities' course offerings until a few years ago. This left an important opportunity for interaction between society and the university sorely underutilised.

Although the insight that teaching is something you have to learn had already been acknowledged since the 1980s, it had not earned a higher status for education at universities. Actually, the opposite had occurred: the insight hat teaching can and must be learned was seen as a hurdle for good researchers to be involved in education Instead, universities 'outsourced' educational tasks to full-time, temporary, or junior teachers who had more time for it, and could become proficient at teaching. In the process, people lost sight of the intertwining of research and education; the very essence of an academic education. One pitfall of teacher professionalisation is that it risks treating teaching competencies as a stand-alone skill, whereas it is the integration of didactical and specialist expertise that is crucial for high quality university education.[123]

In the Netherlands, a sharp distinction emerged in the higher education system between research universities and universities of applied sciences. At universities of applied sciences, the emphasis was placed on education, but they lost sight of its inherent interconnectedness with research. Research universities, on the other hand, lost sight of education. Effectively, both forms of higher education diluted the fundamental intertwining of, and synergy between, education and research.

The fact that education at universities continued to function reasonably well can probably be largely attributed to teachers' intrinsic motivation. Fortunately, most academics take great pleasure in teaching, in transferring their knowledge, and in the contact with students. However, in the end intrinsic motivation alone is not enough to ensure world-class academic education, especially when a system provides negative incentives rather than encouraging it. Educational excellence

[123] Van Dijk, E. E., Geertsema, J., Van der Schaaf M. J., Van Tartwijk J. & Kluijtmans, M. (2023). Connecting Academics' Disciplinary Knowledge to their Professional Development as University Teachers: A Conceptual Analysis of Teacher Expertise and Teacher Knowledge. *Higher Education*, *86*, 969-84. doi.org/10.1007/s10734-022-00953-2

benefits from structural recognition and rewards, development, support, and research in the field of education. If we want to prioritise high-quality higher education, we need to turn the tide, and restore both the balance and intertwining of research and education. We must ensure that educational development is led by the academic field, by academics with a passion for - and professional development in - education, in consultation with educational experts, students and societal stakeholders. Developments should be aligned with society's needs and preferences. In educational innovation, we should avoid reinventing the wheel or being led by personal opinions; rather we should base innovations on existing theoretical and practical knowledge. And importantly, we should monitor and study the effects of our education and educational interventions in scientifically sound ways, both to improve practice as well as extend the knowledge base. This means that it is essential to study higher education in all its facets, from systems to didactics, from learning to teaching, from innovation to impact on society. We need to develop a new university organisation and culture in which research, education, and socially responsible behaviour are inherently intertwined and equally valued.

Fortunately, the first steps have already been taken towards that change in culture. Although student enrolment in higher education in the Netherlands, as well as worldwide, continues to rise, and more young people are pursuing higher education, the higher education system is going through some major changes. The importance of teacher development is now widely recognised. What's unique about higher education is that university teachers, also referred to as lecturers, not only have a didactic role in facilitating student learning; they also determine the content of the curriculum. Education teams, in which academics develop a curriculum together with committed didactic advisors, IT experts, students, stakeholders and support staff, are pivotal in guaranteeing the quality of education. In form and content, we are turning away from passive mass production, despite the pressure of high student numbers. Small-scale, activating education is on the rise, and IT-supported learning materials got a big boost from the forced transition to online education during the pandemic. Personal encounters are crucial, and gladly they have returned in ed-

ucation. Knowledge clips and digital tools can now be used to create optimal combinations of on-site interactive learning activities, and synchronous or asynchronous online elements. Digital learning tools have proven their effectiveness for the transfer of knowledge, whereas on-site meetings seem best suited for discussion and processing the material. That makes them very important for socialisation and subjectification, too. Precisely because of the lack of personal encounters during the pandemic, we have become even more aware of the relative importance of these two goals of higher education. And social contact is indispensable to achieve those goals. When carefully designed, social interaction can be achieved online as well as on location, but the former requires a specific structure and skills.[124] Innovation is in full swing in both academic and professional higher education, and people are realising that this innovation should be both strategy- and evidence-driven. Generating that evidence requires a mix of theoretical and practical knowledge, of didactic and subject expertise, of provider- and user perspectives. These developments in education are closely related to the Open Science philosophy. They are aimed at reinforcing openness, inclusiveness, and a closer connection to society. At universities of applied sciences, for their part, the connection between education and (practice-oriented) research is being strengthened through the creation of research groups. Universities and HBO's are also increasingly aware that they need to cooperate more, with similar and complementary institutes, both nationally and internationally. Because although the accents between institutions may differ, especially between universities and HBO's, knowledge cannot be generated without application - and vice versa. Students from both types of higher education need to be connected specifically for inter-professional and inter-disciplinary education, especially when it comes to societal problem orientation.

[124] Wallace, R. (2003). Online Learning in Higher Education: a review of research on interactions among teachers and students. *Education, Communication & Information*, *3*(2), 241-80. doi.org/10.1080/14636310303143

5 • HOW DO WE WANT TO EDUCATE?

Ideally, we see the university as a learning community, where new knowledge and insights are acquired and shared. Education is not just a matter of sending and receiving, but an active interplay between students, teachers, and other stakeholders. University teachers work in partnership with students, both to share existing knowledge and to create new knowledge. Through innovative, activating learning formats, reflection, interaction and collaboration, students acquire and process insights and skills that enable them to better understand and contribute to the world.

We will try to capture our vision on education in five guiding principles: openness, transformation, empowerment, flexibility and collaboration. We will elaborate on these principles below, and on how they may relate to content, design, and organisation of education. Our vision is grounded in the unprecedentedly complex and interacting challenges the world faces today, whether it concerns the climate, health, society, digitisation, or the economy.

In this chapter, we will not only look at the university itself, but also at the wider education system, because excellent education cannot take place in isolation. Our education is based on a broader context, and takes shape in collaboration with many national and in international partners, both within and outside higher education.

5.1 *OPENNESS*

We start with the principle of openness, because it reflects the overarching vision, and thus the purpose of education. It expresses what we aim to achieve with education, and what the other keywords discussed below all contribute to. The term 'open' here has its origins in the Open Science movement, which initially targeted research with the aim of increasing openness, quality, and impact.[125] But openness is a fundamental principle and attitude that applies equally to both re-

[125] Buena de la Fuente, G. (n.d.). What is Open Science? Introduction. *FOSTER*. fosteropenscience.eu/content/what-open-science-introduction

search and education. It encompasses several other principles, each of which contributes to our universities serving society in the best possible way and avoiding an inward-looking, 'ivory tower' mentality. A great example of how Open Science and education are related can be found in the New Utrecht School, see Inset 3.2.[126] The New Utrecht School is an interdisciplinary platform for cooperation around health in a broad sense, and aims to prepare (future) professionals in the health domain for the changes in the twenty-first century.

INSET 3.2.
THE NEW UTRECHT SCHOOL.[127]

In 2020, UMC Utrecht included The New Utrecht School in its 'UMC Utrecht Strategy 2020-2025, Connecting Worlds', in line with the UU Strategic Plan 'Open Perspective, open Attitude, Open Science' (www.uu.nl/organisatie/strategisch-plan-2025). The New Utrecht School's slogan is 'Connection from openness'. It was founded in 2017 as an inter-institutional platform for interdisciplinary collaboration in the health domain. As the website (www.uu.nl/onderzoek/de-nieuwe-utrechtse-school) explains: ' The New Utrecht School, UMC Utrecht, Utrecht University and the Utrecht School of the Arts are working together to prepare the new generation of healthcare professionals for the changes of the 21st century. The New Utrecht School offers an interdisciplinary platform for urgent discussions on the interaction between the health domain, the arts, and the sciences and humanities. It is becoming increasingly clear that a structural cross-fertilisation between professionals in healthcare, artists, civil society organisations and scholars is of crucial importance for future health and care professionals. We stimulate this cross-fertilisation through public dialogues, art initiatives, research, and education.
In doing so, The New Utrecht School can appeal not only to a direct con-

[126] Van Geelen, S. & Milota, M. (Eds.). (2022). *De Nieuwe Utrechtse School: Historische Traditie en Hedendaagse Aanpak*. Utrecht University. uu.nl/onderzoek/de-nieuwe-utrechtse-school

[127] Authors inset: S. M. van Geelen, B. J. M. Prakken, M. M. Milota, H. V. M. van Rijen.

nection with the 'old' Utrecht School, as it existed at Utrecht University in the period between 1945 and 1960, but also to a number of central tenets shared with the historical school (S. van Geelen & M. Milota (ed.), *De Nieuwe Utrechtse School: Historische Traditie en Hedendaagse Aanpak*, Utrecht 2022). The tenets of both the historical Utrecht School and The New Utrecht School are:

a) a structural focus on the unique individual or phenomenon to be studied, understood within the complexity of the surrounding world;
b) an interdisciplinary approach to understanding, explaining, and intervening; and
c) contributing to solutions for major societal challenges.

Besides these shared principles, The New Utrecht School differs from the historical Utrecht School in at least three respects:

1) The breadth of collaboration: the historical Utrecht School was primarily a university collaboration between academics from the medical sciences, humanities, and social sciences. In contrast, the New Utrecht School also explicitly focuses on (educational) cooperation with the art academy, artists, universities of applied sciences, the exact sciences, veterinary science, geosciences, and non-academic partners such as the City of Utrecht.
2) The method: The historical Utrecht School was primarily a phenomenological movement. For The New Utrecht School, this is by no means sufficient. Certainly, we should start from an unbiased understanding of the phenomena to be studied, and we should develop innovative art, teaching, and research systems for that purpose. But once a phenomenon has been understood, we should also be able to explain it as clearly as possible using the latest evidence-based insights and methods.
3) The focus on health as an overarching theme: The historical Utrecht School had no clearly predefined common programme or shared focus area. The New Utrecht School, on the other hand, focuses collectively on training (future) professionals in the health domain, in the broadest sense.

Education should ideally be open in a multitude of ways.[128] For example, we strive for openness in our community by pursuing inclusiveness, diversity, and equality, in our educational and academic culture. There is still plenty of progress to be made in this area, on many fronts; higher education does not, as a rule, properly reflect society. Many signs point to a lack of inclusiveness, diversity and equality in both education and our organisation. So it is important to pursue this explicitly and shape it both in word and deed. We should also be alert to this in the content of our curricula, in part by recognising and acknowledging the existence of cultural, historical, social, and other forms of bias. We should be aware of this when we prescribe literature, design educational content, and conduct research in our field. In the development of thought, we strive to facilitate open minds that can think and act divergently and creatively. In academic debate, we are open to a diversity of opinions, and foster constructive debate. We will return to this in more detail in Chapter 6. In our vision, we strive to interact with society in our education, for example through 'community-engaged', 'challenge-based' and transdisciplinary education, and in our students' research. This is explained in more detail below. Our curriculum also actively teaches and reflects on the principles and attitudes of Open Science. And, on a last and more practical note, we openly share our educational insights and materials. We detail below what this would mean for students and the university: 'open' attitudes and skills as learning objectives, 'openness' in educational design, and 'openness' in the organisation of education.

Open as a learning objective - Open mind

In our vision of the ideal university, you come to study (or work) there because you are open to developing yourself and want your unique contribution to mean something to others and to society at large. You are open to, and are given the opportunity to, explore new encounters, knowledge, ideas, discoveries, and experiences. We encourage and expect curiosity and want to teach the value of debate and being open

[128] De Knecht, S., Van der Meer, M., Brinkman, L., Kluijtmans, M., Miedema, F. (2021). *Reshaping the Academic Self: Connecting Education & Open Science*. Zenodo.

to diversity of perspectives. These expectations are made clear in advance, so that upon entrance of university this is the culture they are saying yes to. Students (and staff) are expected to demonstrate respect to other points of view and to seek connections. These values are mainly acquired through socialisation, and so they must be enacted by the entire university community and be part of the culture. Besides implicit role-modelling, we also offer education that explicitly encourages the principle of an open mind. Ideally, every student is exposed to an interdisciplinary curriculum; in at least in part of the curriculum multiple disciplinary perspectives are encountered and reflected upon. This not only helps them to appreciate different perspectives (open mind), but also to reflect and gain deeper insights into their primary discipline (qualification and socialisation), and to their own position within it (subjectification). Furthermore, in the curriculum every student comes in contact with society, for instance through transdisciplinary, challenge-based and/or community-engaged education. Although there are important differences between these educational formats, including their learning outcomes, we mention them here together because of their societal component. In all three, and the new educational design models that will undoubtedly follow in the near future, the student comes into contact with societal partners or stakeholders. This puts the student in direct contact with what society needs, and how they can contribute to it with their own academic expertise, norms, values, and experiences.

To study at a university means being part of a community. We strive to build a community that is open in its composition and nature; an inclusive environment that openly embraces diversity. Our fellow students, teachers, staff, alumni, local residents, (inter)national colleagues, social partners and stakeholders are all cordially welcome in our curriculum and on campus. That is how we can create an open community. Being part of a community also means contributing to it. Contributing to other people's benefit, whether by devoting attention, expressing involvement, sharing knowledge, or hands-on effort, is a natural and fundamental attitude that promotes not only your own development, but also that of others. Extra-curricular activities are

valued and recognised, and can even fulfil some learning objectives (see the previous chapter).

A special position or opportunity is reserved here for alumni by being given an active role in education, for instance through guest roles in education, or through combined courses for students and professionals in Continuing Education. Involving alumni more in the academic community could be very valuable for themselves in the light of their own continuing development, as well as for the development of current students, by bringing in the experience of the professional work field into our education and research.

Open as a learning objective - Open (Science) competencies

In this vision, students do not only learn to conduct research, but also to critically reflect on the research process. As future researchers or academic professionals who use insights from research in their roles in society, students should be aware of the quality of research, its value, but also its limitations. It is also important that they have a critical attitude towards the research system. Open Science requires a culture and attitude focused on openness and impact. So, students need to be exposed to the underlying philosophy, as well as learning skills to engage stakeholders, openly sharing data and results, generating meta-data, and using open software and interfaces. As an academic community, we need to include students in our concerns and critical discussions about the system of creating scientific knowledge. We do that by making it an explicit part of our curriculum, and by being open about our own questions and dilemmas. We don't have all the answers. Open Science is a critically reflective attitude, and not an end in itself: students are the researchers, financiers, policymakers, and leaders of the future, and will need to be able to take developments to the next level. One example of an initiative by young scientists is the Centre for Unusual Collaborations, see Inset 3.3.

INSET 3.3.
CENTRE FOR UNUSUAL COLLABORATIONS.

The Centre for Unusual Collaborations (CUCo) is an initiative by the young academies of three universities in the alliance of Eindhoven University of Technology, Wageningen University & Research and Utrecht University, including Utrecht University Medical Centre. CUCo seeks unexpected collaborations between young researchers that facilitate the emergence of innovative research. The young academies received six million euros in grants in 2020, which they used to found the centre. As part of that ambition, they chose a new approach in which teams are given room to build trust in each other and explore a research topic. In the process, CUCo helps eliminate barriers in the academic system that obstruct innovative research, such as the criteria within Recognition and Rewards. This example illustrates how a new generation of scientists is not only embracing Open Science but is also taking it further by experimenting with new forms of research and organisation to have even more impact on society.

Open in educational design: curriculum, learning objectives, process, and assessment.

We have already stressed the importance of personal development: it is important that students can develop their own personal profile. That requires an open curriculum, with room for individual choices. Choices, and thus the opportunity to follow individual paths, should not only be offered in the form of elective courses, but also as part of programme's core curriculum. For example, students can be allowed to follow their own paths to meet a set of predetermined learning objectives. In doing so, specific gaps can be identified, and action can be taken to address them, without predetermining how and where each learning objective should be achieved. The chapter on flexible education will deal with that in more detail.

'Open' also means that students learn to look outside the silo of their own field of study. A specialist identity acquires value precisely through its relation to a cross-disciplinary approach to societal problems. The importance of cross-disciplinarity in Open Science requires

that cross-disciplinary education must be included in every core curriculum. It should not be left to the individual student's choice of electives. Distinction is commonly made between three forms of cross-disciplinary education: multi-, inter-, and trans-disciplinary education. In literature, the different forms are sometimes collectively referred to as 'disciplinarities'. Multi-disciplinarity entails that knowledge from different disciplines is used side by side, complementing one another in order to address a problem. The disciplines retain their own voice and their own input. Inter-disciplinarity centres on the interaction between disciplines to better understand a complex phenomenon by integrating perspectives or insights from different disciplines. This integration can occur at the level of methods, tools, concepts, theories, or insights. Finally, trans-disciplinarity centres on the interaction between scientific and practical insights, often in collaboration with societal partners and stakeholders. The goal is to promote the implementation of solutions for a complex real-world issue.[129,130] The relationships between the disciplines in multi-, inter-, and transdisciplinary education are either additive (they stand side-by-side and complement one another), interactive (they interact) or holistic (they serve an overarching larger purpose). So the forms are not mutually exclusive, for example; trans-disciplinary education will often also be multi- or inter-disciplinary. To educate students from an Open Science perspective, it is vital that all students experience cross-disciplinary education in their learning pathway. Ideally, they should be exposed to all of the different forms, because each form has its own merits. This can occur both within the university and outside of it. 'Open' ideally also offers students space to use a mono-, multi-, inter-, or trans-disciplinary approach in an educational research-project or activity, depending on what the question being addressed requires.[131] For example: develop-

[129] Choi, B. C. K. & Pak, A.W. P. (2006). Multidisciplinary, Interdisciplinarity and Transdisciplinarity in Health Research, Services, Education and Policy: 1. Definitions, Objectives, and Evidence of Effectiveness. *Clinical and Investigative Medicine*, *29*(6), 351-64.

[130] McPhee, C., Bliemel, M. & Van der Bijl – Brouwer, M. (2018). Editorial: Transdisciplinary Innovation. *Technology Innovation Management Review*, *8*(8), 3-6.

[131] Vereijken, M. W. C., Akkerman, S. F., Te Pas, S. F., Van der Tuin, I. & Kluijtmans, M.

ing a new vaccine may require a largely mono-disciplinary approach; investigating the effectiveness and side effects of vaccination is quickly multi- and/or interdisciplinary; and the issue of how best to protect the population from an outbreak such as COVID-19 requires probably a trans-disciplinary approach. There may be room in the curriculum for courses that focus on a specific approach and are methodological in nature, learning theory and skills needed for either multi-, inter-, or transdisciplinary research. But more importantly, in a curriculum students should then learn to identify what approach is needed to tackle a particular problem or answer a specific question. For example, through education focused on societal issues. Such a curriculum should avoid focusing on a predetermined form of cross-disciplinary education. This prevents a specific approach from becoming a trick they apply to every problem, rather than a conscious exploration of what is needed to answer a particular question.

'Open' also applies to the context: as we argued in the previous chapter, part of the curriculum takes place outside the walls of the university, in collaboration or interaction with individuals and groups who are not part of the academic community. With this focus on societal relevance, we should offer students a rich learning environment, where learning is embedded in the real world, in the authentic issues faced by people, organisations and society at large. Whenever it is relevant or effective, we should also bring together students from the pre-university, undergraduate, Master's, PhD, or Continuing Education phases, and have them learn together. This way different types of participants can bring in valuable and complementary life and work experiences from which all can benefit. One example is the Mixed Classroom of the Urban Futures Studio at Utrecht University, see Inset 3.4.

It is important to emphasize that in education organised outside the university context, or focused on real-world issues faced by external partners, learning may be difficult to predicate and learning objects cannot be formulated in advance or only in general terms. Insofar as

(2022). 'Undisciplining' Higher Education Without Losing Disciplines: Furthering Transformative Potential for Students. *Higher Education Research & Development*, *42*(7), 1-14. doi.org/10.1080/07294360.2022.2156482

processes and outcomes cannot or need not be entirely predetermined, such real-world settings provide valuable learning environments. Students could be given the freedom to formulate their own learning objectives before, during, or even in hindsight. Experience can guide what they learn, and the individual student can reflect and report on what they have learned. The learning objectives may be set in consultation with the teachers and can include knowledge objectives, but also goals in the areas of performance, progress, intentions, values, and certain skills. In this respect, learning occurs based on the substance of the issues studied, but also from the contact with people who look at an issue from a different perspective, language, or interest. This means that learning can just as well arise from and be focused on dealing with socio-cultural and disciplinary differences, as on contextual deepening. Learning goals focus less on a particular predetermined relationship between disciplines, and more on the learning potential of 'boundary crossing': experiencing other socio-cultural contexts. The learning mechanisms that can then occur include identification, reflection, coordination, and transformation, often parallel to one another.[132] So, by giving students freedom to set their own learning objectives, they can develop as individuals in their professional identity, and in general skills such as life-long learning, collaboration, dealing positively with diversity, or on building bridges. Co-defining learning objectives with students can include sub-categories, such as goals for performance, progress, intentions, values, knowledge, or skills. A different way to create more room for 'open' learning, is to distinguish between mastery goals, experience goals, and supply goals. For example, an experience goal could be that all students participate in community-engaged education. A supply goal could be that all students have the opportunity to participate in a buddy project.

[132] Akkerman, S. F. & Bakker, A. (2011). Boundary Crossing and Boundary Objects. *Review of Educational Research*, *81*, 132-69. doi.org/10.26803/ijlter.16.10.6

INSET 3.4.
MIXED CLASSROOM.

In the Mixed Classroom, students from different disciplines form a study group together with national and local policymakers, to learn with and from one another. The central question is: 'How do we prepare for a future that will be substantially different due to climate change and other major transitions in society?' Together, policy staff and students explore how we imagine the future, and how we can make it better. The central premise of the course is that our concepts of the future determine how we act in the present. The course gives participants insight into the techniques developed to recognise and anticipate on concepts of the future, given the planetary crisis we face in the 21st century.
In the classroom, the two groups reinforce one another. The students serve as a mirror and ask the policymakers why they do certain things. This forces them to reflect and interact. For their part, the professionals contribute a wealth of real-world experience, which teaches students not to approach problems from theory alone, but to look at the bigger picture and come up with a solution based on that. The two groups also learn in different ways. The design of our Mixed Classroom gives both groups room for their own, independent learning processes, which influence one another. We do that by explicitly prioritising the relationship between science and policy. Policymakers reflect on their own work in relation to new knowledge gleaned from research. Students, in turn, reflect on how their academic training can contribute to addressing complex societal issues.
The Mixed Classroom is an initiative by the Urban Futures Studio (UFS), in collaboration with the departments of Social Geography and Planning and Sustainable Development (Copernicus Institute) at the Faculty of Geosciences. This form of education is an important innovation within the Education for Professionals branch, and the target group of the mixed classroom can be broadened to include artists, activists, and entrepreneurs as well. It is also the cornerstone of UU's new Futuring curriculum: education focused on imagining the future. 'Futuring' is the active process of 'making the future'.

'Open' also pertains to assessment. Academic education is characterised by being able to think critically and arrive at new insights. Yet, assessment often tends to be convergent, by which we mean there is usually only one correct answer. For example: 'on the basis of the requirements of the rule of law, argue why the European Union is or is not a community of law'. There is certainly a place for this type of classically encapsulated testing in building a foundation of knowledge and skills. But it also does not sufficiently prepare students for the reality of complex problems. There are few, if any, problems in society with only one possible solution. In practice, finding solutions often involves searching for new approaches. An example of a divergent assessment question could be: 'What are some examples of different ways in which the European Union could continue to develop into an entity considered to be governed by the rule of law?'. Answering this question requires creativity as well as broad knowledge and conceptual understanding. Such open and generative questions present considerable uncertainty, both for students and teachers. Which answers will be graded as sufficient, good, or even excellent?

? Is this when the student comes up with a lot of different options, when the options are very different from one another, when the options are elaborated in detail, when the options are rooted in knowledge, or when the options are self-created and original? Probably, many or all of these elements come into play, but how to weigh which answers earn a 'satisfactory' grade, and which deserve a grade of 'excellent'? In any case, the student will have to display an understanding of the subject matter. Such an exam question will also require the student to show critical reflection, creativity, and problem-solving skills. A good example of divergent assessment is a course where groups of students are allowed to invent their own research for a currently largely unknown or untreatable clinical problem; see Inset 3.5.[133]

[133] Drost, R. H., Dictus, W. J. A. G., Prakken, B. J. & Bovenschen, N. (2019). How a Four-Year-Old Boy Connects Healthcare, Biomedical Research and Undergraduate Education. *Nature Biotechnology*, *37*(9), 1092-5. doi.org/10.1038/s41587-019-0245-5

INSET 3.5.
HOW A 4-YEAR-OLD PATIENT CAN BE THE LINK BETWEEN HEALTHCARE RESEARCH AND EDUCATION.

Many students develop academic skills and knowledge better when they can apply their knowledge directly in a realistic, societally, or scientifically relevant and interdisciplinary context, with prominent roles for the research cycle, uncertainty in outcomes and knowledge generation. Translational Medicine is the field of biomedical science that deals with the application of fundamental scientific research to patient treatment, and vice-versa. It requires optimal interaction between biomedical scientists, doctors, and patients. UMC Utrecht has developed a curriculum in which students work together to address an urgent, real-world medical need for the direct advancement of healthcare, within a didactic framework of research-based learning. For example, by using a real patient's case study. In the 2018 edition, the patient was a 4-year-old, a little boy with a poorly understood condition. This format also involves the researchers, the treating doctors, and the patient(s) themselves in the learning process. Students work in groups on the same problem, but study it from different angles, so that they can work towards a joint final product. The best research idea may actually be implemented in a follow-up course. This didactic concept facilitates the development of academic skills and (interdisciplinary) learning, in direct synergy with scientific research, healthcare and society.

Finally, we provide a third example of how the open vision could be enhanced in assessment. The Bachelor's or Master's thesis is an important test in which a student demonstrates individual mastery in his/her field of study. This format already offers some leeway, as each project differs in content. But this proof of competency still follows a fairly fixed framework, usually that of an academic study written in the form of a scientific article. We could find ways to offer more flexibility, both in content and form. What about a policy internship instead of a research project? An action- and implementation plan instead of a scientific article? We train academics for a wide range of professional positions. Many graduates do not enter a scientific research career after

their degree. So, wouldn't it make sense to allow more diversity in assessment as well?

In short, programmes could make more room for divergent or open testing. Divergent assessment is effective where various interpretations of the learning objective are possible, and where creativity is facilitated and rewarded. Open assessment is effective where learning objectives are not predetermined. This should not be applied to the entire assessment programme, but should be deployed in a targeted way, to guarantee the basics on the one hand, and on the other to achieve the higher-order learning objectives that are less rigidly formulated, but which are vital for personal growth and development. Freedom, by the way, always comes with certain obligations. In open learning tracks and open forms of assessment, the student has a large degree of personal responsibility and will have to demonstrate what they have learned. This ownership of one's own learning objectives and learning process contributes to the student's intrinsic motivation and results.

The various aspects of assessment highlighted above offer students room for transformative learning, in which they are encouraged to transcend the knowledge and experience of the teaching team. That means making room for knowledge creation with - and by - students, rather than just passing on pre-existing knowledge.

Open in the organisation of education: open learning resources and organisation

Finally, 'open' also pertains to learning resources and the organisation of education. That includes making learning materials accessible via open sources, platforms, materials, and channels. Some efforts are already being made, but the vast majority of learning materials are either commercially available or developed in-house. An early development of open learning resources was the rise of MOOCs, 'massive online open courses', which emerged starting in 2008. They promised to be a major breakthrough in making knowledge available globally, but they've failed to deliver on that promise. While some MOOCs have certainly been successful, their development has dropped to a much lower level and it is mainly the privileged students who appear to use

the free open offerings.[134] The digitisation accelerated by COVID-19 may present some new opportunities. A curriculum redesigned for online, hybrid or 'blended' applications often features the use of short knowledge clips explaining a core concept, term, or method. Teachers can use these knowledge clips in different ways for learning activities, but a secondary advantage is that short knowledge clips are much easier to share and use collectively with colleagues than recordings of entire lectures. Different teachers may use them as building blocks to build a lesson tailored to their own learning goals and students. In practice, however, we see that currently many teachers are reluctant to share materials and have objections. Reservation may stem from content being subject to change, or privacy regulations regarding in the use of examples or pictures used in their material. There are also many other real or perceived barriers of an organisational or emotional nature. Teaching was long seen as a private activity. Teachers may be hesitant to make their performance widely visible to colleagues. Whether the availability and sharing of teaching materials will take off is therefore yet to be seen, but it certainly has potential. It may involve sharing written or online learning material (such as knowledge clips), but also the course structure (the course syllabus or teacher instructions), or assessment. The added value lies in reducing teachers' workloads by allowing them to use sample materials, or even ready-made course material. It can also contribute to the democratisation of knowledge access, because teachers and students in less financially powerful institutions will have a wider and richer range of material at their disposal. Finally, it can help improve the quality of education, as teachers who make material available can receive feedback or collaborate with others to make iterative improvements.

A last, yet very important, aspect when thinking about a curriculum based on an open vision is lowering barriers to participation. That applies to all aspects of education: the course, the institution, and the entire system. It also deals as much with content as with the inclu-

[134] Christensen, G., Steinmetz, A., Alcorn, B., Bennett, A., Woods, D. & Emanuel, E. (2013). *The MOOC Phenomenon: Who Takes Massive Open Online Courses and Why?* SSRN. dx.doi.org/10.2139/ssrn.2350964

siveness of educational activities, physical accessibility of buildings, selection systems and financial hurdles. In the area of finances, especially, there is a considerable tension between accessibility and the costs that educational institutions have to incur, and the livelihoods of students, who will always face financial hurdles if they are not subsidised by other sources. Ideally, education should be inclusive and diverse in terms of who can join the learning community, from pre-university to Continuing Education participants. At all these levels, promoting diversity of student and staff enrolment in its many facets is vital. We will only touch on these aspects here, as they are discussed in detail elsewhere in this book, including in the chapter on community and later in this chapter under the section 'collaboration'.

5.2 *TRANSFORMATION*

The second principle in our vision is transformation. This principle specifically pertains to the process of development. Academic education is not just about knowledge or skills, although these lay a necessary foundation. The fundamental purpose of academic education is to enable students to form a way of seeing the world and themselves as a person. This formation process is continuous and dynamic, and more importantly, it cannot be undone. A person can form, transform, or even reform but never 'unform'. Education therefore changes the student irrevocably. This process is aptly summarised with the term 'transformative learning'.[135] Paul Ashwin convincingly advocates for transformation as the ultimate goal of academic education in his manifesto 'Transforming University Education'.[136] Higher education enables you to look at the world in new ways, and therefore at yourself and your role in society. That happens as the student gains access to one (or more) disciplinary way(s) of looking at the world. Because of how knowledge is constructed within a discipline, it brings with it a certain way of looking at society. Simply put, by participating in education you develop a new way of looking at society - perhaps a multifocal

[135] Mezirow, J. (1991). *Transformative Dimensions of Adult Learning*. Jossey-Bass.
[136] Ashwin, P. (2020). *Transforming University Education: A Manifesto.* Bloomsbury.

perspective, in the case of broad interdisciplinary programmes - and your own position within it. A good education therefore changes both your understanding of the world and your image of yourself in that world, and it enables you to contribute to change.

How do we achieve transformation? What should we pay attention to in education? An influential classification proposed by Gert Biesta suggests a distinction of qualification, socialisation, and subjectification.[137] Briefly put, qualification focuses on developing demonstrable competencies, with a diploma as proof. Qualification gives you the 'passport' that opens doors to hold various roles and positions. Socialisation gives you the insights and skills you need to move in a particular social domain: how to interact, communicate, think, and act. These skills and knowledge are closely correlated to socio-cultural norms and values, and the organisational and social context. Socialisation in a discipline, field or application area is crucial to be able to use your competences effectively. Finally, subjectification gives you an understanding of who you are, how you relate to societal issues, and therefore how you wish to utilise your competencies. These three goals of education are all essential. Together, they contribute to the student's intended transformation. Take for example Public Health education in a medical degree programme. Knowledge about disease prevention, public health and health advocacy is necessary for every doctor (qualification). In education, it will generally be promoted through testing. But at the same time, the course gives students the opportunity to familiarise themselves with how working as a doctor in public health differs from working in curative care (socialisation). This aspect will generally be developed in education by means of working groups, learning assignments or mentor interviews. Finally, the course might make students think about their own attitude towards illness and health (subjectification).

Another perspective for examining transformation as a learning objective is that of 'powerful knowledge', as articulated by Michael

[137] Biesta, G. J. J. (2020). Risking Ourselves in Education: Qualification, Socialization, and Subjectification Revisited. *Educational Theory*, *70*(1), 89-104. doi.org/10.1111/edth.12411

Young.[138] Giving students epistemological access to knowledge - an understanding of the structure of knowledge and how it is created – enables them to contribute to the world at large. This access to knowledge empowers students by giving them not only the disciplinary skills and knowledge, but also the social recognition, skills, and confidence to contribute to society. 'Powerful knowledge' not only entails qualification, but also the student's socialisation and subjectification.[139] Access to powerful knowledge enables them to display leadership in society, and to make conscious choices about how and what they want to contribute. One necessary condition is that they do not only learn factual knowledge and skills, but also gain insight into how knowledge is created, the meta-knowledge of a discipline, how it is constructed and how it relates to other disciplines. This way, students know both its strengths and limitations and can collaborate and contribute based on that epistemic knowledge. In doing so, they develop the disciplinary perspective(s) we mentioned above, from which they can continue to develop and take leadership. Powerful knowledge demands ethical and personal reflection because, as the old saying goes: 'With great power comes great responsibility'. That means gaining access to powerful knowledge always comes with responsibility. For example, if you are trained as an epidemiologist, that gives you knowledge regarding the spread of infectious diseases and risks. When an epidemic such as COVID-19 breaks out, you then have a societal responsibility regarding how you use your insights, for example in deciding whether or not you speak out publicly. The concept of powerful knowledge, however, not only imparts an important responsibility upon students regarding how they deal with the gained knowledge. It also refers to the equally important responsibility of university teachers. This role and responsibility of teachers is not always explicitly addressed, and often remains largely unspoken. Teachers make both explicit and implicit choices about what is - and is not - part of the curriculum, and how they guide

[138] Young, M. & Muller, J. (2013). On the Powers of Powerful Knowledge. *Review of Education*, *1*(3), 229-50. doi.org/10.1002/rev3.3017

[139] Béneker, T. (2018). *Krachtige Kennis in Geografieonderwijs* [Inaugural lecture]. Utrecht University. Retrieved from: uu.nl

students in dealing with new knowledge. In doing so, they determine the knowledge and the epistemology to which students will or will not have access. This consideration should not be made at the level of the individual teacher, but should rather be the subject of continuous reflection and conversation within both disciplines and programmes, and should have an explicit place in the team's educational task.

'Transformative' also reflects in how a course or curriculum is designed: ideally, we should create a learning environment in which students can move beyond their teachers' knowledge, and beyond the reproduction of existing knowledge to the construction of new knowledge. Transformative learning cannot be guaranteed; university teachers can only create the necessary conditions for transformative learning. These conditions encourage the students to question their own thoughts and actions, to help eliminate self-evident assumptions and make room for reordering and new insights. So, as a university, we create the environment in which students can develop. An environment in which they are encouraged to ask questions, think critically, and apply what they have learned. Student can develop most optimally in an environment where they feel challenged, but also safe, familiar, and welcome. Such an environment requires academic freedom, where different views can and do coexist. See Inset 3.6 for more information. Such an environment also offers the freedom to make mistakes and learn from them, to go off the beaten track and learn from the experience. Moreover, it is not only the student who learns in this process; the teacher is also encouraged to continue thinking and learning. Teaching always has this effect, of course, but in the ideal university it is reinforced by exploring and learning together, with the teacher also adopting a learning attitude. Transformative teaching means expanding the boundaries of our knowledge in collaboration with students.

INSET 3.6.
HOW DIFFERENT WORLDVIEWS CAN COMPLEMENT EACH OTHER.

An example of how different perspectives can not only coexist, but may complement one another, lies in the worldviews behind quantitative and qualitative research. Quantitative research generally has a positivist perspective, based on the idea that an absolute truth exists and that we can know it. Qualitative research, on the other hand, tends to have a post-positivist or constructivist perspective. This assumes that we cannot know everything about the world. That knowledge is a social construct, so we can explore knowledge, but never fully grasp it. So which one is more or less 'true'? Both approaches can contribute to improved understanding of the world, but make different contributions to a problem by answering different questions. To make it a little less abstract, consider the following example. If we want to know what how effective various COVID-19 vaccines are in infection prevention, we benefit from a positivistic approach, i.e. we assume that efficacy is constant across populations and contexts. We may read for instance that a vaccine is 70% effective, on average. This provides useful information we can use to make individual and collective decisions to vaccinate or not. However, if we want to understand why some specific groups in a population do choose to get vaccinated more or less than other groups, then a constructivist perspective is indispensable. In that case, we need to understand particular contexts and cultures. These are not 'hard' facts, because culture is constantly changing. So, what we find in terms of reasons and motivations may be very different now versus in 10 years' time, or in a different population or age group. This particular kind of knowledge is socially situated. The two perspectives that are fundamentally at odds with each other - a positivist versus constructivist perspective - are not mutually exclusive, and in fact they can actually provide complementary information about a societal problem, such as in this case how to protect us against the COVID pandemic.

5.3 *EMPOWERMENT*

The third guiding principle of our vision is empowerment. Education can - and should - 'empower' students through access to knowledge,

as well as in the process of learning, through activating teaching methods, student ownership of their learning process, and assessment that supports learning.

Activating

Learning is an active process. It requires effort from the student, so it is important that education activates the student. And, from a social constructivist perspective on learning, learning goes broader and deeper if a student learns together with others, rather than in isolation. Social constructivism views learning as an active process of knowledge construction, which comes about in social interaction with fellow students and teachers.[140] The term 'construction' refers to the fact that knowledge does not consist of stand-alone data but possesses a structure. That means learning builds on, expands, revises or restructures knowledge that is already present. Knowledge construction is therefore subjective: both the prior knowledge and how the student processes the new information and experiences, differs from person to person, so everyone will construct knowledge in their own individual way. The term 'social' in social constructivism emphasises the importance of social interaction in the acquisition of knowledge. It sees learning as a social process. Knowledge is created when facts and experiences are processed by discussing them with others. Social constructivism has its roots in the work of pedagogues like Jean Piaget and Lev Vygotsky, and in the educational philosophy of John Dewey. An important principle is to build on the existing prior knowledge, which must be activated in order to reorganise or add to it. For optimal learning, students must be challenged, and previous knowledge must be reconstructed to create new insights. This process involves a certain degree of discomfort, leaving the comfort zone of what the student already knows. At the same time, a learner must be able to connect, so the gap between the new insights and what someone already knew or was able to do should not be too big. This zone - the space between what someone can do on their own without help, and what they can learn with the help of guidance and interaction - is what Vygotsky called the Zone of Proximal De-

[140] Schunk, D. (2020). *Learning Theories an Educational Perspective*. Pearson.

velopment, and is vital for the learning process.[141] Education should challenge the student, but not let them drown. Adequate dosage and guidance of the learning process are therefore crucial.

Ownership

Transformative education requires students to take ownership of their learning process, with a high level of control and responsibility. This can be divided into two important aspects: studying itself, and the choices therein. First, we need to teach and support students in learning how to study; in their self-regulation. This is especially important when they enrol at the university, but remains also important later in their learning track. Among other this entails clear processes, feedback, and signals about their progress, learning gaps, and access to resources. Although it may sound contradictory, the university can guide students to develop the capacity for self-regulation. Second, it is important that students have ownership of what they learn. Which choices do they make in their study path, and why? Who does the student want to be? What is needed to make that happen? If these questions guide the choices they make before and during their studies, the student will be intrinsically motivated to learn, and can make optimal use of what the programme and the university have to offer. The student is subsequently not a passive recipient, but an active owner of its own learning process. Nevertheless, these choices also require guidance: through mentoring and coaching, and by helping lay out options. See the example in Inset 3.6, on assessment as a learning tool, as one of many possible examples where the student is given a large degree of autonomy.

Using assessment to support learning

In the section on open education, we briefly discussed the need to reflect on how we use assessments. For example, by considering the option of divergent testing, or making room in testing for open, i.e. student-defined, learning objectives. But assessment offers many more

[141] Vygotsky, L. S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Harvard University Press.

options as well. Assessment has multiple purposes and can function as evidence of learning (selective or summative), as feedback on the learning process (diagnostic or formative) or as feedback on quality (evaluative). Assessment should always start from an idea of what and how the student should learn, and should tie into the learning activities. The principle that learning objectives, learning activities and assessment should all tie in to one another to promote learning is referred to as 'constructive alignment'.[142] So the learning objectives should guide the choice of assessment format, whether the assessment is aimed at qualification, socialisation, subjectification or a combination of all three. Many innovations fail because even though learning objectives and activities are adjusted, assessment continues along the old familiar lines. Therefore, to achieve the variety of high-quality competencies we aim to educate students for at the university, assessment programmes need to consist of a multitude of formats and measuring points, tailored to the student's specific stage of learning. To achieve the ideal university, we should strive to take it a step further. If we want to frame learning as an active, transformative process, with a high degree of student self-control and ownership, we need a fundamental change in the vision and culture of assessment. Perhaps to start with, we should think not only in terms of mastery learning objectives, but also in experience- or supply objectives, as we explained in the previous section on open learning objectives. We should also explore how to use assessment as more than just proof of learning, but also 'for learning' or even 'as learning'.[143] That would give assessment the primary role of offering feedback and reflection over the course of the curriculum. In assessment-for-learning, the test itself is a learning experience that offers 'feed-up': students receive guidance on how they can develop further. This feed-up does not automatically result from every interim testing

[142] Biggs, J. & Tang, C. (2011). *Teaching for Quality Learning at University*. Open University Press.

[143] Schellekens, L. H., Bok, H. G. J., De Jong, L. H., Van der Schaaf, M. F., Kremer, W. D. J. & Van der Vleuten, C. P. M. (2021). A Scoping Review on the Notions of Assessment as Learning (AaL), Assessment for Learning (AfL), and Assessment of Learning (AoL). *Studies in Educational Evaluation*, *71*. doi.org/10.1016/j.stueduc.2021.101094

moment; it requires conscious effort to provide actionable feedback and guidance in how to use the feedback. Assessment-for-learning gives both student and teacher insight into the progress, into what students have already learned, and what they still need to work on. That allows it to serve as 'feed-up' and 'feed-forward': information that shows students how and where they can continue to develop.[144] However, that would require us to set clear goals and success criteria, and offer help with next steps. These kinds of formative assessments could tie in well with transformative, society-oriented education, and can help students prepare for further development after they complete their education.[145] In assessment-as-learning, tests are not separate from the learning activity, but rather coincide with it. The learning activity itself is also the assessment moment. Programme-based assessment is an example of a concept based on this principle. Programme-based assessment focuses on learning as a continuous process, in which testing is personalised and linked to the learning activities.[146,147] See the example of programme-based testing in the Veterinary Medicine Master's programme illustrated in Inset 3.7. These are inspiring developments, but at the same time literature shows that the integration of learning

[144] Reimann, N., Sadler, I. & Sambell, K. (2019). What's in a Word? Practices Associated with 'Feedforward' in Higher Education. *Assessment & Evaluation in Higher Education*, *44*(8), 1279-90. doi.org/10.1080/02602938.2019.1600655

[145] Boud, D. (2000). Sustainable Assessment: Rethinking Assessment for the Learning Society. *Studies in Continuing Education*, *22*(2), 151-67. doi.org/10.1080/713695728

[146] Schuwirth, L. W. T. & Van der Vleuten, C. P. M. (2011). Programmatic Assessment: From Assessment of Learning to Assessment for Learning. *Medical Teacher*, *33*(6), 478-85. doi.org/10.3109/0142159X.2011.565828

[147] Heeneman, S., De Jong, L. H., Dawson, L. J., Wilkinson, T. J., Ryan, A., Tait, G. R., Rice, N., Torre, D., Freeman, A. & Van der Vleuten, C. P. M. (2020). Ottawa 2020 Consensus Statement for Programmatic Assessment – 1. Agreement on the Principles. *Medical Teacher*, *43*(10), 1139-48. doi.org/10.1080/0142159X.2021.1957088

and testing also presents some potential conflicts that require further research.[148,149]

INSET 3.7.

ASSESSMENT AS LEARNING: PROGRAMMATIC ASSESSMENT IN THE VETERINARY MEDICINE MASTER'S PROGRAMME.[150]

The Veterinary Medicine Master's programme has used programmatic assessment since 2010. In short, students collect a range of data points in a portfolio as they complete the learning activities in the degree programme. Each data point in the programme, whether they are short practice assessments, (self-)tests, 360-degree evaluations and evidence-based case reports, provides the student with meaningful information to support their learning process. The final 'high-stakes' assessment is based on a multitude of data points collected over a longer period (at least 1 year). Within the set frameworks and minimum requirements, the student has ownership over which and how many data points they collect, based on the learning question that is relevant at that moment. The idea is to focus the student's attention on collecting feedback to support individual development, rather than passing a residency or course. Literature shows that the integration of learning and assessment also presents some potential conflicts that require further research (Bok 2013, Schut 2021).

[148] Bok, H. G. J., Teunissen, P. W., Favier, R. P., Rietbroek, N. J., Theyse, L. F. H., Brommer, H., Haarhuis, J. C. M., Van Breukelen, P., Van der Vleuten, C. P. M. & Jaarsma, D. A. D. C. (2013). Programmatic Assessment of Competency-Based Workplace Learning: When Theory Meets Practice. *BMC Medical Education*, *13*(123). doi.org/10.1186/1472-6920-13-123

[149] Schut, S., Maggio, L. A., Heeneman, S., Van Tartwijk, J., Van der Vleuten, C. & Driessen E. (2021). Where the Rubber Meets the Road – An Integrative Review of Programmatic Assessment in Health Care Professions Education. *Perspectives on Medical Education*, *10*(1), 6-13. doi.org/10.1007/s40037-020-00625-w

[150] Bok, H. G. J., Teunissen, P. W., Favier, R. P., Rietbroek, N. J., Theyse, L. F. H., Brommer, H., Haarhuis, J. C. M., Van Breukelen, P., Van der Vleuten, C. P. M. & Jaarsma, D. A. D. C. (2013). Programmatic Assessment of Competency-Based Workplace Learning: When Theory Meets Practice. *BMC Medical Education*, *13*(123). doi.org/10.1186/1472-6920-13-123

When considering new forms of assessment, it is important to make sure to maintain the right balance between the various goals of assessment, to prevent undesirable side effects, and to consider whether the assessment format can achieve the intended goals. Assessment is an area that deserves more attention, precisely because of its complexity. Thinking about new forms of assessment is not only important for the Bachelor's and Master's phases, but also for the PhD phase and for the Continuing Education offerings. Further development of assessment-for-learning and assessment-as-learning could potentially improve the connections between the different phases of university education, especially where assessment is embedded in authentic practice, and ties in to the curriculum's focus on society. It offers opportunities and flexibility to integrate learning and application, including real-world work experiences, so they do much more justice to the experience cycle of learning mentioned above (and in the section below). This is important at all levels, from the start of the first year, but it becomes even more important at advanced levels, especially in education for professionals. In short, in our vision ample attention is paid to searching for optimal assessment formats and applications, so that assessment can support learning in all its facets - qualification, socialisation and subjectification - and does not get in the way. Assessment not just as a 'proof' of learning, but also deployed 'for' or even 'as' learning, so that it empowers the student in its learning process and personal development.

Professional identity formation in education

Academic education entails more than just acquiring knowledge and expertise; it is also the process of becoming an academic professional. Education should enable students to develop a nascent professional identity. What students sometimes lack at graduation is having a clear picture of who they are and what they can contribute as an academic professional, as an earth scientist, legal scholar, liberal arts & science researcher, veterinary scientist, and so on. Perhaps with the exception of those programmes blessed with an archetypical professional image, such as medicine or veterinary medicine. But identity forma-

tion deserves attention even in the degree programmes with a strong professional image. Indeed, the iconic image of a profession may even be misleading, because the field of work today is often much broader than the traditional image of the profession. For example, only a small percentage of veterinary students go on to work in a veterinary clinic, while others find very different positions in society based on their expertise as veterinary specialists, for example at the Food and Consumer Product Safety Authority, or in the industry. In short, it is important for students to develop a professional identity to help shape their contribution as academics in society, in every degree programme, regardless of whether or not they have a clear vision for their future profession.

Forming a self-image or identity is not merely an internal cognitive process, but also a social one. People form their identities in interaction with their surroundings. So their professional identity is formed in interaction with the environment of the university. 'Dialogical self-theory' refers to identity positions that come about dialogically and can interact.[151] That means anyone can experience a range of identity positions that interact to form their self-image: as a cheerful person, as a family member, as an art lover, as an activist and so on. One of these identity positions is their professional identity. For convenience here, we refer to 'professional identity' rather than identity position, but as explained before, it deals with an aspect of a person's self-image that is never completely separate, interacting with other personal aspects and social roles a person takes on. During their education, learners will experience an identity position as a student, but at the same time, they are also developing their nascent professional identity, which will dialogically influence and take further shape when entering the labour market and society, presenting oneself and acting there.

Miller's pyramid is a well-known model for competence-oriented assessment. The model assumes that in competence-oriented education, the programme builds from knowing, to knowing how, to showing how, and finally to doing. In terms of *bildung*, there is another layer

[151] Hermans, H. J. M. & Hermans-Konopka, A. (2010). *Dialogical Self Theory: Positioning And Counter-Positioning in A Globalizing Society*. Cambridge University Press.

above these four, although it is not testable and therefore not shown in the model. This is the step towards 'being', or the development of a professional identity. This process definitely does not end with graduation, if only because professional identity continues to be shaped and reshaped throughout life under the influence of a person's roles, positions and further education in their career and activities. But the foundation is laid in the degree programme, and is one of its important goals. Socialisation plays a vital role in this process, alongside building competencies. How is the future academic professional supposed to act and interact? Teachers take important positions in this process as role models. In addition to the disciplinary education, also inter- and trans-disciplinary education can play an important role in strengthening the professional identity formation during a person's education, because it is precisely in the outside world or in relation to other disciplinary perspectives that you can discover your professional contribution and position. And when interdisciplinary action and attitude actually become part of one's specialization an interdisciplinary identity position alongside the identity position of one or more specific disciplines may be formed. This obviously plays a leading role in programmes that are interdisciplinary in nature.

5.4 *FLEXIBILITY*

The fourth principle of our vision is flexibility. In our vision for the university of the future, education facilitates learning in flexible ways and trains students to display flexibility and resilience. We will start with the latter.

Tolerance of uncertainty and development of adaptive expertise
The only constant in life is change, so we need to prepare students to deal with it. Dealing with new situations, ambiguity and complexity demands a degree of tolerance of uncertainty. Learning to deal with uncertainty and change is a challenge for students, just as it is for teachers. In transformative and open education, students are challenged and are given space and self-direction, but that is by no means

comfortable for everyone. It is sometimes much easier when there is a clear learning objective, a clear learning task and a clear, unambiguous answer to a test. Easier for both student and teacher, but easier is not always better. Students will constantly face uncertainty in real life, and education should prepare them for that. Dealing with uncertainty therefore requires learning to tolerate the turmoil it brings. By the way, this is not a disguised excuse for a 'lazy' role for the university; learning to deal with uncertainty actually requires a lot from the teacher and the learning environment to properly guide students through the process. Expectations also need to be made clear, among other things by emphasising already during information - and matching activities for prospective students that the university educates students to deal with uncertainty. Explain that positively dealing with uncertainty is part of your academic identity and competencies.

Besides learning to tolerate uncertainty as individuals, we must also train students in how to act in a constantly changing world. How can we achieve this in education? By designing our education aiming at developing adaptive expertise.[152,153] This is expertise that enables you to act effectively even in unfamiliar new situations and thus to adapt your expertise to changing contexts and demands. For example, if the learning objective is to conduct a client meeting with a stakeholder, one does not build adaptive expertise by stepwise following a manual, but rather to understand how to connect with other persons and what might hinder or help in building relationships. If you have such theoretical insight, you may be able to work with very different stakeholders in all kinds of circumstances. The key element is the insight to connect with the stakeholder, and by having meta-level knowledge about how to do that.

How do we teach students adaptive expertise? We know from research on expertise that 'practice makes perfect'. Time on task is very important in learning. This is especially true for routine-based exper-

[152] Mylopoulos, M. (2020). Preparing Future Adaptive Experts: Why it Matters and How it Can be Done. *Medical Science Educator*, *30*, 11-2. doi.org/10.1111/medu.12426

[153] Hatano, G. & Inagaki, K. (1984). Two Courses of Expertise. *Research and Clinical Center for Child Development Annual Report*, *6*, 27-36.

tise, where automation plays an important role in development, and expertise is based on efficiency and quality. But here we are discussing the second kind of mastery: adaptive expertise, where conceptual understanding of the subject matter is important to constantly adapt it to new contexts or questions. So this form of expertise is characterised by a high degree of abstraction and insight. Developing this, requires active experimentation, combined with feedback and reflection. This feedback and reflection actually helps delay, or even prevent, automation. Automation is not wrong, and is certainly also part of learning, but if you really want to reach expert level in a domain, it is important to consciously postpone automation to prevent development from stagnating prematurely. In the example of the stakeholder discussion, that would mean not always having the same kind of conversation with stakeholders, but rather gaining experience with various stakeholders or discussion formats (active experimentation), constantly evaluating, and seeking feedback. For example by asking the stakeholder and an observer (such as a fellow student or teacher) what is going well and what might be done better. For education, that means focusing on application, reflection, and conceptual understanding, so that students not only acquire knowledge, but also insight into how knowledge is created and applied. This is closely related to the concept of 'powerful knowledge', as explained in the section on transformative education. And it also ties in with the urge to give students an open mindset and skills: meta-knowledge about how knowledge is created in the current system, as discussed in the section on open education. While these are three separate aspects, they are an extension of each other and can reinforce one another.

Increasing importance of (individual) mentoring and coaching
High-quality mentoring and guidance are essential for flexible and personalised learning processes. That is not limited to offering advice about the practical choices within the broader curriculum and possibilities. Giving a student space for their own development requires feedback and reflective and intensive guidance and coaching. For example, we have observed that despite the wide range of choices available to students, they often make limited use of them. This is perhaps under-

standable: you don't yet know what you don't yet know. Education can help first become 'consciously incompetent'; to see what you still need to learn, and then to develop into someone who is consciously competent.

The question for the university is: what is the right order and balance? Should you give students a lot of freedom right from the start? The answer is probably: 'it depends'. In any case, one necessary condition is that you must offer the student proper guidance. It is clear that students need to be challenged in the right way during a learning process. We mentioned the 'zone of proximal development' earlier; it indicates that challenges should not be so far removed from what someone can already do and knows that the gap becomes insurmountable, but wide enough to bring discomfort and thereby change in one's thinking. Such challenges force you enter new territory and expand and rearrange your knowledge. Finding the right balance requires support and guidance, and is not necessarily at odds with the view that students should ideally enjoy a degree of freedom right from the start of a study programme. For example by having students start on a course with very open learning formats, such as a community engagement project. Or by giving students their own choice of subjects right from the start. Such freedom can contribute to autonomy over one's own learning process, and therefore to the student's intrinsic motivation. It can also help students explore new domains, and then expand their knowledge. From the outset, it should however be very clear what we expect from students. What learning behaviour do we expect, and what is the minimum they must know and be able to do to meet the requirements for a specific study programme? How much freedom do they have to achieve that? Are some courses compulsory? Are there fixed sequences in the curriculum, such as a first-year course that students must pass in order to take second-year courses. Do students have to take at least three courses from a particular flexible course offering? The answers to these questions will vary from programme to programme. A task of university is to guide the student in this process and in the choices available. In the initial phase, the focus will be on learning how to study and giving the student a solid foundation in a particular discipline or programme. Gradually, the emphasis will

shift to coaching in who students want to be and to corresponding choices available within or outside the programme. Given the importance we attach to educating people who are willing and able to look beyond borders and collaborate with others, it is also important that each student comes into contact with other disciplines or perspectives in their individual learning process, and that the curriculum provides the structure needed to learn from these experiences. That may include an introductory course in another discipline, a different environment such as an internship abroad, or working with a social partner. Such an experience outside one's own comfort zone, a boundary crossing experience, can be an enriching learning experience. Especially if the student is made aware of that learning possibility. The literature on learning from boundary crossing distinguishes between four learning mechanisms, which may or may not occur in interaction: reflection, identification, coordination, and transformation.[154]

We explain this with the help of an example. In a transdisciplinary, challenge-based project for insulin monitoring of diabetic patients, a psychology student may notice that the engineering student approaches solutions from a technical perspective and that makes him think about his own approach to the problem (reflection). The student may for instance directly raise the question of whether what is technically possible will also be accepted by the patient. Realising that apparently thinking and acting as a psychologist apparently is already part of their view of the world. (identification). The student learns how to cooperate with the technical partners to arrive at a both feasible and user-friendly solution (coordination), and may take away the project management approach that was used from the engineering perspective that, with some adaptation, proves also very useful in psychology practice (transformation). This is a very idealised picture, however. Real-world practice will be much more erratic and unpredictable, and not always successful either. What is certain is that students can and will experience socio-cultural inconsistencies between contexts. These inconsistencies may be uncomfortable, but they have great learning

[154] Akkerman, S. F. & Bakker, A. (2011). Boundary Crossing and Boundary Objects. *Review of Educational Research*, *81*, 132-69. doi.org/10.26803/ijlter.16.10.6

potential. That learning potential can only come about if the student receives proper guidance: by encouraging reflection, by learning to deal with the uncertainty and frustration that can be part of such an experience, and by realising that both positive and negative experiences can lead to valuable learning experiences. We have already mentioned it in the context of open education, but we would like to emphasise again here that in our vision, the teacher's coaching and mentoring role is pivotal and will become even more important than it already is today.

Facilitating flexible learning: combining or alternating learning and working

When people think of learning, they generally picture a classroom or lecture hall. Yet, this common idea that learning mainly takes place in lecture halls or classrooms is actually very strange when you consider that mankind has been learning since prehistoric times; for millennia, people learned most through real-world practice. On the scale of evolution, learning in institutional contexts set up for that purpose only arose very recently. For centuries, knowledge was passed on through observation and play, and then joining in practice step-by-step. Even today, we see this form of learning reflected in master-apprentice situations, where workplace learning is central. This is the foundation of the teaching concept 'Communities of Practice'.[155] Yet, over the last century our image has been largely shaped by the idea that you attend formal training first, and only then apply what you have learned. So, first you complete your education, then you start your working life. This picture needs updating. Our highly specialised knowledge society requires that we continue to develop. We need to realise that learning not only takes place in, nor ends after, the classroom. We learn with every experience and every interaction. Learning is therefore as natural as breathing. But we can, of course, direct and scaffold it, which is what we do in formal education. Kolb's 'experiential learning' model shows that learning happens when experiences are combined with reflection

[155] Lave, J. & Wenger, E. (1991). *Situated Learning: Legitimate Peripheral Participation*. Cambridge University Press.

and the application of theory, in a constantly repeating cycle.[156] This model was - and is - highly influential in shaping our curriculum. But we should realize that this cycle does not have to start with theory, followed by application - the more traditional educational approach - but can start anywhere in the cycle. We can, for instance, start with experiencing, as is the case in experience goals as described in the paragraph on open education. There are all kinds of different formats based on experiential learning. Courses can use simulations or practicums for example, or students can participate in a work environment as part of their education, which we do in internships. Henceforth, experiential learning is already much used as design principle today, but we predict that it will become even more applied over the coming years.

Traditionally, students would enter the work field and apply what they have learned only after their studies. But learning and working life can no longer be strictly separate periods in our society today, and even less so in the future. Therefore, in our full-time study programmes, we should offer students more possibilities to actually enter the workplace or society. And, vice versa, we should offer Continuing Education to professionals in the fields, as there is a growing need for upskilling and reskilling. As a university, ideally we facilitate more flexible pathways beyond the traditional full-time Bachelor's or Master's structure, and we aim to support people both at earlier and later stages in their life and career in acquiring, updating, and retraining academic competences. A job for life is a thing of the past; everyone's roles and functions will change repeatedly over the course of a lifetime. Society changes and the state of knowledge changes, and everyone will have to adapt to those changes.

For the future of the university, that means there is a demand for a more modular way of offering education. 'Micro-credentialing' is a way of certifying education in smaller units. These kinds of developments can encourage the flexibilization of education, for instance by providing flexible options in Bachelor's and Master's education, where students may add accredited options from outside their own

[156] Kolb, D. (1984). *Experiential Learning as the Science of Learning and Development*. Prentice Hall.

programme or institute to their study programme. Flexibility also allows for a catering to different target groups. Universities may offer modules for secondary school students to enthuse underrepresented groups about an academic education. We also see a large and structural role in PhD education and education for professionals, where the interweaving of education with research eminently offers added value for these target groups. So, increasingly we are serving target groups other than just Bachelor's, Master's and PhD students, and ideally the strict separation will decrease, and the continuity and connection between pre-university education, Bachelor's, Master's, PhD phases and Continuing Education will grow. Rather than being separate moments and activities, the different educational offerings can become phases that can merge and partly overlap for an individual. Apart from the individual, the target groups may also attend education together in mixed courses or activities. We have seen some great examples of this in successful combinations of Master/PhD courses, and in mixed classrooms of professionals and students. For instance, the UU Mixed Classroom of the 'Urban Future Studio' won second place in the higher education award. But also consider the win-win of near-peer teaching, where senior students gain teaching experience and learn to process the material even better by teaching it. Younger students also benefit from these teachers, who are very close to them in terms of their living environment, and are complementary to the regular teacher. In all these examples, the two groups have different learning objectives, but both benefit from the interaction.

The role of digitisation: enhancing learning and contributing to flexibility

Digitisation can in different ways contribute to learning, by enhancement of learning and by making it more flexible. Firstly through the deployment of digital learning tools and platforms. Electronic learning environments have become part and parcel of our curriculum, as has online education and the use of a wide range of digital tools. Factual knowledge turns out to be relatively easy to acquire independently, and digital tools and online education can play an important role in

facilitating that. One example is the use of knowledge clips to explain concepts or institutions. Our constitutional law curriculum, for example, frequently utilises knowledge clips to teach students about the Constitution, King, government, States General, judiciary, etc.

In the COVID era, this was illustrated by the experience of being forced to shift to teaching online. People noticed that knowledge could be transferred well online. But teachers also observed that processing knowledge to arrive at abstract and relational insights is importantly stimulated by social interaction, which is much harder to organise online. And aspects such as socialisation and subjectification par excellence demand personal contact and interaction in a social environment. This is where a physical campus plays a major role. Education, therefore, ideally is based on a blended design: digital online learning resources that allow students to learn independent of time and place, should be combined with group meeting moments for processing, exploration, and social interaction.[157] Group meetings should preferably take place on location, because the pandemic proved over and over again that face-to-face contact adds real value. But online, social interaction can, when needed, also be utilised and developed, and is suitable for facilitating contacts that would not be possible otherwise. For example, by designing a virtual international classroom, or a hybrid meeting with a remote expert. Digital learning tools can also enhance learning content or make it more effective. Consider the use of 3D applications for acquiring spatial insights, or of digital simulations.

Digitisation may also contribute to education in a very different way, and that is through Learning Analytics[158] and Artificial intelligence (AI). For AI, see Inset 3.1 earlier in this chapter; here we will focus on the role of LA in supporting student learning. Learning Analytics is often described as 'the measurement, collection, analysis, and reporting of data about learners and the learning context, in order to better understand and optimise the learning process and the context in

[157] Karstens, B., Kool, L., Lemmens, A., Doesborgh, S. & Montanus, R. (2022). *Naar Hoogwaardig Digitaal Onderwijs*. Rathenau Instituut.

[158] Van Tricht, M. (2019). *Hoe data de kwaliteit van het onderwijs kunnen verbeteren*. SURF. surf.nl

which learning occurs'.[159] That includes analysing and reporting data that is already available, supplemented with specific data collected for that purpose, to improve learning. This can contribute to the learning experience, the learning environment or learning outcomes in a variety of ways. At the course level, for example, through personalised diagnostics and feedback, or adaptive (self-)assessment. At the curriculum level, through insight into study paths. It can also contribute to the development of competencies, including reinforcing self-regulation. And finally, learning analytics can contribute to better guidance of the learning process, in which it cannot take the place of personal mentoring, but which can support it through signalising, monitoring and automated feedback. Let us take a closer look into how learning analytics may support mentoring. Mentoring concerns issues such as the student's learning approach, reflection on one's own learning path, positioning in the community, and identity development. Being a mentor can be a formalized role, but mentoring is also part of the teacher role in general. Both in their formal and informal mentoring role, teachers provide guidance to students throughout their studies to reflect on their learning process, study progress, choices such as electives, and orientation of the profession and labour market. Guidance of a students' development can be supported by visualising where a student's strengths, interests, or areas of improvement lie, for instance through a Learning Analytics Dashboard. Learning Analytics can also in particular support a students' learning process: by monitoring progress, offering feedback on study behaviour, or through adaptive (self-)assessment. An example of a Learning Analytics dashboard is the Thermos dashboard, which has been in development in Utrecht since 2020 to give students feedback on aspects of their study motivation and study behaviour; see Inset 3.8.

[159] Siemens, G. (2013). Learning Analytics: The Emergence of a Discipline. *American Behavioral Scientist*, *57*(10), 1380-400. doi.org/10.1177/0002764213498851

INSET 3.8.
THERMOS DASHBOARD.

Learning Analytics is being used at UU to improve the quality of teaching, student guidance and educational materials. An example is the Thermos dashboard pilot project, which has been in development since 2020 to provide students with insights and feedback on their study behaviour. In the dashboard, students first complete a questionnaire to self-assess their motivation, engagement, and group work skills. This data is then visualised for students in separate charts, along with real-time study progress data. A feedback box provides students with actionable feedback, including follow-up activities within the dashboard (exercises to improve planning) and referrals to additional resources and support (a student advisor or workshops offered by the Skills Lab).

Finally, digitisation can contribute to students' freedom of choice and autonomy. Offering educational activities, learning materials, and courses in flexible times, places and formats presents opportunities for freedom of choice and the possibility of flexible learning paths, regardless of whether they are linked to a fixed core curriculum. Flexibility is not a necessary condition for interdisciplinary education, but it can foster the development and use of interdisciplinary offerings. Flexible curricula, with highly individualized learning paths, with certification based on achieved learning objectives instead of fixed curricula, or even based on assessment rather than a fixed duration of study, are also an appealing prospect for the future. Appealing, but still shrouded in many uncertainties, as it depends on our ability to properly test competencies, which is a major challenge for academic education. Digitisation at least makes it technically feasible for universities to offer and administer such free pathways.

5.5 *COLLABORATION*

The fifth, and final principle of our vision for education, is collaboration. The art of collaboration is perhaps the most important skill for the future. In our complex, ever-accelerating society, it is no longer

the individual but the collective that can bring about change. Collaboration is therefore both a learning objective and a necessary skill for studying.

Collaboration as an individual and collective identity

As a counterpart to the 'massification' of higher education, it is essential that we ensure every student is seen. That their ideas and questions are heard, that they receive feedback from other students and university teachers, and that they have the opportunity to develop to their full potential. This must be matched by commitment: a student commits to using their talents and energy for their development. There is no way to avoid collaboration with- and for the people around you, whether they are fellow students, teachers, or third parties. Collaboration is therefore a necessary skill for students, both as a tool for study and as a learning objective. Collaboration develops from the general cooperation skills that the student developed in secondary school, to an inter- and trans-disciplinary skill.

A university, whether it has a broad or thematic focus, has a duty to structurally observe what goes on outside the institution. Other contexts, including those from society, enrich our perspective and sharpen reflection. Even within a discipline, another university may have a different perspective, and coming into contact with such perspectives can therefore add considerable value. This is obviously even more true between disciplines or contexts other than the university. Take the relationship between nutrition and well-being, for example. This is an issue studied in the field of psychology, where one research group may focus on neuro-biological causes and explanations, while another research group may focus on developmental, psychological, or behavioural perspectives. In another discipline, for example the economic sciences, this relationship can also be studied, but from a completely different, namely economic, perspective. And societal partners may ask us for input on whether schools should serve breakfast to facilitate better learning from the perspective of equality of opportunity and increasing well-being. These are practical questions that involve aspects of psychology, nutrition, and economics, but also politics, social sciences, humanities, preventive medicine and so on. So, the

perspective from which you look at a particular topic or problem can vary greatly. Developing those perspectives is part of professional identity formation. A combination of perspectives can also be part of that identity, or the ability to work together with people who have different perspectives. Literature refers to the latter as an 'interprofessional' or 'interdisciplinary' identity. Such an identity can be individual as well as collective, for example as part of an interdisciplinary team or project. The breadth of expertise available within a university can also form part of the collective identity, provided it is properly reflected upon and used in the curriculum.

From an Open Science perspective, a broad outlook and open attitude are desirable features of university culture, and these should be part of the skills and attitudes that students are taught. General universities can thus leverage their breadth for education. Smaller, more specialised universities will have to look outside their own institutional walls to do so, but they have the advantage of a clearer profile. Each university therefore has its own strengths and vision, and thus its own collective identity. No university can ever have everything in-house, so there is always added value in collaboration. It is not, or should not be, a battle between universities, but rather about forming a rich palette together, where there is room for every student. Universities and universities of applied sciences should increasingly facilitate that students can learn what they need for their ambitions and profile, by being clear about the differences so that a student can make a clear choice between universities and programmes, but also by facilitating students in taking courses at other institutes. In other words: transparency, cooperation and flexibility, instead of competition. We have already seen this development in the alliances that have emerged in recent years. Alliances between universities within the Netherlands with different profiles include those between the universities of Utrecht, Wageningen and Eindhoven and the UMC Utrecht, or between similar universities such as the 4TU network, which unites the four universities of technology in the Netherlands. But there are also international alliances such as the EU-sponsored 'European Universities', or regional collaborations such as school networks, in which universities work together with local secondary schools for talent and diversity programmes. Another ex-

ample are the academic teacher training programmes, where research universities cooperate with universities of applied sciences. And a final example are the regional training hospitals, with which university medical centres collaborate for residencies and internships. On the one hand, this increases capacity for training, but much more important here is the case-mix: regional hospitals see different patients and provide different care than the highly specialised university centres. It is essential for students to gain experience with both populations.

A particular display of collaboration in education is internationalisation. We live in a globalised world. Our countries are not isolated: what happens in one country always has an impact on other countries. Internationalisation is a *sine qua non* in research, but there is an increasing realisation that we need to include a global perspective in academic education as well. This applies to English-taught programmes as much as it does to Dutch-taught programmes, even though the former may attract international students whereas the latter will focus primarily on Dutch students. Dutch-taught programmes include studies like Medicine or Dutch Literature and Culture. And although aimed a local work market after graduation, those fields also operate academically in an international perspective. To come back to the COVID-19 pandemic again: global health developments affect health in the Netherlands. And not just because viruses do not respect national borders. The patients that the doctors of the future will treat also travel around the world for work or leisure or may have travelled the world to come here. The Dutch Literature and Culture programme cannot ignore the fact that any language is influenced by a globalized world. So, a study like Dutch Literature or Language must include that perspective in order to examine and consider the Dutch language in this broader context. For other programmes, the global perspective is the main focus in terms of its content, as with International Law or Sustainability Studies.

Internationalisation is, therefore, high up on the university agenda, but it is currently also facing strong headwinds. Part of public opinion has been vehemently opposed to internationalisation in recent years. People fear the loss of identity and displacement on the labour market. Without allowing ourselves to be led directly by populist opinions,

we should seriously examine the concerns expressed and formulate a response to them. We need to take a critical look at the pros and cons of internationalisation, and pursue nuanced and differentiated policies for it. We must ensure that internationalisation reinforces the university's mission and serves the quality of education and research. International enrolments should not become a goal in itself, whether guided by economic prospects or international prestige. There are many other ways in which internationalisation can and should take shape, apart from attracting international students and staff. We can apply a global perspective to the content of our curriculum, for example, or through 'internationalisation at home': recognising and utilising the diverse socio-cultural backgrounds of Dutch students and the local community. Or by designing an international classroom or international learning activity, such as online collaboration in an international course.

Education as a team sport

University teachers are crucial for high-quality education. In higher education, more than in other fields of education, it is not only the didactic skills that matters. As we explained earlier in this chapter, in higher education the subject matter is fluid and moves along with the front line of a discipline. The teacher therefore has a crucial role in combining didactic skills with disciplinary knowledge in the selection of subject matter, the design of teaching and assessment, and in introducing the student to the socio-cultural patterns of thought and behaviour in the discipline. Although teachers thus always need to broker between education and their subject field, at the same time education is so complex and challenging that a teacher can only perform this role optimally in a team context. First, colleagues are indispensable in conceptualising and deciding on the course content. Both within a discipline and in education at the junction between disciplines. Secondly, collaboration with students is indispensable to ensure that education meets their needs and connects with their world. Experts in various fields are also indispensable. They include technical and education experts who can help the teacher optimally design and structure the

curriculum. And finally, there is the education organisation; an often-overlooked aspect of education quality. A good education organisation, practical support, properly delegated responsibilities, quality assurance and supervision, all make indispensable contributions to the quality of education. Moreover, the staff involved, from invigilator to the most senior administrator, create the 'corridors': the informal educational environment that is shaped by the physical and social environment on campus. So, ideally, together we can create an environment where students feel at home, safe, known, and respected.

A positive educational culture

So far, we have outlined an ambitious vision for education. But this vision can only be achieved if we also consider the position that education holds. It should be clear from previous paragraphs that education is inherently intertwined with research. And that it is not an individual task, but a collective one. Education should constantly, dynamically, and responsively renew itself, based on developments in education, developments in the discipline(s) taught, and developments in society. This is how universities can provide a high-quality academic education. Realising this vision requires a positive, collaborative, educational culture. One necessary condition for that is for us to value education as much as we value research. A second important condition is that educational leadership is developed and valued, and that educators collaborate as a team. And finally, a third necessary condition is a good educational context: policy, organisational support and knowledge infrastructure, with a balanced top-down and bottom-up approach. The vision will have to be translated into a general policy. And educational teams must be trained and facilitated to translate this vision into concrete educational innovations, based on their knowledge and experience gained in their academic and professional work. The latter requires a structure where educational innovation, teacher development, and the generation and sharing of knowledge about education go hand in hand. One good practice in this area is 'teaching & learning' centres, where teachers and education experts from different faculties work together, and where support, knowledge and teacher professionalism are facilitated together.

Intertwining education and research

The intertwining of research, education, and professional activities, is crucial, both at individual and team levels. Students should be included in current developments that a discipline is undergoing, in how the knowledge in that discipline(s) is created, and how it is used in professional functions and roles. In order to initiate students into a discipline and expose them to the cognitive, socialising and person-shaping learning processes, it is crucial that teachers also serve as role models, and can carry students through the being, thinking and acting in a discipline. Professional identity formation is a process that already starts during education, or even before, when students develop theirs interests in a discipline. In this process, students seek both positive and negative role models and adopt provisional identities. They may try on different 'hats' to see what fits them. Of course no teacher needs to be an ideal role model or can singlehandedly represent all future possibilities, but as a team teachers ideally broadly represent what students are supposed to become. By interacting with the academic professional community, socialisation takes place in addition to knowledge access and creates space for subjectification. What does this mean for academic teachers? The fundamental core principle of academic education is and will remain the intertwining of research and education. So academics will always have to be involved in these processes in some way, but the emphasis of that involvement can and may differ both individually and over time. Relevant professional activities should also be included in that balance.

Equal value for education and research, and diversity in profiles

If we start from the desired intertwining of research and education as outlined above, and want to make the best use of everyone's talent, we must ensure that no single task is valued more highly than another. We can best make use of the different talents in a team by allowing diverse profiles, yet valuing activities each equally. Ideally, every department or programme team should have academics who excel in research and are involved in teaching at least at a modest scale. But there should also be academics who excel in education in their discipline, while also being

involved in research at least at a modest scale. And thirdly, depending on the discipline, there may also be academics who specialise in the professional application of their discipline (for example as doctors or judges) and who contribute their professional expertise to education and research in their discipline. Given the value we adhere to the connection between research and teaching, for academics who specialise in teaching, embedment in research is thus indispensable, but may be at a modest scale. Their research could concern disciplinary research, or research on education in their discipline, or a combination of both. These academics act as boundary spanners, connecting the education in a discipline with insights from educational science. They develop and share discipline-specific educational insight, and to drive developments as educational leaders. For all academic profiles, whether focus lies on research, education or professional practice, team spirit and leadership as a basic attitude and approach in work is vital. If we can realise this diversity in academic profiles within the team, our curriculum will be fed from the various important sources: developments in research, developments in application, and developments in education. The different profiles should be valued equally, and career paths should allow for dynamic shifts of focus in time, so that a continuous living ecosystem of theoretical and practical knowledge forms the foundation for the student's learning environment.

Investing in leadership in both education and research

University teaching is a very complex task. It requires investment in developing leadership in both education and research. Higher education differs from primary and secondary education in that its content is constantly evolving with the rapid advancements of the front line of our knowledge. It is taught by academics, based on their knowledge of the field: teacher identity generally develops only after they are socialised in the discipline. This creates a paradox: university teachers have to combine teaching with other duties and receive training in it only after their primary shaping in the discipline, whilst their educational roles might be even broader than primary or secondary school teachers because academic teaching is constantly evolving in content.

In addition to the basic tasks of designing education, guiding student learning, and assessment, it is also the teacher's job to continuously innovate how they teach, based on insights in education and developments in society. That requires strong educational leadership. For a high-quality education, it is important for teachers, and especially those in leadership positions, to reflect on, evaluate and innovate their own teaching practice. But it is not enough to simply have a good idea or plan for improvement. A teacher never operates alone, apart maybe from small decision within a course or lecture, but never at the level of a full course or programme. To innovate, a teacher must thus coordinate with many different stakeholders: students, researchers in their field, and their fellow teachers. Gaining support, by involving others in the reasons behind the change and its didactic underpinnings, is therefore crucial. Since education is often organised horizontally, transversing organisational structures, and the university is an organisation with a high degree of professional autonomy, strong educational leadership is needed that exerts influence on teaching from both informal and formal positions.

It is important to not only realize innovations, but also structurally monitor whether these innovations achieve the desired effects on learning and for society. Research into the effectiveness and effects of education in the various disciplines is therefore indispensable to ensure high quality education. Since educational knowledge is highly context-specific, so we must develop insights for higher education in general as well as specialized knowledge for teaching in each academic domain. Education development should always be based on empirical evidence. Good academic education therefore occurs when teachers base their teaching practice on a combination of theoretical and practical knowledge of education, the context, including the wishes and interests of the target group (student voice), and their professional expertise. The use of educational insights in teaching and contributing to knowledge about education in one's own discipline through educational research is sometimes broadly referred to as 'educational scholarship'. Recent research among academics in senior educational positions at UU indicates that educational leadership and educational scholarship seem to develop later than the basic tasks of designing, implementing, and

testing education. Expertise in these more advanced tasks, moreover, requires additional training. The two tasks also seem to be mutually reinforcing, see Figure 3.1.

From solo to team sport

Should every teacher now become an educational leader as well, or learn to conduct research on education? No; aiming at every academic being an expert on all fronts would be a massive dilution of our attention and manpower. It is crucial is to think and work in teams. Academics, as well as various types of experts and professionals from the field with different, unique specialties, can complement and reinforce one another. In each department, it seems desirable to have at least one or more academics with specific expertise in education. These 'scholarly teachers' or 'teacher-scholars' can contribute their knowledge of education to the team and generate new knowledge for the continuous development and optimisation of education in their respective fields.

Indeed, these education-specialized academics are the crucial link between policy, innovation, and implementation. They can constantly adapt the curriculum to provide students with the most up-to-date education of the highest quality.

Consider the example of a teacher who focuses on promoting inclusiveness of a course, researches this topic and develops interventions: this teacher may not only improve one's own course, but may contribute to implementing policy in the wider institute, and may shares insights more widely through research publications and outreach. We will often see these advanced teachers being approached as experts, to help think about further policy development at their own institute or beyond, or as a speaker at a conference. This indicates a very strong interplay between policy, research, and education. When teachers contribute to knowledge about their own educational practice by generating context-specific insights and sharing them with colleagues, we refer to it as Scholarship of Teaching and Learning (SoTL). The goal of SoTL is to improve the teaching practice in one's own course to enhance student learning. When the researcher's aim is broader and focusses on theoretical knowledge that is also relevant outside one's own

teaching practice, we refer to it as 'discipline-based education research', or research of teaching in one's own discipline.

Collaboration across faculties

A broad research university presents considerable untapped potential. It is precisely society's current need for broad, interdisciplinary perspectives that can empower these broad research universities. The connection and synergy between research and education was at risk of being lost in recent decades but is now gaining renewed attention. There is a role here for primarily discipline-oriented programmes, where inter- and transdisciplinary elements add depth to one's own discipline and stimulate the skills and attitudes needed for collaboration. But there is also room for broad interdisciplinary undergraduate or graduate programmes, such as liberal arts and sciences programmes, or courses centred around interdisciplinarity where students are specifically trained to integrate insights. Their unique place in the system is to train people for whom the broad perspective is always primary in their learning and thinking, but who also all go into such depth in one or more disciplines that they can develop a unique contribution to research or society. The presence of a wide range of disciplines at a university therefore presents enormous potential: we can reappraise a diverse palette of research approaches and perspectives, and students may actually come into contact with them in their education. However, this kind of potential does not emerge spontaneously; it requires changes in our organisation and culture.

6 • THE SYSTEM

The number of university students has been increasing for decades, and this has resulted in certain systemic problems. How would we like that to develop in the ideal future? Higher education should remain sufficiently funded per student to retain quality and accessibility. It should also, importantly, be rooted in research, be it more applied or more academic.

Let's start with accessibility: equitable access to higher education

is a large concern. In the Netherlands, scholarships, once introduced to increase equity and accessibility, have been replaced by a loan system, resulting in high levels of debts for some students.[160] A limited form of a basic scholarship has been reintroduced recently, but higher education is still a substantial investment. These high costs can create barriers to participation in higher education. Moreover, the eventual study debts affect precisely those who are vulnerable, such as those who cannot easily repay these debts afterwards due to poor physical- or mental health. From the perspective of an open vision on education, we need to keep an ever-vigilant eye on accessibility and affordability.

When we say that higher education should be accessible, we do not intend to imply that everyone should pursue higher education. On the contrary. Basic or middle vocational education (in Dutch MBO) is often undervalued, while it is essential for training craftspeople who are urgently needed in society. The massive flow of students to higher education has to do with status and income expectations, whether real or not. So, the important thing is not to get everyone into higher education, but to get everyone into the right place. Higher education should be accessible to everyone with the necessary talent and ambition, independent of their socio-economic background.

The Netherlands is also a unique case, with the dual system of research universities and universities of applied sciences. Although both are higher education institutions, academic education is usually accorded more prestige than higher professional education. In the Netherlands, the term 'university' is mainly linked to academic education, while in English-speaking countries the term 'university' is used for both forms of education. In the Netherlands, we have observed a progressive shift from universities of applied sciences to enrolments at research universities. This, however, presents the risk of shortages in higher-educated people with a professional focus, while the academic nature of a university education risks being blurred due to emerging shortages of funding and the influx of students without the desired scientific curiosity or capacities. Students who would have been better

[160] Comijs, D. & Karg, P. (2018). De Opkomst en Ondergang van de Basisbeurs een Geschiedenis. *Redpers.* Retrieved from: redpers.nl

suited for higher professional education, but who choose to enrol at a research university due to pressure from themselves, family, or peers. Extrinsic motivation, rather than intrinsic motivation. To properly educate the student of the future, we should address the differences in status within higher education and truly focus on the nature and content of study programmes. Only then can everyone fully develop their talents, and can we train both the academics and professionals that society needs.

Although universities have always engaged in exchanges, in the past it was mainly through individual mobility of staff and students. The globalised world and the complex problems we face oblige us to work as a collective knowledge system. Only then can we address the complex problems in a timely nature. COVID-19 powerfully demonstrated that if academics can cooperate globally, we can achieve insights and applications at an unprecedented speed. At the same time, the risk of virus emergence, the rise of anti-vaccination movements and differences in vaccination coverage and approaches to the pandemic showed that even a viral pandemic is perhaps more a socio-cultural problem than a biomedical one. All this calls for collaboration, not only between disciplines, as we outlined above, but also geopolitically. What does that mean for educating new generations and for our development curriculum for the current generation? We need to move away from individual programmes at individual higher education institutions and move towards providing education in networks and alliances. Besides the flexibility for the individual student, as we have described above, we also need to join forces organisationally and strategically, at an institutional and system level. These institutional collaborations obviously cannot function without (virtual) staff and student mobility, but they should become much more structural and hybrid than they are now. For example, think of courses and programmes offered in collaboration with several different institutions. Virtual international classrooms or virtual lecturing allows experts to contribute their expertise at several collaborating institutes. Social interaction is a crucial element in learning and knowledge creation, so this certainly does not mean everything should be online. But precisely by working with structural partnerships, we will be able to shift away from physical travel partly to online

collaboration without losing the important sense of connection. Once you know each other, online collaboration becomes easier and more effective. So, we can consciously choose between travelling in person or collaborating online.

This means some major changes for the system as a whole. Within our institutes, we have to rethink our faculty organisation. Although the link with the individual discipline is and will remain of undiminished importance, the financial and organisational structure is now so strongly research- and faculty-oriented that it hinders cross-disciplinary and cross-faculty cooperation in education. Money flows could be linked to students instead of programmes, for example, which would make it easier to organise freedom of choice and exchange or cooperate in education across faculties.

Also, at larger scale, nationally, and certainly internationally, laws and regulations need to be adapted to facilitate inter-institutional collaboration in education.

Quality assurance, too, should start facilitating inter-faculty, inter-institutional and international programmes, as well as the Continuing Education offering. But that requires a complete redesign of the quality control system. Each country now has its own accreditation system. We need a way to recognise each other's accreditation, and/or set up accreditation at the European level. A system of micro-credentialing could offer modular curricula the necessary quality control and status, which can help make Bachelor's, Master's and PhD programmes more flexible, and is especially crucial for Continuing Education offerings.

Within Europe, the 'European University Initiative, a programme organised and funded by the European Commission, has resulted in a powerful movement to collaborate more intensively across the borders of institutions and countries. An example is provided in Inset 3.9, the CHARM-EU alliance. This is just one of 41 such alliances within the EU in 2022. European collaboration will have to intensify if we are to keep up with US and Asian universities in the long run. By acting together and strengthening each other, European universities can maintain their good reputation and high level of quality in the field of academic education for many years to come. This is not to say that we should not collaborate outside of Europe as well, but collaboration

within Europe should be much more systematic, and outside-Europe more content-oriented.

INSET 3.9.
CHARM-EU, A EUROPEAN UNIVERSITY ALLIANCE.

CHARM-EU is an initiative funded by the EU, through the Erasmus+ programme, with the aim of encouraging structural and strategic co-operation between European universities. Nine European institutions are currently part of CHARM-EU, including from the start Utrecht University. CHARM-EU is one of 64 European University alliances which in 2024 include in total 560 universities.[161]
CHARM-EU represents a challenge-driven, accessible, research-based, and mobile model for the co-creation of a European university, in line with European values and the Sustainable Development Goals.
In September 2021, CHARM-EU launched a Master's programme: MSc in Global Challenges for Sustainability. As its name implies, the programme focuses on global sustainability challenges. The Master's programme is unique in the world today. Students engage with sustainability issues in a transdisciplinary environment, based on concrete challenges faced by society.
In addition to the Master's programme, there is also a CHARM-EU transdisciplinary research initiative: TORCH (*Transforming Open Responsible Research and Innovation through CHARM*). TORCH aims to develop a common agenda for research and innovation.

7 • CONCLUSION

One final reflection concerns the importance of public opinion and public support. There are some parallels with public engagement, as described in the chapter on Open Science. Public engagement refers to how the university interacts with a broad public, and contributes

[161] https://education.ec.europa.eu/education-levels/higher-education/european-universities-initiative

to public debate, impact, and support. This is vital for the willingness of social partners to cooperate in research and education, for basing public and political decisions on scientific knowledge, and also for the applicable legislation, regulations, and funding of our education. To use an example: we mentioned before: the concern about the lack of support for internationalisation of universities. From a university perspective, which is substantiated by research, we see internationalisation as crucial for the quality of research, education, and societal impact. If we, as universities, want to maintain and even expand our international intake of staff and students, we will have to make the need for it much clearer to politicians and the public. An integral part of our social mission is therefore to communicate what we do; why the university exists in the first place. We want to create added value in our interaction with society. Only by clearly demonstrating that added value we can actually realise our promise of research and education for society.

4 Community

1 • THE UNIVERSITY IS SHAPED BY ITS PEOPLE

A university consists, first and foremost, of the people who work and study there. Of course, a university also has organisational and physical aspects: its buildings, productions, flows of funding, frameworks, and rules. But in essence, a university is an abstract and living entity formed by its community. The culture in that community, which manifests itself both in its dealings with each other and with the outside world, is value-based. The public values we hold each other to include scientific and personal integrity, inclusiveness, and community engagement, as we discussed in the other chapters as well. As we act based on these fundamental values, knowledge is created, shared, and applied, and the conditions are created in which these primary processes can take place. In an ideal university community, this arises from team-driven, complementary collaboration with others. The community is formed by everyone who is part of the university and its network, regardless of whether they receive a salary. That means not only academic and non-academic staff, but also students, visiting and collaborating national and international colleagues, and third parties, such as societal partners with whom we have (long-term) functional contacts. How all these people interact with each other and with their work determines both the university's 'personality' and its academic and societal impact.

In this chapter, we will therefore zoom in on the community at the heart of the university. A warm, beating heart, we hope, where people feel seen and heard and which they enjoy being part of. But unfortunately, the reality is sometimes different. The academic community is

showing signs of strain. The workload is generally unacceptably heavy, uncertainty is the rule of the day, competition is often unhealthy, and team support is not always a given. The multiplicity of short, temporary staff positions undermines a strong sense of belonging to the university and its community. For instance, many temporary teachers have no prospects of an academic career. Regulatory pressure, protocols and accountability also undermine the intrinsic motivation to be part of a community of values, where people work together to produce and share knowledge. People leave for these reasons, as pictorially illustrated by Eelco Runia in his book '*Genadezesjes*' ('Mercy Pass', not available in English).[162] It also manifests itself in movements like 'WO in actie' ('Academic Education in action'), a national platform supported by several universities that promotes the interests of university education, and advocates strengthening the intertwining of education and scientific research. This intertwining has come under stress in recent years due to severe, long-term budget cuts and a rapid increase in the number of students.[163] The criticism expressed is a clear signal, especially from an academic staff perspective. In addition, there are other problems, such as the experienced gap between academic and support staff. Previously given solutions are limited in their benefits today and offer little direction for how we can operate more as teams and respond more clearly as a university to challenges and expectations from society. Such a vision of change is, however, provided by the system analysis conducted by Science in Transition (2013, 2014), as we discussed in more detail in the chapter on research. In this chapter, we will extend that vision to explore its implications for the university community.

Alongside the problems like a heavy workload and the emerged gap between education and research, there is also need for improvement in the areas of inclusiveness and a safe working environment. A multitude of reports paint a picture of the university as an unsafe place, ranging

[162] Runia, E. (2019). *Genadezesjes: Over de Moderne Universiteit* (p. 9). Athenaeum.
[163] See the website of "WO in Actie": woinactie.blogspot.com

from sexual harassment among students and staff[164], to gossiping, humiliation, withholding information and abuse of power.[165] These problems seem to be fed by the competitive climate, heavy workload, and the large number of dependent relationships. Academic hierarchy is a fundamental part of a university system, but it can lead to undesirable power relations. In 2022, a committee chaired by Naomi Ellemers wrote the KNAW report 'Social safety in Dutch science, from paper to practice'.[166] It not only provides insight into the need for us to work on social safety, but it also shows that doing so benefits scientific integrity and vice-versa. Good science and social safety mutually reinforce each other. Neither comes naturally, so both aspects require conscious and explicit attention. Together, we must also be willing and able to bring difficult topics up for discussion and to embrace the discomfort they cause.

In this chapter, we will describe our vision of an open, inclusive, socially safe, and at the same time intellectually challenging environment. An environment where people feel welcome and heard, and are challenged to be the best they can be. An environment where a multitude of opinions, backgrounds, insights, and perspectives are treated with attention and respect, and where it is a *sine qua non* to engage with those around you and society. In doing so, we will also address the obstacles, challenges, and risks. Because where people come together, harmony is never guaranteed: every individual has their own ideas and needs. But as we outlined in the previous section, there is currently more going on than just a diversity of opinions, and that includes inequality and unsafety. Ideally, the multiplicity of ideas and

[164] Bondestam, F. & Lundqvist, M.(2020). Sexual Harassment in Higher Education – a Systematic Review. *European Journal of Higher Education*, *10*(4), 397-419. doi.org/10.1080/21568235.2020.1729833

[165] Federatie Nederlandse Vakbeweging (FNV) Persvoorlichting. (2019, May 5). *Werk op Universiteiten Sociaal Onveilig: Vakbonden Willen Onafhankelijke Klachtencommissie en Ombudsman* [Press release]. fnv.nl/nieuwsbericht/sectornieuws/fnv-overheid/2019/05/helft-universiteitspersoneel-ervaart-sociaal-onvei

[166] KNAW. (2022). *Rapport Sociale veiligheid in de Nederlandse wetenschap. Van papier naar praktijk*. knaw.nl/publicaties/sociale-veiligheid-de-nederlandse-wetenschap-van-papier-naar-praktijk-0

opinions should be the university's strongest point, where many voices are heard and academic debate is not shunned, because diversity sparks quality. We realise that we do not offer an immediate practical answer to the problems we face today. But by outlining an inviting perspective, we hope to at least provide some guidance in the search for answers.

2 • FROM INDIVIDUALS TO TEAMS

As we mentioned earlier, we see the university ideally as a thriving community focused on generating, applying, and sharing knowledge for society. A learning community, open to learning from and with each other; learning by generating new knowledge in research, by applying that knowledge, and by sharing knowledge through education. The term 'learning community' is not new, and was referred to as early as the classical Von Humboldt model on which today's universities are based. In Von Humboldt's model, however, the learning community was limited to a closed academic community, which was also highly focused on individual interaction and achievement. In our opinion, neither the closed nor the individual character are still tenable today. The vision with which this book is saturated embraces openness and team spirit. We therefore propose a fundamental change. The learning community of the future should consist of a dynamic and flexible configuration of teams. Fortunately, steps are already being taken in this direction. Excellence is no longer defined as the extent to which an individual performs, but as the extent to which someone contributes to the success of different teams. In addition to substantive performance, that means an emphasis on leadership and creating an open culture, where people can and dare to hold each other accountable, with respect for other opinions. Society has changed significantly, and the challenges we face are immense. As we have argued in previous chapters, the academic work of research and education will become less and less individualistic, and teams are indispensable for teaching, researching, and tackling complex problems in the modern, digital, global society. We will have to deal with that complexity in our research, education, and in the organisation of the university. The old idea of the lone genius has always been a myth; no one ever succeeds entirely

on their own merits. Yet, in the past, world-class achievements were often attributed to individuals.

In the future, it will become even more apparent that world-class performance can only be achieved in teams. Besides shifting the focus from individual- to team performance, this brings us to a second important foundation of the learning community: diversity. From the perspective of team complementarity, diversity is a necessity, not a luxury. Take education, for example. In education, collaboration and interaction between teachers, students and stakeholders is indispensable, as is collaboration with experts in the fields of education and information technology. But we also have to deal with the broad palette of organisational aspects: from campus layout to room management, from student administration to invigilator, from policy to quality assurance. People are responsible for all these aspects, and these actors all interact with one another. A chain is only as strong as its weakest link. When collaboration is constructive, the whole becomes more than the sum of its parts and produces synergy. But collaboration can, however, falter, for example due to a lack of understanding each other's perspectives, due to intolerance, social unsafety, or the 'cancelling' of certain voices. In these cases, weak links in a process are not always identified or addressed, with the risk of sub-optimal team performance, or even team disfunction.

We fully realise that collaboration is not always easy. Collaboration can only succeed if people share the same goals and ambition, and display tolerance, acceptance and both personal and organisational flexibility. So, what keeps us from doing that? As we stated above, we first need to ensure close ties with the organisation and with each other; i.e., the community. That, in turn, requires a safe and inclusive culture, an acceptable workload, an appreciation of each others' contributions to teams, a clear mission and vision, and leadership. A culture in which we always openly and actively explore what is going well together, but also what is not going well yet.

What is a team? The term 'team' has a broad meaning here: as any constellation in which people work together for periods of time around a common goal. The common goal can be a concrete task or product, like a research project, a course, or an entire programme. The common

goal can also be thematic or abstract, such as a working group or task force dealing with a shared interest, problem, or ambition. At its core, a team has something that brings people together and binds them. Teams can therefore be small or large, instituted from above or arise organically from bottom-up, be loosely organised or tight-knit, and they can be temporary or structural. Everyone will always be flexibly and dynamically part of multiple teams, often taking on different roles within them. See the fictional example of Laila in Inset 4.1.

INSET 4.1.
THE EXAMPLE OF LAILA AND HER TEAMS.

Laila recently obtained a position as Assistant Professor. Her 'home base' is the disciplinary chair group she is part of. She teaches in an interdisciplinary Bachelor's programme, being part of several nested teams: the small team of the course she coordinates, the broader team of teaching and support staff of the bachelor programme, and the broad education community which includes students, alumni and field representatives in addition to the teachers and support staff. She is also involved in a faculty teaching innovation project, where she is a member of an innovation team together with central and faculty experts in the fields of education and IT. As part of her research activities, she is member of a chair group, which forms a broader group together with other chair groups in the same department. In addition, she is member of an international research consortium project team together with two other universities and an industrial partner. She is part of a PhD supervision team as daily supervisor, and thereby also part of the Graduate School community. Motivated by her commitment to the societal role of the university, she has joined a faculty advisory committee on inclusion and diversity. She is also part of a team of volunteers who teach at a weekend school on Saturdays to enhance equal opportunity...

The fictional example illustrates that people are rarely part of just one team, and often find themselves operating in multiple team contexts. Sometimes these teams exist parallel to one another, sometimes they consist of smaller teams nested in larger teams, and sometimes teams

can partially overlap. We could have used other examples here, both academic and non-academic. Anyone consulting their own diary will probably be able to identify several 'teams', from one-off or short-term collaborations to structural or long-term groups one feels part of. In practice, we do not label every collaboration a 'team'; we will use many different words like group, network, committee, and many more. Yet in all these constellations, teamwork is the basis of what we do, whether it is managing the cafeteria, conducting a research project, or running a department.

What is important, especially in this multitude of teams, is that everyone has a 'home base'. This home base takes the form of at least one team that provides a structural foundation, both organisationally and socially. The formal structure of the home base offers the individual coaching and guidance within the multitude of teams, and with it a sense of home: a place where you feel you belong, where people know you and acknowledge your contributions. A manager should be explicitly mindful of the multiplicity of teams, coach employees in prioritising and making choices, and include their performance across all their work-related teams in their assessment. One underappreciated aspect includes rewarding the efforts it takes to connect: to connect the knowledge, experience and expertise gained from different teams (boundary crossing, or boundary spanning), or pass on knowledge or introductions ('brokering'). Realising cross-over between teams is crucial for a properly functioning ecosystem at university. However, the linking activities often do not directly or visibly contribute to a person's performance. They are the invisible but indispensable wiring circuit - like that of a car, ensuring that the different parts work together to achieve optimal driving performance. Imagine having four beautiful wheels, a smooth-running engine, a driver, a steering wheel, but none of them are connected.... This might be a bit of an oversimplification, but we occasionally see it happen in the real world: people working so hard to keep their own specific part running, their 'own' task in order, that they lose sight of the bigger picture, and are not held accountable for it. This poses a risk: the efforts needed to properly coordinate one's own actions with other activities, to help others, and to reflect on one's own task and transform if necessary, may not be

as recognised, appreciated or encouraged. The current system is not organised to that end. We will elaborate on this below, because rewarding this teamwork-focused attitude and effort is fundamental for the transition to an open culture.

For the individual, this vision means being aware of yourself and your surroundings, and of how you interact with them. In other words: of the context and role in which the individual finds himself at any given moment. A person needs to know their own qualities and their limits, and how they can contribute in different environments. It is also necessary to recognise the utility and necessity of bringing together insights, products, and people from different environments. This requires an attitude in which responsibility is not shifted to others, but in which we continuously ask ourselves: 'What can I do to make others, or the different teams, function well?'. That also includes asking: 'What shouldn't I do myself, because others can do it better? Or where can I offer other people opportunities?' This requires an open, responsible, and committed attitude, and putting the team before self-interest. It also requires the knowledge and skills for working with others or across disciplinary and socio-cultural boundaries.

As outlined in the previous section, this also means that 'connecting activities' should be rewarded alongside the immediate results. To do justice to the multitude of teams, management will have to include broad feedback on- and from the multitude of teams within which the employee functions. Some form of departmental team structure will always remain necessary, but with a different function than before: namely, securing a home base. The current, basically one-dimensional model of separate departments will never be able to do justice to the multiplicity of team positions and roles. A manager will increasingly have to look beyond the boundaries of a home base in recognising, rewarding, and providing development opportunities to employees, or maybe rather, mentees? The manager's role becomes more guiding than steering, which requires looking at the employee's performance and development from a broad organisational perspective. Such a new coaching leadership structure and culture will need to be developed, but there are already examples of tools that could serve this vision. This includes the 'fleet review'. In a 'fleet review', managers jointly consider

how employees function and where their talents lie, with the aim of determining how everyone's talents can be optimally deployed and developed. Such a team-oriented approach can facilitate mobility and provide input for a proactive talent policy. It can also ensure optimal fulfilment of the various roles in teams. Employees themselves should obviously have an important voice in mobility and development, and be able to give input before or during the review. But the advantage of a broad fleet review is that an individual is much less dependent on a single manager or any personal contacts outside their department. Instead, they are evaluated by the organisation as a whole.

The team-oriented attitude and work method described above applies to everyone in the university community. But if we zoom in on the academic tasks, we can distinguish two core tasks: research and education. As we argued above, the intertwining of research with education is what characterises a university education. But the intertwining of research with the application of that knowledge in professional roles, such as clinical work or applied roles in business or (non-)governmental organisations, is also highly relevant. This is why we explicitly also refer to public engagement, societal impact, and professional performance. Consider the clinical work performed by academics in an academic hospital, which is highly relevant to both their research and educational activities. We have already mentioned the importance of team engagement through connecting activities, and in other chapters we emphasise the importance of impact and leadership. But does that mean everyone needs to be willing and able to do everything and also display leadership, in order to make a career? The answer is very clearly: no. What is fundamental and crucial is that everyone is actively connected, via their teams, to both research and education, and, when relevant, to their professional field. But an individual cannot, and need not, excel at everything at all times to be an excellent academic.

For education and research, there are minimum threshold values: every academic is expected to be involved both in education and in research. For academics with an emphasis on research or impact, the minimum educational threshold is that they must have a role in disseminating their expertise through teaching. However, for academics whose profile emphasises teaching, the bar is much higher in terms of

education than mere teaching: they are expected to be knowledgeable in education, coach others in their teaching, and lead educational innovation. In other words, they must display educational leadership and scholarship. For them, a minimum threshold applies to research. At a minimum, they should be aware of and involved in research that touches on the subject matter they teach. The interpretation of both minimum threshold values and what is considered to be 'excellent' is partly a political and cultural discussion and is primarily determined by the university's strategy and local context. Minimum thresholds could be discussed, and for transparency should include terms of maximum lag-time (period in which an academic activity is not conducted) or minimum output criteria. The main, guiding principle, however, should be that the combination, including the lower thresholds, serves the quality of education and research; that someone either teaches based on an active (team) involvement in research, or combines research with active (team) involvement in dissemination of knowledge. In very concrete terms, one can conclude that teaching or conducting research fully unilaterally is undesirable, unless it is explicitly a phase in a developing career (for example, one or more years of full-time focus on research or education, followed by explicit opportunities for a new career step which entails a combination or an alternation), or otherwise to ensure continuous contact with - and development in - the field of expertise. Exceptions can and may therefore exist, but two things must always be put first: the (long-term) quality of research and education, and the prevention of trapdoor constructions in which someone cannot develop further in their career or field of expertise.

3 • THE INCLUSIVE COMMUNITY

The ideal university community is inclusive in the broadest sense. It is a community where every staff member and student is welcome and included, regardless of their background, origin, ethnicity, orientation, culture, religion, political beliefs, physical limitations, and all the other differences there may be between people. This may sound very aspirational, and although few will object to this principle, it is not so easy to actually realize in practice. For instance, people consciously and

unconsciously tend to choose to interact with people who are similar to them, whereas working together in diverse teams can sometimes be difficult or cause some discomfort. From one's own perspective, it can be hard to realise which obstacles other people experience, or which behaviour can be perceived as offensive. It is therefore important to pay conscious attention to encouraging diversity and inclusion, and to openly discuss people's experiences of discomfort or offence. Diversity requires attention in our recruitment and hiring policies, as well as in the composition of partnerships. Diversity is a means to quality, and not an end in itself. Yet, to achieve a diverse community, diversity, equity, and inclusiveness will have to be deliberate and active goals if we want to break down the existing barriers, because it is not enough to simply encourage diversity in hiring policies and team composition. People from the diverse intake pool must also be given equitable opportunities and be able to freely yet respectfully express themselves and interact, in order for us to truly reap the benefits of that diversity. We must therefore pay attention to inclusiveness too, as soon as someone joins the community, whether as a student, employee, or guest. An inclusive community means that no one is structurally excluded, either intentionally or unintentionally; that differences are respected and their value recognised. This requires conscious reflection from the community on its own norms and manners, and actively identifying intentional or unintentional exclusionary practices and customs. Tolerance, respect, and openness towards others is a prerequisite for constructive interaction. Curiosity about the other, rather than condemnation based on prior assumptions. Listening instead of telling. As it is nicely formulated in the UMC Utrecht's code of conduct: first, understand, and then be understood. Sincere curiosity and interest are therefore essential, and just so happen to be the basis for a scientific attitude as well. It is therefore very fitting for us to have a similar attitude when dealing with one another. The desire for diversity and inclusiveness does not stem from an ideological ideal, but from the vision that we truly need it if we as a university are to understand and properly address problems in society together with external stakeholders, as we explained in detail elsewhere in this book.

Achieving a diverse and inclusive community requires effort. This

is not a matter of a one-time transition, but something that needs constant monitoring and attention. Indeed, there are many unconscious and mostly unintended mechanisms that can obstruct equal participation. To bring these to the surface, we will always need to display an open attitude and effort. This concept is sometimes referred to as the 'hidden culture' within organisations:[167] the organisation's unwritten norms, values, and expectations. Although they are not explicit, and often tacit knowledge for those who belong to the in-group, they do create a barrier for people who do not belong to the in-group but come from other contexts. Those from the dominant social group are often unaware of this hidden culture. It is important to realise this, and to offer people who are new to the academic community help in reflecting upon and navigating within this new context. Especially with regard to the unwritten rules. For example, a buddy or mentor can play an important role: someone with whom it is safe to talk about one's unexpected experiences, one's surprises or doubts, and who can offer tools on how to move forward in the new environment. Addressing the hidden culture can therefore enrich diversity: it allows us to explicitly describe what characterises a culture in a positive sense, while also allowing for the correction of unintended negative effects or bias. A newcomer's surprise can therefore contribute to improvements, but it requires an open attitude on the part of the dominant group.

Hidden culture exists in the university as an organisation, but it also has an equivalent in education: the 'hidden curriculum'.[168] We need to realise that the education we offer is never exactly the same as what students learn or experience, and also that it always takes place within a certain vision and culture. What we teach is more than mere knowledge: students are also part of the community, and they have to navigate all of its unwritten rules, norms and values. The fact that something is 'hidden' does not always have to be negative: consider the socialisation function of education, which is largely implicit. But

[167] Smith, B. (2013). *Mentoring At-Risk Students Through the Hidden Curriculum of Higher Education*. Lexington Books.

[168] Alsubaye, M.A. (2015). Hidden Curriculum as One of Current Issue of Curriculum. *Journal of Education and Practice*, *6*(33), 125-8.

the effect of a hidden curriculum can be negative. A curriculum - any curriculum - by definition comes about in a certain context and will therefore always be coloured by it. We need to be aware of that and be explicit about it, and be reflective and open to feedback, in order to detect and address any negative effects as quickly as possible. It is therefore vital for us to always be alert to potential unintended biases.

Let us take the study of medicine as an example: medicine at Dutch universities actually means Western medicine. The programme may pay attention to different visions of health, such as Eastern Medicine, but the curriculum is characterised by the Western perspective. This is neither positive nor negative, but rather a fact: a characteristic that arises from the context of the society and university that offers the training. At the same time, in medical research and education we have become increasingly aware that much of our clinical knowledge, especially in the past, has been based on studies - often clinical trials - involving predominantly white, adult males without co-morbidities (no other diseases). That means the knowledge base acquired is not necessarily applicable to the population is general, but mainly to 'adult white men'. The study programme now, on the one hand, pays more explicit attention to the importance of research in more diverse populations, looking into things like gender, socio-economic, cultural, and ethnical diversity. On the other hand, the programme also pays more attention to a more inclusive choice of knowledge sources for the knowledge base and the curriculum. It specifically addresses the differences in risk factors, symptoms, and treatment of cardiovascular disease between men and women, for example. Or how to diagnose skin disease on a variety of skin tones.

A very different example of unintended hidden curriculum effects is differences in learning effect of a university education that do not result from differences in talent or prior knowledge, but from the student's background; the so-called 'attainment gap'. The term comes from research, among others in England, where much monitoring has been done on these differences, and where it appears that education can - unintentionally - have very different effects on students from certain socio-cultural groups. Monitoring the attainment gap is, for example, one way of making the hidden curriculum explicit, or at least some

of its consequences. And once consequences are brought to light, we can go looking for the causes. The term 'hidden' refers to the fact that the phenomena are by definition not immediately visible. If we want to address a hidden culture, we will have to make an effort. And we cannot limit that effort to a one-off improvement exercise, and then say we're done. Instead, it is important to constantly realise that our community and activities exist within a certain socio-cultural setting, and that our curriculum arises from it. This has both positive and negative effects. By pursuing diversity and inclusiveness and by being open to the signals from the diverse community, we as a community can highlight the positive aspects, and mitigate the negatives.

Another point we want to address when it comes to hurdles for an inclusive community is the large gap that is experienced between the academic staff and the support and administrative staff. The actual difference lies in the nature of the employee's appointment: in whether it is directly focussed on the primary academic activities or indirect. The perceived divide, however, goes far beyond the actual differences in tasks. It manifests itself in significant differences in hierarchy and recognition, in practical matters like facilities and communication structures, and in socio-cultural aspects such as how we interact with one another. This gap between the two staff cohorts is both undesirable and ineffective. It also obstructs teamwork. At Utrecht University, the decision was recently made to no longer address employees as either academic or support staff, but rather to address everyone uniformly as university employees.

If we want to narrow the gap, it is important to realise that the support staff cohort is by no means a homogeneous group, but rather encompasses very different categories of employees. Moreover, without wanting to introduce a new dividing line, amongst university personnel in support roles we could distinguish between those with or without higher educational training. Academic professionals are university-trained employees who, although not holding an academic position, operate in direct cooperation with academic staff, are often appointed from amongst them, and are involved in the implementation, organisation, strategic policy, or management of the university's primary tasks on the basis of their academic or professional expertise. They

include the technology- or didactic experts, management positions, and policy staff. Their roles and tasks can be very diverse but have in common that the cooperation with academic staff and students is more or less self-evident: people speak the same 'language' and structurally encounter one another in the workplace. If we look at this group, for the near future we see more and more of a grey area in which the distinction between academic and non-academic roles and career paths is not so clear. An area where people dynamically and flexibly alternate or combine academic and professional positions or hold positions that, based on the nature of the position, lie somewhere at the juncture between the two. These positions include those in the fields of senior data management, bioinformatics, and educational training for university teachers. So, in the future, we will increasingly see that the distinction between academic and academic-professional roles will fade. The interactions between these groups will become more dynamic and permeable. On the one hand, because people desperately need each other in their teams, and on the other, because both management tasks and professional tasks (such as consultancy or professional practice in a taught and researched field), are increasingly seen as part of an academic career. We will return to this in more detail in the section on the transition to an academic culture of Recognition and Rewards.

Next to the academic professionals, there is also a large and very diverse group of university personnel who do not interact directly with the primary process, but who provide the logistical or organisational preconditions within which research and education can take place. These staff members have had a wide range of educations and prior training: from practice-oriented training to academic education. Their support activities are sometimes visibly part of departments and teams, as with secretarial offices or financial departments. But more often, the work is less visible to the academic community, and employees are not automatically seen as part of a university department or team, as is for example often the case with janitorial services, security, or catering. In fact, these tasks have increasingly been 'outsourced' over the past few years, which means that staff work at the university, but are not actually employed there. Sometimes there is a mismatch between formal, labour-law positions, and perceived or desired communities.

Sometimes, there are no formal or informal opportunities for contact. Many of these support staff members rarely come across the academic staff in their work activities, and they also tend to have their own socio-cultural - and sometimes even physical - working environment. They may have different organisational and consultation structures, and their operational units are often physically housed in other buildings or building sections than the academic activities. As a result, their social activities are also often organised separately.

Ideally, though, we would like to see the logistics and operations staff feeling more like part of a community together with academic staff, and operating accordingly. We would prefer to acknowledge everyone's contribution, and let everyone contribute to the university's goals and strategy. Not just because it would be shameful - and a bit hypocritical - to claim to be open to society, and then overlook part of one's own community, but also because the large and diverse group of support staff is just as essential to high-quality education, research and societal outreach as the academic staff. Their role is indispensable in facilitating the primary processes; the services they provide will only be optimal if they feel involved in those processes and if there is open communication between the two. They also help determine the atmosphere and culture at the university. Their contribution must therefore be seen and appreciated, and the person behind the contribution must be seen and appreciated. The security guard or amanuensis is not an anonymous face, but a colleague with a name. And that colleague is as much part of the university community as any student or researcher. Many a student, foreign guest or new staff member will feel welcome precisely because of that one cordial doorman or helpdesk worker. Or they may just as well feel lost or excluded if that interaction is lacking. So, all employees are an inseparable part of our community. At the same time, we should not pretend that there are no differences. Our communications should take into account the major differences in tasks and level of education; but respect for each person and their contribution should be the foundation of our university community. Ideally, there should be ties between support departments and academic department, so that every staff member belongs to at least one mixed 'team' of academic and support staff employees.

A diverse and inclusive community requires investment; it will not arise spontaneously. We must pay attention to inclusion and participation. Customs and practices may not speak for themselves for groups of people like first-generation students, people with disabilities, or people with a migration background. If everyone looks out for one another, then everyone can feel welcome. Investing in social cohesion takes time, money and, above all, deliberate attention. As a community and organisation, we must be willing to invest; in mutual communication, in mutual deliberations, and in both structural and spontaneous encounters. This is in line with the report by the committee led by Naomi Ellemers cited above, and its appeal to dare to embrace discomfort. This investment is not altruistic; it contributes to employee job satisfaction and well-being, and ultimately enhances quality and productivity. A term for this in management literature is 'encouraging organisational citizenship': behaviour in which employees are willing to go the extra mile, of their own free will and sense of commitment.[169] A willingness to help others, beyond what is expected based on one's job description. This kind of behaviour makes a positive contribution to an organisation's effectiveness. It reinforces teamwork, reduces dropouts and turnover, reduces counterproductive behaviour, and contributes to higher productivity.[170] By going the extra mile, we do not mean that everyone just has to work even harder; our workload should certainly not increase any further, because it is already very heavy - unacceptably so in some positions. But if everyone lends each other a helping hand, the work not only can become more pleasant, but also more effective, and can help reduce stress levels and workloads. Such culture cannot arise from good intentions alone, because many will not feel sufficient room or incentives to help others. Instead, we need to address the lack of funding and out-of-control competition, and we will have to adjust our organisation. This is already manifested

[169] Smith, C. A., Organ, D. W. & Near, J. P. (1983). Organizational Citizenship Behavior: Its Nature and Antecedents. *Journal of Applied Psychology*, *68*(4), 653-63. doi.org/10.1037/0021-9010.68.4.653

[170] Mohammad, J., Quoquab Habib, F. & Adnan Alias, M. (2011). Job Satisfaction and Organisational Citizenship Behaviour: An Empirical Study at Higher Learning Institutions. *Asian Academy of Management Journal*, *16*(2), 149-65.

in the way resources are deployed in governance agreements, and in 'Recognition and Rewards'. But these are only the first steps in an overall change of culture, and therefore of organisation.

3.1 *The inclusion of third parties: collaboration, exchange and internationalisation*

In the example of the multiple 'teams', or networks, of our fictional employee Laila's, we saw that these frequently extend beyond the organisational boundaries of the department, faculty and even the university. This is entirely in line with the development towards an open university we outlined in the previous chapters. Quality of research and education, and especially the university's 'third mission' of societal impact, all benefit from collaboration beyond institutional boundaries. The labour market and other parts of society are increasingly internationally oriented, as Nuffic points out in its report 'Internationalisation in focus', and in the recommendations issued by the Education Council.[171,172] Being in contact with colleagues, clients or neighbours with a different cultural background is a day-to-day reality. So, it is important for graduates to develop international skills and competencies relevant for a multicultural society. These reports are supported by academic studies that highlight the added value of international students for education, both economically[173] and for the quality of education[174]. Other research shows that there are positive correlations between international collaboration, team-authorship, and the quality of publications.[175] For the community, this means that internationalisation

[171] Education Council. (2016). *Internationaliseren met Ambitie*. Retrieved from: onderwijsraad.nl

[172] Education Council. (2016). *Internationalisering in het Hoger Onderwijs*. Retrieved from: onderwijsraad.nl

[173] Kamm, E. and Liebig, T. (2022). Retention and economic impact of international students in the OECD. *International Migration Outlook*. oecd-ilibrary.org/

[174] Schwarzenthal, M., Schachner, M. K., Juang, L. P., & van de Vijver, F. J. (2020). Reaping the benefits of cultural diversity: Classroom cultural diversity climate and students' intercultural competence. *European Journal of Social Psychology*, *50*(2), 323-46. doi.org/10.1002/ejsp.2617

[175] Fortunato, S., Bergstrom, C. T., Börner, K., Evans, J. A., Helbing, D., Milojević,

does not stop at welcoming international staff and students within the own organisation, but must also involve a multitude of contacts and networks outside one's own university. This, too, is part of the ideal community we have in mind: permeable rather than closed. Such a community includes many 'third parties': colleagues from around the world, exchange students, and people from outside the university, such as industrial and societal partners involved in research, education, or organisation, but also professionals who participate in Continuing Education, and stakeholders such as patients, politicians or local citizens.

We must pay special attention to the international members of the community: students, employees and staff on temporary exchange assignments, and employees of foreign origin who are here for a longer period or permanently. National and international collaboration is an absolute must for high-quality research and education; quality and impact increase through the exchange of expertise and input from a global and diverse perspective. The fundamental need for international knowledge exchange is evident from the mere fact that it has been trafficked and exchanged since time immemorial. Stories about famous sages or scientific breakthroughs are, almost without exception, stories in which travel, meetings and discussion with others play a crucial role. The need for international collaboration has only become more urgent due to the complexity of the challenges we face, which are increasingly global in nature, and by the growing specialisation of knowledge. We therefore see a movement towards more structural exchanges and partnerships. Knowledge and experience are exchanged via a variety of networks, at a multitude of organisational and academic levels. For example, through the LERU, EUA, SURF[176] and many other networks. Individual staff members also often have a rich network outside

S., Petersen, A. M., Radicchi, F., Sinatra, R., Uzzi, B., Vespignani, A., Waltman, L., Wang, D. & Barabási, A. L. (2018). Science of Science. *Science*, *359*(6379), 1-7. doi.org/10.1126/science.aao0185

[176] Respectively: "League of European Research Universities", "European University Association", and "Samenwerking Universitaire RekenFaciliteiten". SURF is a partnership of Dutch universities, universities of applied sciences, UMCs, vocational education institutes and research institutes in the field of ICT (innovations).

their own institution. We have also observed a rise in strategic alliances to intensify collaborations; not to exclude other contacts, but rather to stimulate and facilitate some specific contacts. International collaboration in research and education is dependent on Open Access, Open Code and FAIR Open Data being further developed in the Open Science programme.

Universities seek complementarity to optimise research and education thematically, as exemplified in the alliance between Utrecht University, TUe, Wageningen and UMC Utrecht. As part of the European University Initiative, there are now 41 alliances in the EU in which at least seven member institutes each work together on major themes. The UU is involved in CHARM-EU, which stands for 'CHallenge-driven, Accessible, Research-based, Mobile European University'. Some collaborations, such as in the European University initiative or other research-education partnerships, often involve staff exchanges. Partnerships and communities therefore regularly cross university- and international borders. International students and staff, both visiting and through collaborations, are therefore an inseparable part of an internationally functioning university. Visiting international students and staff are almost always a minority at Dutch universities. This carries a risk of marginalisation and exclusion, because most of them - certainly the temporary students, staff or visitors - are not proficient in the Dutch language and are therefore shut out of some of the communication. Socio-culturally, too, it is not always easy for foreign students and staff to understand Dutch manners and the unwritten rules of the organisation. It is therefore vital for us to welcome international staff and students to the community, and to help them find their way through the tangle of written and unwritten rules. If we don't, we leave untapped a huge potential of rich insights, knowledge, and commitment. If someone visits the university briefly, for a work visit or a short student exchange, then simple hospitality might be enough to make sure they feel welcome. If people come for a longer period, for example international staff or students, then it is important that they not only feel welcome, but also feel a sense of home and belonging to the community. As we mentioned in the introduction, there are many indications that this is currently often lacking. A mentor

can help them make sense of the issues they encounter, while helping them bond with the organisation.[177] Dutch classes can help them feel involved socially and in the organisation. Housing is a big bottleneck that needs to be solved. This is an issue among our staff, just as it is with students. The proportion of international students is growing, and that is desirable due to the rich input they can bring from the diversity of backgrounds. But there are some worrying reports that they are occasionally actively excluded by Dutch students. Sometimes Dutch student may be reluctant to invest the time and effort to befriend international students, because the international students will leave after one or two years. Also, there are feelings of competition for the extremely scarce student accommodations, or memberships of student associations. Many international students experience loneliness. Some exclusion may be unintentional, such as when other students or colleagues switch to speaking Dutch in a mixed group conversation. But intentional exclusion also occurs. For example, when a room becomes available in a student house, and it is indicated in advance that international students are not welcome.

The success of internationalisation should not be measured by intake figures or percentages, but by how at-home international staff or students feel, and whether their unique input is needed, seen and utilised. Investment in housing, but also in onboarding after enrolment or hiring is therefore absolutely necessary. From experience, we know that international students and staff regularly come up against the fact that they do not know the written or unwritten rules. How do you address a teacher, supervisor or research leader, for example? And in what tone of voice? Do you dare approach the person at all? Being proactive in approaching others and speaking up is something we expect from people in the Netherlands but this might be very dissimilar in other countries. So how do internationals find out about these social norms and values? That is only possible if you have colleagues you trust, to whom you dare to say what puzzles or bothers you. And who can provide you with supportive advice and feedback. If you bring in

[177] Smith, B. (2013). *Mentoring At-Risk Students Through the Hidden Curriculum of Higher Education*. Lexington Books.

international students or staff as a university, you also have to take care of them. Through facilities, but certainly also through our attitude and behaviour. 'Open' as a basis for the university and its education can only be a success if students and staff actually develop and display a curious, open attitude. Open to society, but therefore also towards temporary or permanent students or staff from other backgrounds. We need to reflect on how good we are at thinking outside our (Western) box. If we realise that it is not easy and we have somethings to learn there, international members can actually hold up an important mirror to the university community. The extra effort we invest then becomes an added value. We also need to invest in language courses. Specifically, English language courses for all university employees who are willing to learn, because it is increasingly important to be able to express oneself comfortably in English, no matter whether you work as university personnel in academic or support roles, and regardless of your level of education. Vice-versa we need to invest in Dutch language courses for everyone with a foreign language background. For temporary visitors, a short introduction to Dutch language and culture can help them participate in the community in a pleasant and effective way. For permanent international staff, an intensive Dutch course may be helpful to participate fully in the community and Dutch society in general. And it should not just be about skills: managers and colleagues should focus on providing them with a warm welcome. Do we check what language we speak when an international participant arrives? or do we just continue to speak Dutch, which can make someone feel excluded? And do we pay attention not only to the formal start, which is often already provided, but also informally to the culture of each team? Ideally, every team should regularly pay attention to motivating team members who feel less involved. That definitely includes attention for new international team members, not only in terms of the substance of their work, but also for them as a person; to help them find their way in the organisation, the country and the culture, and to feel welcome.

4 • TOWARDS A NEW WAY OF RECOGNISING AND REWARDING

An open team culture can only develop if we fundamentally change how we recognise and reward our staff's efforts. The current academic and non-academic staff rewards system is extremely individual-oriented; see Chapter 1 and 2. This has to change: not because we are idealists, but because team spirit is what will create the next step in research, education and societal outreach. Take education as an example. For too long, education has been perceived of as a solo task. With all its consequences: fragmented programmes, mediocre teaching, and low visibility. By approaching education much more as a team effort, we can dramatically improve the quality of education. Teachers, students, professional experts, and stakeholders can sharpen each other's subject knowledge by brainstorming together and giving each other feedback. Involvement also provides motivation, and teamwork between teachers strengthens the coherence within programmes. As we write these words, it is incredible to think that we still often see education as a solo activity.

The relationship between research and education has also come under pressure due to the one-sided valuation of research performance for individual careers, even though education can and should nurture research, and vice-versa. Research is the basis for academic education, and teaching helps the researcher reflect on the significance of their research and to situate it within recent developments. Students' own questions or research can also contribute directly to research: students offer diverse and creative thinking potential and tapping into it both supports their development and can contribute to new knowledge.[178] In this context, it is sometimes referred to as the 'research-teaching nexus'.[179] How strange, then, that education is regularly 'outsourced'

[178] Drost, R. H., Dictus, W. J. A. G., Prakken, B. J. & Bovenschen, N. (2019). How a Four-Year-Old Boy Connects Healthcare, Biomedical Research and Undergraduate Education. *Nature Biotechnology*, *37*(9), 1092-5. doi.org/10.1038/s41587-019-0245-5

[179] Healey, M. (2005). Linking Research and Teaching to Benefit Student Learning. *Journal of Geography in Higher Education*, *29*(2), 183-201. doi.org/10.1080/03098260500130387

to junior employees or temporary staff. How strange that education receives so little attention and appreciation and is perceived as detrimental to academic careers. Yet, that is precisely the consequence of the current measurement and reward system. The enormous pressure of publication metrics and unilateral rewarding of research in academic careers are now recognised around the world as major problems for the quality of research, education, and service to society. Nationwide, a major academic culture shift has been underway in the Netherlands since 2019, under the heading 'Recognition and Rewards'. Utrecht University has been implementing this national programme through the TRIPLE vision: Teamwork, Research, Impact, Professional performance, Leadership, and Education.[180,181,182] The vision seeks to optimize impact from research, education, and professional activities through strengthening teamwork and leadership, and by allow for diverse and dynamic careers. In line with its choice to diminish the gap between personnel in academic and other roles, Utrecht choose to extend the TRIPLE vision to all university personnel, so apply the vision both to academic and non-academic careers. Leadership plays an indispensable role in this vision. Especially in the form of 'serving', or empowering, leadership.[183] Servant leaders strengthen employees' commitment and willingness to go the extra mile. Teamwork and leadership are the two fundamental principles that guide how we treat each other.

A change in metrics and in the way we assess performance is essential

[180] Nederlandse Organisatie voor Wetenschappelijk Onderzoek (NWO). (2019). *Position paper 'Ruimte voor ieders talent'.* nwo.nl/position-paper-ruimte-voor-ieders-talent

[181] Werkgroep Erkennen en Waarderen. (2021).*Visie Erkennen en Waarderen Universiteit Utrecht*. Utrecht University. Retrieved from: uu.nl

[182] Utrecht University. (2020, December 1). The World Does Not Benefit from Scientists Being 'One-Trick-Ponies: Utrecht University Pioneers for a New System of Recognition and Rewards. *The Chronicle of Higher Education*. chronicle.com/paid-content/utrecht-university/the-world-does-not-benefit-from-scientists-being-one-trick-ponys

[183] Mostafa, A. M. S. & Bottomley, P. A. (2020). Self-Sacrificial Leadership and Employee Behaviours: An Examination of the Role of Organizational Social Capital. *Journal of Business Ethics*, *161*(3), 641-52. doi.org/10.1007/s10551-018-3964-5

to create more synergy and dynamism between the areas in which we aim for output. Although the programme 'Recognition and Rewards' is a national one, the movement to renew academic assessment is not limited to the Netherlands, as we mentioned in Chapter 2 and 3. Nor could it be, because as universities we always operate in an international context. Whilst the Netherlands is operating in the forefront of this movement, the discussion is rapidly expanding to the rest of Europe and throughout the Anglo-Saxon world. A successful implementation of Recognition and Rewards will contribute to teams-based approaches to research and education. It will enable us to install talent policies that are less focused on individual excellence in a single field, but look for ways to optimize team performance, and recognize everyone's contribution to that performance. In the new Recognition and Rewards system according to TRIPLE, teams and their diversity and inclusiveness are essential to the quality of work. Support staff, stakeholders, students, along with academics, are essential for the university to function well as a community and to achieve its goals. Everyone's contribution is vital, and part of the university's great shared mission. Recent developments in research assessment as agreed to by Dutch universities in the 'Strategy Evaluation Protocol' (SEP) show that it is possible to move from quantitative to qualitative measures.[184] And that it is also quite feasible to include issues such as openness, safety, inclusiveness and scientific integrity in the assessment of teams and thus support desired cultural change.

5 • LEADERSHIP AND COMMUNICATION

A collective feeling and shared mission require us to listen to each other, to hear each other from different layers and corners of the university. Leadership and communication are crucial here.

The nature of the university's core missions - research, education and societal impact - means that there is a high degree of subject-matter expertise and professional autonomy. This is a great asset, but it does

[184] VSNU, KNAW & NWO. (2020). *Strategy Evaluation Protocol 2021-2027.* Retrieved from: universiteitenvannederland.nl

not absolve us from teamwork or assuming our societal responsibility. Instead, it means that everyone's expertise should benefit the various teams, and the bigger picture. To work together on the university's larger mission - utilising the great diversity of expertise available - it is crucial to stimulate internal debate. We must harness the wealth of viewpoints, expertise, and experience within the community as a whole, and strengthen the commitment of each individual member of that community as a shared narrative emerges. Academic leadership plays a major role in this effort and is, for good reason, one of the pillars of the recognition and rewards developments outlined above. Leadership includes both formal and informal leadership. It involves people from all levels of the community, actively contributing to formulating the collective narrative and constantly take it a step further. People who take the initiative and ensure that the multitude of voices are heard. Leadership also entails being able to follow. Once choices have been made on the basis of broad input, leaders have to be able to motivate others to engage and ensure that everyone knows how to contribute. Leadership therefore plays a role at all levels, from all work floors up to the Executive Board. Displaying leadership means taking responsibility and caring for each other and for the university. Poor leadership has been identified as one of the main causes of social unsafety.[185] Strengthening leadership is high on the agenda of all Dutch universities in the national Recognition and Rewards programme, as we have explained elsewhere in this chapter.

One of the big challenges we have mentioned above is collaborating across all the different layers in the organisation. There is a strong hierarchy within the university, based on academic status, age and experience, roles, and positions. We measure one another along many axes. This colours our input, either consciously or unconsciously. It is of course good for us to recognise and use experience and expertise. But that only works if we all act as both followers and leaders. First understand, and then be understood. Nobody has all the wisdom in

[185] Bondestam, F. & Lundqvist, M. (2020). Sexual Harassment in Higher Education – a Systematic Review. *European Journal of Higher Education*, *10*(4), 397-419. doi.org/10.1080/21568235.2020.1729833

every domain. Teamwork breaks down when positions are abused, or when the gap grows too wide. Then cooperation breaks down, certain opinions are structurally ignored, and we run the risk of developing blind spots. Teamwork also breaks down when communication fails, or when there are conflicting messages between the formal, desired vision and communication and the actual lived culture. A common analogy is that of an organisation with an iceberg: part of the iceberg is visible - the formal structure and policies - but a much larger portion is hidden underwater - the organisational culture. So, in an ideal organisation, there is a clear vision and mission expressed in both word and deed. People also know how they can contribute to that mission; which cog, no matter how modest, they themselves represent in the larger wheel of the organisation. To be able to work as a community on a shared mission, distances between managers and work place have to be bridgeable and permeable, with managers preferably also themselves participating on the work floor. There must be an active exchange, and managers must listen carefully to ensure that all on the work floor feel seen and represented and can participate in strategic decisions. The part of the iceberg underwater must be included in changes that take place above water, and vice-versa.

In short, the workplace culture and the organisational structure and formal policies all need to change together. We already hold a vast number of meetings, and we already experience a plethora of 'silos' and fragmentation. So the solution is not adding more meetings and committees, but in improving our relationships and trust. Employee participation bodies, such as the university council, play an important role in connecting across the layers of the organisation. It is vital that a large and diverse group of students and employees are active in the council. And that they not only have a reactive and reviewing role, but also a proactive, signalling, initiating and brainstorming role, so that communication is truly a two-way street. In addition to formal participation, there must be effective communication between individuals, within and between teams, and inside and outside the organisation. This communication must be both vertical and horizontal, because we must not forget the 'sideways' conversation in addition to the vertical conversation. The focus is often on the hierarchical line of commu-

nication, but it is perhaps just as important to stay in touch in the breadth; between faculties, research groups or different support departments. Exchanging knowledge and experiences, and being aware of each other's strengths and challenges, builds understanding and a sense of togetherness. A good example is when our university had a shortage of teaching spaces. The vice deans of education of the various faculties explicitly agreed to share the pain as evenly as possible, and not let it be a problem for the faculties that happened to be suffering most at the time. Their short-term self-interest was subordinated to long-term collective interest by not introducing competition for scarce resources, but by striving to optimise collective resources. That might sound logical from an overarching perspective, but it is certainly not a given in large organisations. This is a culture we definitely want to build on for the future.

So, we want to build a community that works together to accomplish our mission, and for that we need communication. Nothing sounds as easy in theory, but is as difficult in practice, as communication. We do it all day long, and yet it is perhaps the biggest challenge in a large organisation like the university. Because how do you make sure everyone is connected? Meetings are important, but the quality of meetings is even more important than their quantity. And that requires trust in each other, and openness. Leadership at all levels of the university plays a crucial role in creating that trust; in cultivating an open, safe culture and encouraging teamwork. In the medical world, the report 'To err is human' woke up many to the fact that communication is crucial.[186] The report studied a large number of incidents, and as many as two out of three serious incidents involved problems in communication. Other famous, or perhaps we should say infamous, lessons come from the aviation industry. Events such as the 1990 crash of Avianca flight 52 in New York, when the message 'running out of fuel' was not understood as an urgent distress signal, make it clear that language and

[186] Institute of Medicine, Committee on Quality of Health Care in America, Kohn, L. T., Corrigan, J. M. & Donaldson, M. S. (2000). *To Err Is Human: Building a Safer Health System*. National Academies Press.

communication is not as simple as it seems.[187] Every human makes mistakes, both unintentional and intentional, and that cannot be avoided. But in a well-functioning organisation, cooperation, consultation, and proper procedures can prevent them from leading to crucial errors for the outcome. In the case of the 'To err is human' report, the errors resulted in harm to patients, but the principles apply equally well to functioning in other areas. So: good communication is crucial.

A natural tendency to encourage communication is to strive to introduce more structural consultations, but in the ideal university, meetings are used sparingly, and the main focus is on the quality of these consultations. We should pay more attention to informal conversations. Our approach to meetings should be to focus on main issues and leave details to those tasked with the execution. Rather than monitor each other, we want to have confidence in each other and in the teams' ability to contribute optimally to these main lines of implementation. That, in turn, frees up space for a thorough execution of primary tasks, for much-needed rest and reflection, for inspiration from spontaneous encounters, and for moments of relaxation; to be ready for peak performance at other times.

In addition to a good communication and consultation structure, an open community requires a culture in which holding each other accountable is completely normal. At the university, miscommunication fortunately does not have immediate fatal consequences, but we should still be aware that many risks lurk here. It is enormously challenging to organise efficient - and at the same time, open - communication in a large organisation. It is not easy to ensure that important (opposing) voices are heard. And you can't do that with procedures alone. The most important factor for this is the culture and an attitude that people are jointly responsible for what happens; where giving and accepting feedback is seen as a process of improvement, and not criticism. That entails listening carefully and developing an open attitude. The way people organise themselves evolves over time, but the university as an

[187] Patty, A. (2016, October 2). Fatal consequences of miscommunication between pilots and air traffic controllers. *The Sunday Morning Herald.*

organisation seems to be lagging in some ways. We'll discuss this in more detail in the chapter on employee participation.

6 • THE UNIVERSITY AS A MEETING PLACE

To realise its societal mission, the university must be a meeting place. A place where citizens meet students and researchers; a place where societal stakeholders bring in real-life problems and gain insights; a place where scientific debate and knowledge exchange take place through incoming and outgoing visits. Public engagement, co-creation, and many other desirable developments as outlined in the other chapters all require personal encounters and collaboration.

But before we look outside, let's take a look inside, bringing together a number of issues from previous paragraphs. To create a climate that fosters optimal performance, well-being is key. Social cohesion is key to building a healthy working climate. The university is a huge organisation. It can feel great to be a part of it, but you can also very easily feel lost and alone. People therefore must have a 'home base', despite (or precisely because of) the multitude of teams we described above. It is essential to be seen and known as a person within the large organisation. In an ideal university, it is important that everyone also has a smaller team they belong to, in addition to feeling part of the big picture called the university. A group of people with whom you feel safe and known; somewhere you can tell your stories, and where people miss you when you're not there; where you feel valued and supported. From the field of motivation theory, we know how important connectedness is.[188] We all have a need to belong somewhere. Motivation for your work and enjoying your study are crucial both for the quality of performance and mental well-being. So, we need to actively invest in social cohesion. Incentivising team-based work alone is not enough. Because, indeed, the necessity of cooperation brings people together. But where some may have an obvious home base, others may be part of so many differ-

[188] Deci, E. E. L. & Ryan, R. M. (2012). Self-Determination Theory. In P. A. M. van Lange, A. W. Kruglanski & E. T. Higgins (Eds.), *Handbook of Theories of Social Psychology* (pp. 416-36). Sage Publications Ltd.

ent teams that a sense of a 'home' base may be more difficult to achieve. So, it is very important in the ideal university to always be mindful of that, and to create home bases when necessary. In education, we do that through tutor groups: smaller circles of students within a larger cohort. But it can also be arranged through voluntary social activities or structures. Actively investing in cohesion and social activities is necessary, whether by organising a departmental outing, a brainstorm day, or after-work drinks for networking. One experiment going on at the moment is organising 'academic families': people from different parts of a faculty form a mixed 'family' together, a group of people with whom you choose to become socially connected. This allows you get to know other people, and they get to know you, which sometimes means you gain insight into parts of the university you would otherwise hardly see. The current pilot project involves students and academics, but this can eventually be extended to represent the entire community. Whether this will work remains to be seen; there may be too little that binds the members of an academic family for this to be an effective tool. If so, we need to look for other ways to promote social cohesion. Because if we want our community to be a warm beating heart, then there must be a home base for everyone in it.

Besides looking inwards, we can also to look outwards. Here, too, we refer to the previous paragraphs. We have already emphasised that collaborations should extend beyond the boundaries of an institute, and that stakeholder involvement is of eminent importance for education and research. But it is also important to be open to a wide audience, to play a role in the city. This applies in a substantive sense by contributing through our activities: 'think globally, act locally'. But it also applies in a socio-cultural sense: the university and its community are inherently linked to the city and region in which they are located.

Such a city, in our case Utrecht, experiences both the joys and burdens of the academic community. The 'joys' include aspects like employment and a large market for cultural and hospitality offerings. The 'burdens' include the added pressure on the housing market. But, ideally, citizens from the community should also feel involved and feel welcome at the university, whether through the university museum, open days, public activities, outreach activities to schools or organi-

sations, or buildings that combine university functions with public functions such as the university library or University Hall in the city centre.

And that brings us to the physical presence of the university. We started this chapter by emphasising the community rather than the buildings, but here we want to take a moment to reflect on the importance of the university as a physical meeting place, both for the public and for the university community. If the COVID-19 pandemic has taught us anything, it is that we can do a lot online, but something essential is also lost when we cannot meet in person. Among our students, there are concerns about mental health, but also about socialization and subjectification as important goals of education. Among staff, concerns arose about heavy workloads and mental well-being, but also about missing social cohesion and inspiration. Conversations soured and flattened, and there is less room for putting out feelers to sense how people feel, what drives them or bothers them, what can cause or escalate conflicts, and what obstructs the generation and sharing of knowledge. We can also put those experiences to positive use. After all, we have all discovered exactly how important and crucial personal encounters are. University buildings and public space around them form the backdrop for these encounters, whether it is a campus like the Utrecht Science Park, or buildings in an inner city.

In the future, a new balance will emerge between working from home and in the office. The image of a building with many cubicles and closed doors can be scrapped; after all, you come to the university to meet each other. At the same time, if only part of the team is on location at any one time, there is a risk that meetings remain mostly hybrid. Instead, meetings should be on location as much as possible to facilitate connection and creativity. And we should use meetings sparingly, so that people also have time for spontaneous meetings in the corridor and around the coffee machine. The rest of the time, employees can concentrate on their work, either at university or at home. This new way of working will take shape in the coming years, but what is certain is that the university's physical environment will therefore become more important for its social aspects, for encounters and inspiration.

Because the social aspects are so important, during studies and also at work, a campus should serve as more than just a place to work, study, or hold meetings. Ideally, the campus is a place where you want to be, and where it is difficult to choose from the wide and attractive range of educational-, research-, cultural and social activities. Catering and leisure facilities are a crucial part of a living campus, as is a rich selection of cultural and sports activities. You can work or study at home or at another place where you can concentrate, but you go to 'the uni' for personal encounters and inspiration. It should be a place where you can make or experience music, theatre and dance together, admire architecture or take walks through the surrounding nature or the botanical gardens. Academic activities also have a place here, and together with cultural and social activities, they can contribute to broadening everyone's development, from students to employees. These activities can also have a public function. A great example is the public lectures that were spontaneously organised around the outbreak of the war in Ukraine, where experts placed recent developments in geopolitical context for students, staff and other interested visitors. Of a similar nature were the public lectures in which the COVID pandemic was discussed from medical, biomedical, but also cultural and social perspectives. Initiatives like these reinforce the formation of a community where you learn with and from each other. The joy, inspiration, and connectedness that such rich campus life can provide, contributes to a healthy, effective and inclusive community.

7 • CONCLUSION

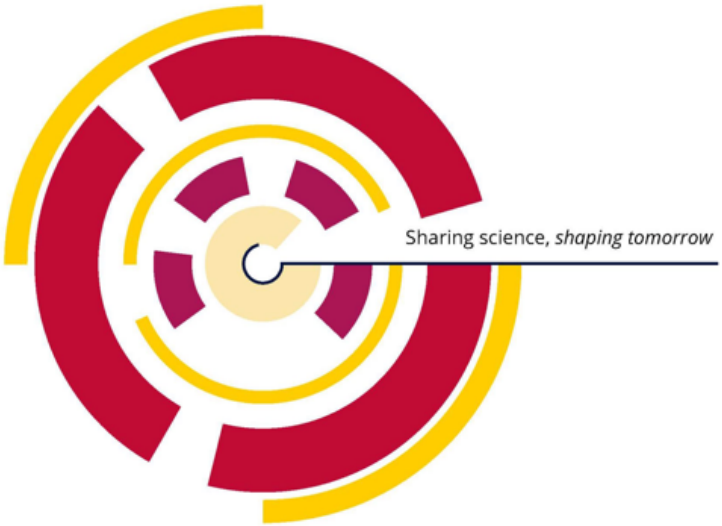
As we have emphasised several times before, the ideal university of the future is explicitly connected to society and is an integral part of it. As society is constantly changing, the university must also constantly rethink and adapt. Such agility requires a learning organisation. An organisation that doesn't start from the status quo and focusses on maintaining it, but one that is aware of the need to change and actively searches for new ways of working and new ways of organizing the work. An organisation that constantly and critically reflects on itself, explores

what can be done differently, and faces the difficulties that come with change.

In this process, external communication and debate are just as important as internal communication and debate. The community is open to and in contact with many relevant stakeholders outside the university walls. Making our work public is an integral part of our activities, but it involves more than just transmitting. It also contributes to reviews of our activities, and reflection on what the university exists for. A great initiative that reflects this vision is the Faces of Open Science project, see Inset 4.2.

The university as an organisation is centuries-old. But we have to realise that the organisation needs to be much more flexible than it has been in the past. For instance, it is currently quite clear that collaboration across faculty lines is increasingly vital for inter- or transdisciplinary research and education, and that current financial and organisational structures sometimes hinder it. In Utrecht, as elsewhere, we are looking for solutions to facilitate cross-faculty collaboration through structures such as university-wide strategic research themes, or educational innovation funds that reward cross-faculty initiatives. Above all, however, we must realise that there is no ideal organisational structure that always provides the best answer. The university will have to constantly reorient and reinvent itself. And that will require a humble and learning organisation.

INSET 4.2.
FACES OF OPEN SCIENCE.[189]



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Utrecht University works to build a better world with an open perspective, an open attitude and open science. Open Science is a vital element of this effort. The university is working on making science open in a variety of ways: through the connection with society, access to knowledge and data, and how we work together within the scientific community. That means the Open Science movement has many faces and is constantly evolving, both nationally and internationally. At UU, we believe it is important to make this diversity visible and bring it up for discussion, because critics should also have a voice in the culture change. We want to give 'an inside look' at internal discussions and tensions, to keep the Open Science movement open to a wider audience. Faces of Open Science illustrates that open attitude.[190]
The Faces of Open Science Project (FOS) was set up as part of The Open

[189] Authors Inset: Susanna Bloem and Martijn van der Meer.

Science Programme at Utrecht University. With this project, we aim to shape a diverse community within UU that collaborates on science in the heart of society. We started by gaining insight into the wide range of people currently collaborating on Open Science, and the variety of ideal academies they envision and that they are creating through their work (phase 1: March 2021- June 2022). Then, based on these individuals and their ideal academies, we designed tools and work formats to facilitate self-awareness among diverse groups (both academic and support staff) within Utrecht University and the University Medical Centre Utrecht. The goal is to encourage people working at UU to implement Open Science practices within their own academic context (in both education and research). (Phase 1.2: April 2023 - June 2023). Then we move on to encouraging and training various groups in the UU to develop the products of FOS in their own academic environment, and to work there to create a healthy and productive community (Phase 2: start December 2024).

These personalities and ideal academies are based on private in-depth interviews among key players within the Open Science movement at Utrecht University, who form a representative group of the movement's diversity. The interviews are based on questions regarding the interviewees' personal (academic) history, its impact on their views on science in relation to society and scientific knowledge, and how their views on Open Science are based on these factors. The interviews were coded and analysed to identify recurring themes and differences in interviewees' views. The results were distilled and regrouped into 11 personalities and four ideal academies.

Relevant links to background information over FOS are available at the UU Open Science webpage[191,192] and via https://osf.io/wzrg8/.

[190] If you would like to find out more, please feel free to listen to the podcast: open.spotify.com/episode/5s435lLwFcIPMjv6IxZugB

[191] See: uu.nl/onderzoek/open-science

[192] Bloem, S., Van der Meer, M. & Mijnhardt, M. (2024). *Faces of Open Science.* Faces of Open Science project (FOS), Utrecht University.

5 Society

1 • LEGITIMACY

Universities educate students, conduct research, and transfer knowledge for the benefit of society. In the Netherlands, this mission is defined in the Higher Education and Scientific Research Act (WHW). Students are taught through both education and research. Ideally, through this process the student learns to think independently and make trade-offs on the wide range of topics and problems one may face as an active citizen in society and can contribute to these from their own discipline together with other disciplines. To achieve this, the university must be a place for students to openly discuss complex problems, bringing in different perspectives and ideas. This involves factual knowledge concerning problems, their history and dependencies, but also the various interpretations people have and the perspectives on possible solutions that have been proposed. In addition to acquiring factual knowledge, students also learn and practice skills such as listening, curiosity, understanding, analysis and logical reasoning. In this educational vision of the university the correct image is: 'Education is not filling a vessel, but lighting a flame'.

The increasing interaction and relationship that the university enters into with society over the coming years is entirely in line with the times. The old reflex of philosophising about society's problems in an armchair in the quiet of a book-filled study room, overlooking the courtyard garden, is certainly understandable and appealing. This is certainly a way to conduct science, but other, more interactive ways of research and education are needed too. Introducing cherry-picked

problems in controlled doses, without inviting the people who face those problems, creates distance. This way, the academic avoids becoming overwhelmed and involved in the day-to-day complex reality.[193] This distance worked well for someone like Isaiah Berlin, who did important work in the fields of ethics and political philosophy from the peace and quiet of his own study. But he knew all too well, through his own experience, that putting that philosophy into practice in society, with its political problems and power struggles, was a very different story. As we will discuss below, well before the Open Science movement (as launched since 2016), there have been several movements that sought to strengthen and improve the relationship and interaction between science, academics and society. Those movements encouraged researchers to work with a variety of stakeholders from society on an almost daily basis, to define research questions, draw up and implement research plans, and test the results in the context of the problem and problem owners in society.

Nevertheless, conversations between students and teachers inside the university can also reveal major differences of opinion that are not abstract or theoretical, but relate to societal problems and their possible approaches. They actually touch on 'that other story' as referred to above. Some recent examples of such topics include Black Lives Matter, diversity and inclusiveness, racism more broadly, misogyny and sexism, and the colonial past. Conversations and debate on these topics should be allowed to take place in the university with full transparency. These discussions must, however, abide by the Penal Code regarding threats and insults and academic mores regarding the substantiation of statements.[194] If there is one platform in an open society and democracy where such exchange and discussion should be possible and nurtured, it is the university. It is precisely by delving into the origins, diversity of perspectives, and solutions to problems that

[193] See the ironic description by Huxley, A. (1928). Chapter XXVI, From Philip Quarle's Notebook. In Huxley, A. (Ed.) *Point Counter Point*. Chatto & Windus.

[194] Kummeling, H. R. B. M. (2022). Academische vrijheid in tijden van wakkerte en cancelcultuur. *Nederlandse rechtsstaat.* nederlandrechtsstaat.nl/academische-vrijheid-in-tijden-van-wakkerte-en-cancelcultuur/

students become fully-fledged critical citizens who can make their own choices.

In this process of discussion with fellow students and teachers, students will also learn to reflect on their own intellectual and societal positions, their worldview and perspective on humanity, the assumptions behind these views, and their origins.

2 • SOCIETAL RELEVANCE

The call for societal relevance, as captured in the WHW, is not new. Among the more extensive structural international movements and programmes that focused on the relationship between the university and society, there is: American pragmatism (1900-1957), the Science and Society movement in England (1935-1950), the Sixties movement: 'participatory science' and societal relevance (1960-1980), and Mode-2 research and co-creation (1997-2001). As we will discuss later in this chapter, these movements eventually disappeared, mostly due to external factors such as the rise of positivism after World War II, the reaction to the 'Sputnik' moment - the launch of the first artificial satellite by the USSR in 1957 - and the Cold War: the association (especially in the US) of liberal and socialist ideas with Stalinism and Soviet Russia; and then the international neoliberal turn and the affiliated dominance of reductionist 'hard' sciences within the academic world.[195]

Events at universities in the US and Europe since the 1960s, but also elsewhere in the world, are highly relevant for understanding the relationship between science and society. In the 1960s, the Civil Rights movement and opposition to the Cold War arms race and the Vietnam War shook society and universities, both in America and abroad. Student activism occasionally devolved into violence, often followed by a violent police backlash. In Western Europe, students and teachers for the first time came mainly from working-class or middle-class families with liberal or socialist backgrounds. They found themselves in conflict with a more conservative university establishment that traditionally came from the Christian Democrat, upper strata of society.

[195] Miedema, F. (2022). *Open Science: The Very Idea*. Springer.

The buzzword at the time was that the university needed more 'societal relevance'. Many people wanted to draw more attention to society's problems, the arms race, the environment, nuclear energy, and to the fair distribution of resources and opportunities in our own country, but especially to the relationship with developing countries (The Global South). Fortunately for the Netherlands, these changes did not result in casualties on campus, but there were protests and occupations of university buildings in the Netherlands, with the occupation of the Maagdenhuis building in Amsterdam taking pride of place in the history books.[196] Students did not get their way on all fronts, but they did get a say and a seat at the table. At the end of the day, it was the university, taking student representation into account, that had final say in what would be dealt with and should be studied. These effects continued to have a demonstrable impact on society at large until the 1980s, and the societal orientation of university programmes could be found in the curriculum and the many extracurricular activities, such as 'science shops'. There are several views on the origins and impact of the student movement in the Netherlands[197], but what is clear is that the seeds sown in the previous decades produced a bountiful harvest. A very prominent precursor and example of this was the 'old' Utrecht School from 1948 to 1963,

> *"an inter-faculty collaboration between scholars in medicine, criminal justice, psychology, pedagogy, criminology and biology (Langeveld, Baan, Buytendijk, Kempe, Hudig, Van Lennep, Pompe, Rümke, Van den Berg), who found each other in shared beliefs about how humans and the world should be understood".* [198,199]

The Utrecht School was scientifically progressive, interdisciplinary

[196] Incidentally, it was mainly the earlier occupation of the Tilburg university that sparked the political movement. See Chapter 6, Section 2.

[197] Kennedy, J. (2017). *Nieuw Babylon in Aanbouw: Nederland in de Jaren Zestig*. Boom.

[198] See: uu.nl/onderzoek/de-nieuwe-utrechtse-school

[199] Weijers, I. (1991). *Terug Naar het Behouden Huis; Romanschrijvers en Wetenschappers in de Jaren Vijftig*. SUA.

and politically engaged, and therefore very focused on societal impact, which it had and still has in several areas of society.

With the political turn towards neoliberalism from 1980 onwards, this quickly faded away to make place for a strong focus on the contribution to a competitive national economy, on health and 'healthy aging', and their economically profitable combination. Biomedical scientists took the helm and the associated promise that had once been held by physicists.[200] Until 2010, this was a dominant focus in universities around the world. There was international competition, later based almost entirely on metrics. At first, the competition correlated mainly with academic impact, later complemented with 'valorisation'; the universities' 'third mission', measured mainly in terms of patents, licences issued, and start-ups with numbers of jobs. It was in this period that cooperation between university, industry and government - 'The Triple Helix' - came to fruition all over the world.[201]

After the 2008 financial crisis, the undesirable effects of the globalised economy and neoliberal thinking in society became apparent. At the same time, the environment returned to the centre of attention due to the accelerating effects of global warming. From 2010 onwards, the discontent and frustration of many students, researchers, and teachers with the neoliberal culture that had become very dominant inside the academy, openly grew.

3 • PUBLIC ENGAGEMENT: A RECENT HISTORY

In the context of our thinking about the University of 2030, it is useful to reflect on how Public Engagement, as it is now incorporated into the Open Science movement, has had numerous precursors in recent years that have had a greater or lesser impact in the university. There have been numerous small, local initiatives that have not been widely institutionalised for a variety of reasons. At Utrecht University, Science in Transition is a case in point. The initiative was absorbed

[200] See Chapter 2.

[201] Etzkowitz, H. (2008). *The Triple Helix University–Industry–Government Innovation in Action.* Routledge.

into Open Science after three years, in 2016. The history and philosophy of these movements, and how they were received in the university, have been described in more detail in other works.[202] Earlier initiatives, such as the EU's 'Responsible Research and Innovation' (RRI) (2000- present) and EU's 'Science with and for Society' (SwafS)[203] (2014-present) had a difficult time until 2015, when Open Science was declared the standard within the EU. Under the slogan 'Open to Society', Citizen Science/Public Engagement finally gained a prominent place. The EU has since launched a comprehensive Open Science policy, with implementation of a number of key aspects now underway in member states. In the Netherlands, the Minister of Education, Culture and Science presented a science vision in November 2014 that was fully in line with the (former) RRI and the Open Science and Public Engagement ideology as it subsequently took shape in the EU.[204]

Here, there is explicitly a connection that goes beyond the economy and private parties and companies. The public and general interest, 'The Grand Challenges' and the Sustainable Development Goals, and how the university can and should contribute to them in the regional and international context, in the EU and abroad, all rose to prominence. In these developments since 2008, culminating in 2015, one could see a conscious strategy and vision that reshaped science's social contract with society. It involves consciously reacting, proactively responding to an interplay of issues in society, both national and global, and developments within the university and academic community.

The increasing awareness of the main stakeholders - the citizens - played a major role in this redefinition of the contract with society. Science was seen more and more as a societal activity, and less and less as the isolated or disconnected 'ivory tower' technocracy that we had become wary of sixty years ago. The transition to Open Science will make the academic community more receptive, proactive and

[202] Owen, R., Von Schomberg, R. & Macnaghten, P. (2021). An unfinished journey? Reflections on a decade of responsible research and innovation. *Journal of Responsible Innovation*, *8*(2), 217-33.

[203] Miedema, F. (2022). *Open Science: The Very Idea* (Chapter 7). Springer.

[204] Ministerie van Onderwijs, Cultuur & Wetenschap (OCW). (2014). *Wetenschapsvisie 2025*.

more aware in this new relationship with diverse citizens, governments, businesses and their problems.

4 • ENGAGEMENT, INVOLVEMENT

> *"Drawing on current events, Wieger Bakker (in his 2016 inaugural lecture[205]) illustrated that in our society, groups are still excluded, rejected or insufficiently seen and heard. In a committed and impassioned speech, he therefore argued that universities should work harder on their educational mission to promote societal responsibility. According to him, this includes educating students to actively contribute to an open society. A society in which democracy, rule of law, citizenship and respect for diversity are central and in which every citizen is a full member of the community."*[206]

In most academic disciplines, choosing to study the big and small problems of society, anywhere in the world, is also choosing to participate in 'public engagement'. By that, we mean a reciprocal relationship that allows both parties, the researcher, and an 'owner' of a problem from society, to truly understand each other, which in turn facilitates the conduct of good research. In such a long-term, respectful relationship, the results of the research can be optimally tested for their impact and value in the appropriate societal context.[207] That, in turn, facilitates the production of significant and robust results.[208,209] This is easy to imagine for biomedical research on concrete psychiatric or somatic problems, such as depression and heart failure. But it equally concerns

[205] Bakker, W. (2016). *Opleiden voor de samenleving* [Inaugural lecture]. Retrieved from: uu.nl

[206] Bakker, W. (2016). *Opleiden voor de samenleving* [Inaugural lecture]. Retrieved from: uu.nl

[207] Nowotny H., Scott, S. & Gibbons, M. (2003). Introduction: 'Mode 2' Revisited: The New Production of Knowledge. *Minerva*, *41*(3), 179-94.

[208] Kitcher, P. (2011). *Science in a Democratic Society*. Prometheus Books.

[209] Miedema, F. (2022). *Open Science: The Very Idea* (Chapter 4). Springer.

educational science, which is dominated by the study of problems related to inequality of access and educational success opportunities of children from an immigration background, for example.

This view of transdisciplinary research, as highlighted above, obviously applies just as much to education, which, as Bakker argued in his oration, should also be transdisciplinary. Like research, education at the university starts with a problem. Research and education start where things are not going well, or where things are not as they should be, which in turn inhibits people in a particular environment or context. Learning to think, analyse, and come up with syntheses and solutions based on problems is the essence of education.[210] It is how we prepare our students to function in society as citizens. There are already wonderful examples in many universities where this philosophy is currently being applied.

This is also the mission and strategy that Utrecht University explicitly chose in 2020. You can see it as a fundamental rethinking of the societal legitimacy of the university and science in general. While science and the functioning of university may be essentially societal activities, through which reliable and useful knowledge is produced in the 'community of inquiry', it is precisely this social activity that connects it to society.[211] As a result, the science conducted by universities is what makes them important actors who can share responsibility for the design, norms and values of a modern open society, and support, underpin, innovate and guard democracy.

5 • AUTONOMY AND NEUTRALITY

From the perspective of Open Science and Public Engagement, academics make justified choices about the content, quality and impact of research and education. Choices about the university's research agenda are based on the mission-driven thinking about research and education, and the various analyses of society's questions and prob-

[210] Dewey, J. (2016). *The Public and its Problems: An Essay in Political Inquiry*. Swallow Press.

[211] Miedema, F. (2022). *Open Science: The Very Idea* (Chapter 4). Springer.

lems, both regional and international. There is plenty of room for regional and national priorities, but the United Nations' Sustainable Development Goals (SDGs) also serve as inspiration for research and education about global pressing problems.[212]

As we have seen above, the normative side of 'responsible research and innovation' is increasingly entering the picture with regard to the interpretation of the research agenda at lower levels of abstraction. But that raises a variety of questions. What aspects of economic inequality do we want to study? Which parts of the energy transition? Which new medicines will we work on? And do we do this with private parties, 'big pharma', or rather with public bodies and governments? Will we work on military projects? If so, in what political situations will our products be used? Or in our opinion, misused? These questions are not unique to the 21st century.

Academics have asked themselves these questions since 1945, following the use of atomic bombs on Hiroshima and Nagasaki. The first atomic weapons were conceived and produced in the now-famous Manhattan Project. That project had been suggested to F.D. Roosevelt in 1939 by Szilard and Einstein, shortly after the scientific discovery of nuclear fission and nuclear reactions in Berlin. Einstein signed the letter because of his enormous authority, as he felt responsible that not Nazi Germany, but the US should be the first to have weapons based on nuclear fission and nuclear reactions. The idea, though, was to use the weapons as a deterrent.[213] After their first use by the US in August 1945, which happened against his will, Einstein was very active in international initiatives to prevent nuclear weapons proliferation, out of that same sense of responsibility as a scientist and expert. In Germany, too, former physicist colleagues of Einstein had worked hard to develop atomic bombs and long-range missiles during the war. After the war, these scientists invoked the neutrality of science:

[212] Rijksoverheid. (z.d.). *Sustainable Development Goals (SDG's): 17 doelen voor een duurzamere wereld*. rijksoverheid.nl/onderwerpen/ontwikkelingshulp/internationale-afspraken-ontwikkelingshulp

[213] Hewlett, R. G. & Anderson, O. E. (1962). *The New World, 1939 – 1946.* Pennyslvania State University Press 1962.

> *"Use by wrong parties with the wrong political aims is beyond the responsibility of researchers who produce pure knowledge. The ethical and political choice of how they are used lies outside the scientific community."*[214]

Not surprisingly, the appeal to the neutrality and complete autonomy of science, without any interference from non-academic parties, was made by a group of positivist philosophers and academics.[215] They used philosophical arguments and criteria of science to keep cognitive, inter-scientific arguments strictly separated from values, norms, and considerations of an external societal nature. These philosophers of science also had their own personal motivations. They all had bad experiences with these external influences, as they had fled the Nazi regime before the war, from Vienna mainly to the US and England. The terrifying experiences after 1945 with Stalinism, as well as the military-industrial complex in the West, was grist to their mill. They therefore believed that science - at the time primarily the natural sciences - had to be completely detached from the external influences of society and its problems. Their traumatic experiences and philosophy had led them to be strongly opposed to socialist and (neo-)Marxist Science for Society movements, but also fundamentally opposed to government-driven research agendas. They maintained this attitude well into the 1960s. After all, they had experienced how government was not a stable factor that always had the population's best interests at heart. From 1920 to 1970, positivism had a decisive influence on the way we think about science, specifically from the limited perspective of the exact natural sciences.[216]

Shaped by this powerful ideal of autonomous science that had won the war for the Allies, many academics in the US after the Second World War argued that government funding of science should be substantial, but that universities should be autonomous in the use of those funds. This was against the wishes of politicians who, precisely during the war

[214] Miedema, F. (2022). *Open Science: The Very Idea* (Chapters 1 & 5). Springer.
[215] Edmonds, D. (2020). *The Murder of Professor Schlick: The Rise and Fall of the Vienna Circle.* Princeton University Press.
[216] Miedema, F. (2022). *Open Science: The Very Idea*. Springer.

years, had good experiences and observed many tangible results in all kinds of fields through government control of research. The natural science lobby decisively won this debate in the 1950s, paradoxically by touting their achievements in the war. Society, the lobby claimed, could trust that eventually, they would produce interesting knowledge that would prove useful and applicable. Others, outside the academy, could then take care of those applications.[217,218]

But the paradoxes continued to accumulate. In the US, fuelled by the Cold War and the launch of Sputnik in 1957, the Department of Defence soon became the biggest funder of research. The budget was mainly spent on the natural sciences and technological research at first, eventually followed by more funding for the biomedical- and later the social sciences, though to a lesser extent. Among others, the Massachusetts Institute of Technology (MIT) in Cambridge, MA grew significantly thanks to government funding.

In the Netherlands, too, the field of physics successfully lobbied for government funding immediately after the war, with the *Stichting voor Fundamenteel Onderzoek der Materie* (Foundation for Fundamental Research on Matter (FOM)) being established as early as 1946. This was an explicit response to developments in nuclear physics, which could have obvious military and civilian implications. One does not readily associate this powerful defence and commercial lobby of the time with 'Strings, mirrors and tape', the romantic title of the booklet celebrating the 70th anniversary of the FOM, but which perfectly matches the romantic ideology of pure science.[219] Until very recently, FOM's budget was earmarked by the government, and it increased by 27% annually until 1968. Much of the Foundation's research, as its name implies, was always advertised as fundamental. But it actually came about in close collaboration with government and industry and was actually highly applied and technological. After many years of institutional infighting, FOM was finally incorporated into NWO in

[217] Kleinman, D. L. (1995). *Politics on the Endless Frontier: Postwar Research Policy in the United States*. Durham Duke University Press.

[218] Greenberg, D. S. (1999). *The Politics of Pure Science.* University of Chicago Press.

[219] Van Stel, A., Vrouwe, A., Van Delft, D., Zegers, G., & Eggen, H. (2016). *Snaren, Spiegels en Plakband: 70 jaar Nederlandse Natuurkunde.* WBooks.

2015 and lost its own funding model. The Cold War and a strategy that deliberately aligned it with industry, with 'user-inspired research', was actually quite lucrative for FOM until its dissolution. This unique position of FOM, including its tremendously rapid growth, was taken over by the Life Sciences and research in the field of Environmental Science, and later Sustainability, in response to the major problems that arose in society at large. That research in these domains increasingly has to take the form of multidisciplinary and problem-driven research, is a reaction to the complexity, non-linear nature, and socio-economic interconnectedness of these problems. This trend is obviously not limited to the Netherlands but is, in fact, a substantial international development that is still ongoing. In that context, the classical claim for neutrality is also increasingly being disputed. In fact, there is an increasingly strong call for universities to speak out regarding major societal problems, such as for instance collaboration with the fossil fuel industries or with objectionable political regimes. It is critical that in these debates about topical political issues, the university facilitates and sees to it that these academic debates will be held in a safe way according to academic mores, offering a platform to the diversity of insights and opinions. The university as institute, the Board of the University, and its leadership, takes on a neutral and unbiased position, to optimally facilitate these diverse academic debates. The university may express opinions about issues that violate human rights and the democratic legal order, especially in the national context, and may for that reason terminate education and research collaborations on a national and international level.

6 • RESPONSIBLE AND ENGAGED

This brief historical digression makes clear that in many cases of government cooperation and funding since World War II, universities, and academics, despite their claims about academic neutrality and independence, do not walk away from such lucrative proposals. Not even when huge financial resources are involved, to serve military objectives. Contemporary discussion and arguments for autonomy and neutrality are always dependent on the political and cultural context. In an open

democratic society, there are many topics that can rely on a widely shared consensus, for example because they are based on unchallenged norms, values, and problems. However, there are also many topics that are the subject of fierce social debates.

As we discussed above, when academics find problems relevant, they will research them and come up with results. In these situations, they will present that knowledge, and the advantages and disadvantages of the available choices, based on the academic's insight into the new knowledge. The ideal position for the neutral academic in these debates seems to be that of the so-called 'honest broker'.[220] The academic here leaves their own political preferences for a proposed scenario out of the debate. The fact that the researcher, as a citizen, may have a specific preference, does not matter. Of course, we should not be too naive about that. Things are usually not easy to separate in human thought and action. We know all too well how, indirectly, and often unconsciously, our personal preferences, experiences, and opinions can come into play. This should always be discussed and made explicit in critical discussions with the help of fellow academics and others and should be contested where necessary. This necessary reflexivity has been dealt with above.

The political considerations involve science, but also very different, external policy arguments and considerations. As we mentioned above, the researcher can expect to face fierce debates and is sometimes accused of being biased by third parties, such as politicians or opinion makers in the media, because of a seemingly personal preference for a scenario and policy choice, or the selective use of scientific data. If the academic takes too activist of a stance and operates explicitly from a personal political conviction, it often poses problems for weighing scientific advice regarding societal issues. In contrast, non-governmental organisations (NGOs) act from an explicitly political framework that is openly professed and supported in part by scientific knowledge. In that situation, the NGO must convince others that it has processed and considered all the available knowledge in its judgements and ac-

[220] Pielke, R. A. (2012). *The Honest Broker: Making Sense of Science in Policy and Politics*. Chicago University Press.

tions. The same applies to companies touting that their products are based on scientific findings. The stakes in this interaction have been highlighted by the years of debate between proponents and opponents, activists, and deniers, of the health risks of smoking. Another contemporary example is the debate about the climate crisis, particularly the collaboration with the fossil fuel industry, but also the relationships with Israeli universities given the human rights violations against the Palestinians.

The university will have to pay considerable attention to the problems described above in the coming years, in its education and research, and in guiding and coaching employees who engage in the public arena on behalf of science. Scientific arguments and knowledge play an important role in many societal problems, like the COVID-19 pandemic, the effects of nitrogen and global warming, where parties will try to cast doubt on the scientific consensus when it earns them points in the debate. There is no room for levity and naivety in the public debate anymore in our time, with the hardening and polarisation of political debates at regional, national, and international levels, and with the immediate and major impact of social media.

Another question that arises is: can we, in the university,

as conscientious citizens and as the institution that is expected to make a constructive contribution to society, afford to be neutral? Can we adopt the role of 'honest broker'? That very much depends on the context. Clearly, there is a wide range of issues and problems that touch on the basic principles of our society, on the norms and values that we should actively stand for in an open democracy. There are also many issues that may not be immediately deducible from those values and fundamental principles, but which touch on the future, the design and quality of society, and the life we want to live. If there is scientific consensus that there are issues at play in politics and society, whether locally or internationally, that threaten the quality of life, then we should take action, precisely because of our responsibility as academics and as universities. That involves open discussions within the university community, but also with concerned citizens, political parties, governments, etc. It is in that spirit that the UN has

chosen the Sustainable Development Goals'.[221] These are big themes of this very order, which the EU, in Mariana Mazzucato's report, sees as the framework of its overall mission for research and innovation.[222] This is where all the elements of Public Engagement, as we currently implement them in the Open Science programme, come into play. Mazzucato gives a few examples of these missions in the fields of sustainability and health. But there are also burning questions in the fields of social sciences, humanities, and economics. Consider the looming disruption caused by socio-economic inequalities in work, education, and access to healthcare; and our worries regarding safeguarding of our institutions in the democratic rule of law and free speech. This is where fundamental principles, norms and values, and our insights regarding the design of and decision-making in democratic societies, come together. This is where choices will have to be made based on commitment and engagement, a sense of responsibility, and by taking that responsibility in our actions.

In the 1960s and '70s, there was a strong academic movement that expressed criticism of society as it developed in the post-war years, based on the perspective of 'Critical Theory'.[223] This movement certainly did not ignore self-criticism regarding the role of the academic community and universities. The ideas of that movement now resonate again in modern forms in Open Science.[224] Because of its critical stance, some fear that Open Science and Public Engagement present a danger to their interests. After all, it opens the door of the academic community to public parties - the public and its problems. That is fine. But it also opens the door to private and financially powerful parties. They include the big 'tech' companies, other multinationals, and as described above, the Ministries of Defence and its subcontractors. Moreover, it

[221] Rijksoverheid. (n.d.). *Sustainable Development Goals (SDG's): 17 doelen voor een duurzamere wereld*. rijksoverheid.nl/onderwerpen/ontwikkelingssamenwerking/internationale-afspraken-ontwikkelingssamenwerking

[222] Mazzucato, M. (2018). *Mission-Oriented Research & Innovation in the European Union: A Problem-Solving Approach to Fuel Innovation-Led Growth.* European Commission. Retrieved from: op.europa.eu

[223] Miedema, F. (2022). *Open Science: The Very Idea* (Chapter 5.1). Springer.

[224] Miedema, F. (2022). *Open Science: The Very Idea* (Chapters 5 and 7). Springer.

rightly highlights the huge disparity between countries in the wealthy Northwest and in 'The Global South', in terms of the financial and technical capabilities to use Open Data and Software and bring them to market. As a result, in current practice, Open Access, FAIR DATA and public engagement do not entirely benefit the countries in the Global South and their inhabitants.

The suspicion and distaste for 'valorisation' and public engagement as illustrated above and still experienced by many, is palpable and understandable. After all, for at least the three decades since 1980, the emphasis on this one-sided economic type of public engagement has been very dominant in the overall neoliberal organisation of society. But we now find ourselves in a different era. After the financial crisis and the failure of the neoliberal economists' experiment, there has been a global reflection on the idea of the free market, on the regulatory role of government and 'the global village'. This has also been going on in the academy and university since 2014. The debate was sparked by the economic and social sciences, but it was also fuelled by the humanities concerning the choices we can and should make about how we organise society. This is where scientific arguments, ethics, political philosophy, and our political or religious beliefs come together and create a dialogue. Ultimately, this issue deals with policy decisions in a deliberative democratic context, where the academic community converses with the citizens and usually does not have the last, decisive word.

7 • A GLOBAL SOCIETY

Although some liked to claim that the world is 'one big village' where everyone is constantly connected, we in the North, Europe and the US often still pay too little thought to the Global South. In November 2021, UNESCO, after a long and thorough consultation period, established perhaps the best expression of the Global Perspective in its 'Recommendations on Open Science'.[225] In the preamble, we find

[225] UNESCO. (2023). *UNESCO Recommendation on Open Science*. unesco.org/en/open-science/about

powerful statements that clearly summarise the justification, the expectation, and the promise of the transition to Open Science. The first two propositions are clear:

> *"Recognizing the urgency of addressing complex and interconnected environmental, social, and economic challenges for the people and the planet, including poverty, health issues, access to education, rising inequalities and disparities of opportunity, increasing science, technology and innovation gaps, natural resource depletion, loss of biodiversity, land degradation, climate change, natural and human-made disasters, spiralling conflicts and related humanitarian crises,*
>
> *Acknowledging the vital importance of science, technology, and innovation (STI) to respond to these challenges by providing solutions to improve human well-being, advance environmental sustainability and respect for the planet's biological and cultural diversity, foster sustainable social and economic development and promote democracy and peace."*

A glaring current example of this economic inequality is our failure regarding the global availability of COVID-19 vaccines, and the lack of necessary facilities in poor developing countries to deliver vaccinations to the population effectively and quickly. This is happening, even though we know that this is precisely how new variants can emerge that could pose a threat to the entire world, with immense public health effects. It also has enormous socio-economic effects.[226]

[226] Hunter, D. J., Abdool Karim, S. S., Baden, L. R., Farrar, J. J., Hamel, M. B., Longo, D. L., Morrisey, S. & Rubin, E. J. (2022). Addressing Vaccine Inequity — Covid-19 Vaccines as a Global Public Good. *New England Journal of Medicine*, *386*(12), 1176-9. doi.org/10.1056/NEJMe2202547

INSET 5.I.
UNESCO RECOMMENDATIONS ON OPEN SCIENCE.

"The aim of this Recommendation is to provide an international framework for Open Science policy and practice that recognizes disciplinary and regional differences in Open Science perspectives, takes into account academic freedom, gender-transformative approaches and the specific challenges of scientists and other Open Science actors in different countries and in particular in developing countries, and contributes to reducing the digital, technological and knowledge divides existing between and within countries.This Recommendation outlines a common definition, shared values, principles and standards for Open Science at the international level and proposes a set of actions conducive to a fair and equitable operationalization of Open Science for all at the individual, institutional, national, regional and international levels."

UNESCO does not stop at fine words and colourful sketches of inviting horizons. The problems are stated in a business-like way, along with the actions needed to address these problems. For the record: they include Open Education in Open Science, with explicit mention of Open Education resources and tools. In every issue, UNESCO consistently delves into the yawning gap that exists in the Global South with regard to qualified personnel, the financial resources to train and retain staff, for infrastructure, buildings, heating, power and water. But, even more so for all kinds of facilities, including digital infrastructure, that we, in the rich North, have now come to regard as the absolute minimum conditions for our daily existence. Not to mention access to scientific literature for example for doctors, paramedics, and other professionals in Africa, Middle and South America and Indonesia. In our thinking about the legitimacy and responsibility of science and the university towards global society, we should always keep that in mind. After all, knowledge produced with public funds should be available everywhere, which implies that we should actively address the inequalities highlighted above and by UNESCO.

The latter also ties in with the discussion about dealing with the

colonial histories of Western countries, and what roles governments, churches, businesses, and citizens played in those histories. At the same time, we must also gain more insight into the histories of countries around the world, to truly understand the roots of their cultural, religious, and political differences.

With the return of geopolitics as we now see it in all its political, military, and economic manifestations, we need to reconsider how the university should deal with it. Renewed attention to the academic disciplines that should lead the way in this effort is certainly called for in our education and research.

8 • CONCLUSION

As we explained, the transition to Open Science is explicitly about improving the relationship and interaction of academics and their institutions with society. The ultimate goal of Open Science is Public Engagement and Citizen Science, open co-creation by researchers, and society's stakeholders. Its intended purpose is to improve the quality of research and its scientific and societal impact. The Open Science programme in the Netherlands, the EU, and elsewhere, including UNESCO, pays considerable attention to organisational and institutional interventions that facilitate this transition. Initiatives are currently being deployed around the world to facilitate Open Science in the areas of Open Education, Open Access, FAIR/Open Data and Code, Public Engagement, and Recognition and Rewards - adjusting the way research and researchers are assessed. As we have discussed above, these Open Science practices, especially Open Data, raise important questions and issues, both in the practice of science and the academic community, as well as in interactions with stakeholders in society. We should not be naive and simply idealise Open Data, but rather start addressing those questions and issues. For example, by joining together with researchers from LMIC countries to test solutions that can protect their interests in collaborations with researchers and institutions with more financial clout. This also applies to collaborations with the fossil and military industries. Here, we must pay very close attention to the major differences in how data are used and valued in different fields

and disciplines. For this, see EU initiatives and Sabina Leonelli's recent book.[227] Finally, with the return of global geopolitics in all its political, military, and economic manifestations, we need to rethink how researchers and their universities, as public institutions, can and should deal with it. The open relationship with society is of great importance, but we, in the academic community, will always have to keep a sharp eye on the form, content, and conditions of those collaborations, both as an institute and as researchers. Open Science, therefore, stands for 'critical' public engagement.

[227] Leonelli, S. (2023). *Philosophy of Open Science*. Cambridge University Press.

6 Organisation, Administration, and Staff & Student Representation

1 • INTRODUCTION

Previous chapters have discussed key developments in education and research and have outlined some inviting perspectives. We have seen that the university relates - and wants to relate - differently to society. All of this also has implications for the university community, as outlined in Chapter 4. Naturally, these developments must also be reflected in the university's decision-making process. Because democratic constitutional states abide by a fundamental principle that no powers can be exercised in the public domain without those affected by decisions having the ability to influence the content of the decision-making process, either directly or indirectly (via representation and accountability structures). This is essential for the acceptance and acceptability of decisions.[228] Some important decisions are made within universities, with a view to a limited number of goals, namely education, research, and societal impact. That is why they are also referred to as 'mission-based communities', unlike municipalities, provinces, or the state, for example, which have a wide range of powers over an entire territory and are therefore referred to as 'area communities'. This classification is important for at least two reasons. First, for the delimitation of powers. For example: the university does not have a say in the central

[228] Burkens, M. C., Kummeling, H. R. B. M., Uzman, J., Vermeulen, B. P. & Widdershoven, R. J. G. M. (2022). *Beginselen van de Democratische Rechtsstaat* (p. 217). Kluwer.

government's foreign policy. But far more important in this context is that the university is also legally a community[229], which means that there is a nexus of administrators who make decisions, those affected by the decisions (students and staff), and their representatives (university councils, and, at a further decentralised level, faculty councils and programme committees). Such a community context presupposes interaction and involvement between the three relevant actors. If this interaction and involvement is lacking, serious problems may arise around the legitimacy and quality of decision-making within that community. Because democracy also contributes to substantively better decisions[230], and ultimately to the well-being and welfare of those who are part of the university community.

The question at the heart of this chapter is how the university, as an organisation, can better equip itself for the future. Because it is clear that for the important developments the university is going through, the participation of staff and students is crucial. They will bear the burden and reap the benefits of the developments outlined in the previous chapters. Or rather, they must enable them. But that is where challenges lie.

When first we look at the more formal, representative democracy within the university, we should note that turnout for representative body elections has been very low for many years. This poses a threat not only to the legitimacy of those bodies themselves, but also to the decision-making process to which they contribute. There are also major concerns about exercising the right to stand for election; it takes a lot of effort to find candidates for the representative bodies, and some groups seem to have lost interest in doing so altogether, such as professors.

Aside from these, largely familiar, problems, there are also relatively new developments that raise questions about how the university's democracy is organised. For example, research and education activities

[229] Burkens, M. C., Kummeling, H. R. B. M., Uzman, J., Vermeulen, B. P. & Widdershoven, R. J. G. M. (2022). *Beginselen van de Democratische Rechtsstaat* (p. 330). Kluwer.

[230] Van Gunsteren, H. (2006). *Vertrouwen in Democratie*. Van Gennep.

are increasingly being organised across the boundaries of disciplines and faculties. This requires a re-think of the employee and student participation structures. Who is responsible for quality assurance in multi- and interdisciplinary education programmes? Partly similar questions arise in research. If research funds are provided to faculty-transcending research programmes, who decides on how they are spent, and how do we organise employee participation in the allocation of the funds?

These questions are exacerbated by the fact that universities have recently begun to work together in alliances, where education and research are jointly organised. We see this at national level[231], and also at European level.[232]

In short, there are quite a few issues in the area of classical, formal, representative democracy. A related issue, alongside the perceived reduction of the significance of formal co-determination, is the autonomy of professionals within the university is also severely restricted by rules and procedures limiting their own sphere of decision-making. According to some, the university has even become extremely hierarchical[233], which can have negative consequences for employee workloads, job satisfaction, commitment, and ultimately, the quality of their work. It is not inconceivable that such a constellation of issues also affects their willingness to engage in formal participation.

[231] See also the alliance between Eindhoven University of Technology, Wageningen University & Research, Utrecht University and University Medical Centre Utrecht (EWUU), and their website: ewuu.nl; or the alliance between Leiden University, TU Delft and Erasmus University Rotterdam (LDE), see: leiden-delft-erasmus.nl. A similar development was strongly recommended in the following advisory memo: Veerman, C. P., Berdahl, R. M., Bormans, M. J. G., Geven, K. M., Hazelkorn, E., Rinnooy Kan, A. H. G., Niekerk, W. A. & Vossensteyn, J. J. (2010). *Differentiëren in drievoud: omwille van de kwaliteit en verscheidenheid in het hoger onderwijs: Advies van de Commissie Toekomstbestendig Hoger Onderwijs Stelsel*. Commissie Toekomstbestendig Hoger Onderwijs Stelsel. ris.utwente.nl/ws/portalfiles/portal/5146538/adv-cie-toekomstbestendig-ho.pdf

[232] Especially in the context of the European Universities Initiative (initially also known as the 'Macron networks'): education.ec.eu

[233] Bod, R. Breuker, R. & Robeijns, I. (2020). *40 Stellingen over de Wetenschap* (p. 42). Boom.

Both issues are addressed in this chapter. First of all, the formal power and participation, which mainly focuses on strategy and the corresponding allocation of budgets, as is the case within universities and faculties. Then, there is also the issue of the role of and opportunity for professionals, teachers, and researchers, as well as students, to make decisions around the content of education and research. In the field of education, the curriculum committees serve as a special hybrid form here; on the one hand, they are institutions for formally regulated, legally anchored, representative participation. On the other hand, they are the primary place where teachers and students can freely discuss the quality of education and quality assurance from the perspective of their own professionalism and autonomy.

Before outlining future perspectives, we will briefly examine the history of university organisation, governance, and participation bodies. This will show that it also reflects external and internal developments. This summary will also clarify where some of the current problems originate from.

2 • A BRIEF HISTORY

Even until well after World War II, decision-making within universities was relatively simple. It was the individual professors who made independent decisions about their education and research (to the extent that they did any). Matters of common interest were discussed in the faculty professors' meeting, or in the senate at university level, together with all of the university professors. The senate was chaired by the *Rector Magnificus*, a position that rotated annually. The senate mainly dealt with internal academic affairs. There was also a board of trustees, consisting of administrators whose main duties were elsewhere in society, supplemented by the mayor. The trustees represented the university externally and were responsible for the resources (financial and otherwise). For example, if matters had to be arranged with the municipality regarding construction or accommodations, it was arranged by the board of trustees.[234] In all this, we should remember

[234] In 't Veld, R. J. (2004). Voorbij de Arrogantie van Onbestuurbaarheid: Een Terugblik

that public universities were administrative units of the Ministry of Education until 1963.[235] Only in that year were they given their own legal personality, allowing them to operate independently in legal affairs and to make (fairly) independent decisions about their financial resources. But they then also became independently liable for their actions. This did not mean that from then on universities had their hands completely free, though. For years to come, intrusive budget discussions continued between individual universities and the Ministry.[236,237] Important strategic decisions were determined in The Hague, and the Ministry kept a significant finger in the pie when it came to personnel policy. The right to appoint professors was in the hands of the Crown until 1986. The ministry also determined the number of professors, and the number of assistant and associate professors that a professor could appoint.[238]

The governance model outlined above, which did not allow for participation and co-determination of staff and students, proved unsustainable as student numbers rose dramatically in the second half of the 1960s, partly as a result of a post-World War II baby boom. The composition of that student population also changed, as students from lower- and middle-class backgrounds began to enrol.[239] This necessarily led to a growth in the number of employees, diversification of academic activities, expansion of the bureaucratic apparatus and

op Veertig Jaar Ontwikkeling van Universitair Bestuur in Nederland. In A. Dorrestijn & J. Kessels (Eds.), *Academie in Verandering* (p. 33), Utrecht University.

[235] Van Ginkel, J. A. (2004). Verschillen die Tellen. In A. Dorrestijn & J. Kellsels (Eds.), *Academie in Verandering* (p. 20). Utrecht University.

[236] In 't Veld, R. J. (2004). Voorbij de Arrogantie van Onbestuurbaarheid: Een Terugblik op Veertig Jaar Ontwikkeling van Universitair Bestuur in Nederland. In A. Dorrestijn & J. Kessels (Eds.), *Academie in Verandering* (p. 36), Utrecht University.

[237] For more on the development of funding for universities, see the following collection of essays: Snijders, P., Sjitsma, W., Baan, A. & van Ireland, P. (2023). *De bekostiging van universiteiten in Nederland, heden verleden en toekomst. Verzamelde essays bij het afscheid van drs. F. Kootstra*. Tilburg University.

[238] Kuijpers-Groensmit, C. T. M. (2004). De Zigzagweg naar Medezeggenschap. In A. Dorrestijn & J. Kessels (Eds.), *Academie in Verandering* (p. 56). Utrecht University.

[239] Ritzen, J. M. M. & Mattens, W. (2004) Van Rups Tot Vlinder. In A. Dorrestijn & J. Kessels (Eds.), *Academie in Verandering* (p. 92). Utrecht University.

also to a call for new forms of governance.[240,241] Specifically, forms of governance in which non-professorial staff and students could exert their influence.

When outlining the history of university governance and democracy, the moment that usually comes up is the 1969 occupation of the Maagdenhuis building at the University of Amsterdam (UvA). It has certainly reached legendary proportions in the national media. But, as the Utrecht historian Hans Righart has described, the Maagdenhuis occupation was perhaps more of a good-natured parody of the profound student uprisings the year before in the United States, Germany, and France (especially Paris); the real starting shot for the wave of democratisation at Dutch universities was not fired in the capital, but in Tilburg. After dramatic protests and occupations by students, the administration there completely reversed course by accepting the principle of co-determination without reservations, to discuss the new culture of governance together with every level of the university. In response, the Dutch House of Representatives insisted on quick governance changes at the university, and Minister Veringa was open to the idea. Only then did protests arise at other universities, including the UvA.[242]

By 1970, Minister Veringa introduced the University Governance Reform Act (WUB), which gave ample scope for student and employee participation. But not only that: the governance of and within the university was also drastically changed. The Board of Trustees and the Senate were abolished, for example. In their place came an Executive Board, with a seat set aside for the *Rector Magnificus*. Governance within the university was modelled to a large extent on that of the area communities of municipalities, provinces, and the national government. The WUB assumed that there were three communities within the university, namely university, faculty, and department. Three con-

[240] Jamin, H. (2001). *Kennis als Opdracht: De Universiteit Utrecht 1636-2001* (p. 188). Uitgeverij Matrijs.

[241] Glastra van Loon, J. F. (2019). Groeien Organisatieproblemen van de Universiteit. *Universiteit en Hogeschool, 11*(5), 289-301.

[242] Righart, H. (1995). *De Eindeloze Jaren Zestig: Geschiedenis van een Generatieconflict* (p. 257-61). Arbeiderspers.

stituencies were also distinguished within the university: academic staff, non-academic staff, and students. They began to influence policy via elected representations in councils, which were composed on the basis of elections, where - salient detail - the respective section lost seats if the turnout was less than 35%.

In this model, power lays mainly with the departments, which determined the curriculum and research programmes. Powers of organisation and coordination mainly fell to the faculty. The professorial meetings of the past were abolished. In their place, the Faculty Council became the most important governing body. The council also nominated candidates for professors' appointments. The University Council was entrusted with regulation and administration of the university as a whole, insofar as they were not explicitly assigned to the Executive Board by law. Otherwise, the Executive Board functioned as the day-to-day administration.[243]

Over the years, the implementation of the WUB proved rather problematic from two angles. There was a frequent competitive battle and enormous attention to detail, stimulated in part by the fact that councils had the right of amendment, leading to lengthy, even nightly, meetings.[244] This, combined with the widespread concern for societal conditions and injustices elsewhere in the world[245,246] - to which the solution often could not be found within the confines of the university - made effective governance almost impossible. That became more problematic as the university's environment became increasingly

[243] For a more comprehensive overview, see: Kuijpers-Groensmit, C. T. M. (2004). De Zigzagweg naar Medezeggenschap. In A. Dorrestijn & J. Kessels (Eds.), *Academie in Verandering* (p. 55). Utrecht University.

[244] Kuijpers-Groensmit, C. T. M. (2004). De Zigzagweg naar Medezeggenschap. In A. Dorrestijn & J. Kessels (Eds.), *Academie in Verandering* (p. 44). Utrecht University.

[245] Van Rooy, Y. (2004). Besturen Tussen Overheid en Markt. In A. Dorrestijn, & J. Kessels (Eds.). *Academie in Verandering* (p. 104). Utrecht University.

[246] Dorsman, L. (2010). Professionalisering als Probleem, De Val van een College van Bestuur. In L. J. Dorsman & P. J. Knegtmans (Eds.), *Het Universitaire Bedrijf: Over Professionalisering van Onderzoek, Bestuur en Beheer* (p. 55). Verloren. The vigorous worldwide discussions regarding the terminations of collaborations with Israeli universities because of the human rights violations by the Israeli political regime relive the discussions of old times.

complex. For example, research funding was moved from direct government funding and had to be partly 'retrieved' from the funds made available by the *Organisatie voor Zuiver Wetenschappelijk Onderzoek* (Organisation for Pure Scientific Research (ZWO)), and after 1988 from its successor the Netherlands Organisation for Scientific Research (NWO, which had even more funds to distribute). To be clear, these were resources that had just been taken away from universities. On top of that, the government also became more and more directive. The duration of studies was limited through the Two Phases Structure Act. An extremely painful operation called 'Selective Shrinkage and Growth' was launched via a memorandum titled 'Task Sharing and Concentration', which led to the closure of numerous programmes nationwide. Largely driven by the desire for austerity, government policy became increasingly activist and far-reaching.[247]

To address two major objections to the WUB system - lack of administrative power and little room for independent operation - the Modernisation of Administrative Organisation Act was passed in 1997. This had some major consequences, but we will limit ourselves to a few main points. In order to promote the autonomy of universities, supervisory boards were set up, tasked with overseeing strategy and finances instead of the Minister. The Minister retained some indirect influence, however, through the right of appointment of Supervisory Board members. But the Supervisory Board was clearly portrayed as a body that had to function for the benefit of the university, and not as the Minister's pawn.[248,249,250]

[247] Jamin, H. (2001). *Kennis als Opdracht: De Universiteit Utrecht 1636-2001* (p. 198). Uitgeverij Matrijs.

[248] Parliamentary Papers II 1995/96, 24 646, no. 3, p. 23.

[249] See also: Kummeling, H. R. B. M., Duijkersloot, A. P. W., Minderman, G. D., Van Schagen, J. A. & Zijlstra, S. E. (1999). *Verkenningen van verantwoordelijkheid, Ministeriële verantwoordelijkheid voor het toezicht op de financiën van zelfstandige instellingen op het terrein van onderwijs en onderzoek* (p.133 et seq., esp. p. 136). W.E.J. Tjeenk Willink. This had always been a sticking point with the Ministry, by the way. In this relationship, as in many others, the art of letting go proves difficult.

[250] Also compare: Van Rooy, Y. (2004). Besturen Tussen Overheid en Markt. In A. Dorrestijn, & J. Kessels (Eds.). *Academie in Verandering* (p. 111). Utrecht University.

The internal organisation also underwent a drastic change. The position of Executive Board and the deans was strengthened, but above all clarified. From the MUB onwards, it was clear who governs, and who primarily has the role of participation body. It was now clear that the councils at the various levels were no longer co-managers, let alone in charge. Universities were also given the choice of instituting 'undivided' participation bodies, i.e. a university council in which all constituencies have a seat, or for 'divided' participation, in which staff have a separate position in accordance with the Works Councils Act. At the very lowest level, the MUB also tried to do something about the quality of the primary processes. The departments were abolished and, in order to delegate more responsibility in the curriculum, study programme management was introduced alongside the associated programme committee, consisting of teachers and students from the relevant programme, whose task was to monitor the quality of the relevant programme(s).

The MUB thus reduced the dominance of staff and students through the councils. Powers were generally watered down to advisory rights. It was clear that student representatives in particular were not very enthusiastic about this change.[251] The question soon arose whether the legislator had not gone too far in limiting the councils' powers. In 2010, this led to the Improved Governance (Higher Education) Act, giving the councils the right of consent on the main points of the budget. The Enhanced Governance Powers Act of 2017 gave the education committee the right of consent on elements of the Education and Examination Regulations (EER).[252,253] It also strengthened the involvement of the participation bodies in the appointment of administrators, especially the Executive Board members.[254]

[251] LSVb and LOF. (1997). *De MUB meester* (p. 19). Landelijke Studenten Vakbond.

[252] Dutch Ministry of Education, Culture and Science (1993). Article 9.18. *Wet op het Hoger onderwijs en Wetenschappelijk onderzoek (WHW)*. Retrieved from: wetten.overheid.nl/BWBR0005682/2024-07-01

[253] For more on this: Zoontjes, P. J. J. (2021). *Tekst & Toelichting WHW 2021* (p. 60). SDU Uitgever.

[254] Dutch Ministry of Education, Culture and Science (1993). Article 9.18. *Wet*

In 2021, the Enhanced Governance Powers Act was re-evaluated. According to the cabinet, employee and student participation was doing rather well, in general. But this was followed by a number of critical notes that significantly undermined that general picture. These included a lack of knowledge among the employee participation bodies about statutory tasks and powers; cooperation between the various employee participation bodies could be improved; the study programme committees were not prominent enough; the employee participation bodies do not consult enough with their constituencies; and participation in elections showed a declining trend.[255]

3 • CORE ISSUES

3.1 *Two-sided problem*

We have outlined how the organisation of the university, and in particular its control and participation, has been subject to constant changes under the pressure of internal and external circumstances over the past few decades. This has not eliminated the need for new adjustments. This was already evident from the conclusion of the paragraph. If we look from a somewhat higher level of abstraction at the kind of issues that will require solutions in the future, we have to conclude that there are two major participation issues, which are to some degree interrelated and need to be addressed together.

First, there is a question of formal control and participation. Who makes the key decisions now? Who is the 'boss'? Or rather, who are the bosses? On the administrators' side, there seem to be the fewest questions, but new questions constantly arise on the participation side. Exactly what powers do the employee and student participation bodies have? What do they get to have a say in? And what are the relationships between the participation bodies like? A major point of frustration

op het Hoger onderwijs en Wetenschappelijk onderzoek (WHW). Retrieved from: wetten.overheid.nl/BWBR0005682/2024-07-01

[255] Parliamentary letter from the Minister of Education, Culture and Science, dated September 9, 2021, ref. no. 29387772. See also the evaluation reports by Berenschot and ReseachNed sent with this parliamentary letter.

among participation bodies is that they are apparently not sufficiently visible, and are certainly not perceived as valuable or important, as turnout in elections is low and generically declining.

It has been suggested that the declining interest in participation is in part due to the fact that the university organisation has become increasingly corporate in recent decades. The MUB is also often cited as a culprit here, according to Dorsman and Knegtmans. This law, which gave greater power to faculty deans and executive boards, is said to have been a radical break with traditional collective decision-making in universities.[256] The question is whether the introduction of the MUB, or at least its implementation in practice, was not so much the cause but a consequence of a series of developments, such as the strong growth in numbers of students, a government that is withdrawing in terms of funding, the need to tap into external sources of money, and the more production-oriented education and publishing culture[257], which together have led to a drastic change in management. This corresponds with an analysis by Van der Zwaan, who indicated that there is a core question with which many large organisations struggle, and which plays out at the individual level: 'Am I still seen and appreciated?' Identification with a modern university is apparently much more difficult than it used to be, according to Van der Zwaan.[258] But determining one's own place and role within the university is also perceived as problematic. What room is left for the professional autonomy of teachers and researchers? The prevailing corporate culture is seen as a threat here, and that, in turn, affects perceived workloads and job satisfaction.

Both issues are dissected in a bit more detail below. First, we will examine issues related to formal employee and student participation. Then we will look at the scope for exercising professional autonomy within the university organisation.

[256] Dorsman, L. J. & Knegtmans, P. J. (2010). *Het Universitaire Bedrijf: Over Professionalisering van Onderzoek, Bestuur en Beheer* (p. 7). Verloren. Incidentally, the authors themselves place some caveats on that analysis.

[257] See especially Chapters 1 and 2.

[258] Van der Zwaan, B. (2017). *Higher Education in 2040: A Global Approach* (p. 59). Amsterdam University Press.

3.2 *Formal control and participation*

Participation in representative bodies

Turnout in elections continues to decline. In political science, electoral turnout is considered an important indicator of the legitimacy of the representative body and, indirectly, of decision-making within a political/administrative system.[259] If we follow that premise, university democracy is in a very bad state. The 1970s count as the heyday of university democracy, with average turnout rates of staff in academic positions, staff in non-academic positions and students of respectively 61%, 52% and 42%. By the mid-1990s, they were between 56% and 36%.[260] But numbers declined steadily in the years that followed.[261] Today, many breathe a sigh of relief when turnout exceeds 30%. But that is rarely the case. In 2022, turnout in student body elections reached a dismal low. In Utrecht, turnout was only 11 percent.[262]

Besides exercising the right to vote, utilising the right to stand for election is also a major issue. It is increasingly difficult to find suitable candidates for the various participation bodies. This certainly applies to the staff delegation. For the quality and authority of a university council and faculty council, it is vital that key figures from the staff, including professors, are represented.[263]

[259] Lijphart, A. (2008). Unequal Participation: Democracy's Unresolved Dilemma. In A. Lijphart (Ed.), *Thinking about Democracy. Power Sharing and Majority Rule in Theory and Practice* (pp. 201-31). Routledge.

[260] De Boer, H., Goedegebuure, L. & Huisman, J. (2008). *Gezonde Spanning: Beleidsevaluatie van de MUB: Eindrapport* (p. 43). Center for Higher Education Policy Studies, Twente University.

[261] Hoger Onderwijs Persbureau. (2019, June 26). Opkomst bij verkiezingen universiteitraden steeds lager. *Erasmus Magazine*. erasmusmagazine.nl/2019/06/26/opkomst-bij-verkiezingen-universiteitsraden-steeds-lager/ (Consulted May 28, 2022).

[262] Bronkhorst, X. (2022, May 23). Vuur 7 zetels, PvdUS 5: dramatisch lage opkomst. *DUB*. dub.uu.nl/nl/nieuws/vuur-7-zetels-pvdus-5-dramatisch-lage-opkomst (Consulted May 20, 2022).

[263] Kuijpers-Groensmit, C. T. M. (2004). De Zigzagweg naar Medezeggenschap. In A. Dorrestijn & J. Kessels (Eds.), *Academie in Verandering* (p. 47). Utrecht University.

Nationalisation and pace of decision-making

An issue that is extremely complicated not only for the university management, but also especially for the participation bodies, is the relatively large amounts of specific resources made available by the central government in recent years, which must also be deployed at very short notice. Examples include the National Education Resources Programme (NPO), to address the consequences of the pandemic, but also the sector plan funds[264], and in particular the large amounts made available by the National Growth Fund.[265] There is no doubt that these funds are not only welcome, even vital in order to eliminate backlogs, to establish a sound financial basis for education and research, and to spark much-desired innovation. But the short lead times with which these funds always become available lead to some serious problems. First of all, it is almost impossible to deploy the allocated resources on specific expenditures, with the greatest possible effectiveness. Secondly, university boards are sometimes faced with the fact that external parties organise processes that sometimes interfere with a well-thought-out university strategy. And thirdly, as a result of the time constraints, participation bodies often have insufficient time to make a meaningful contribution to the internal allocation of resources. This state of affairs is extremely frustrating for both the administration and participation bodies.

Education and research extend beyond the university's existing structures

There are also other, long-standing developments that raise questions about the organisation of university democracy. For example, research and education activities are increasingly being organised across the boundaries of disciplines and faculties. This requires a re-thinking of the employee and student participation structures. Which programme committees are responsible for quality control in multi- and interdis-

[264] See the Policy Memorandum on Higher Education and Science, dated June 17, 2022, no. 33080266.

[265] Several billions are at stake. See, for example: Commissie Nationaal Groeifonds. (2022). *Rapport Tweede Beoordelingsronde*. Dutch Ministry of Economic Affairs.

ciplinary programmes? Which faculty councils should be involved in starting or ending such programmes? And what if they disagree with each other? Some similar questions arise in research. If research funds are provided to faculty-transcending research programmes, who decides on how they are spent, and how do we organise participation in the allocation of the funds?

The key question above all is: are the communities originally defined by the WUB still relevant? A new community structure has emerged around education, transcending old departmental/research group/faculty structures. Faculties increasingly seem to be developing into capacity providers for work that extends beyond the faculty in varying contexts.

Internationalisation

A development that is certainly also relevant to the (quality) of control and participation is the increasing degree of internationalisation. Universities have a growing number of international staff and students. They should be part of our community (or communities), and should therefore also be able to influence decision-making, and thus also participate in governance. But this raises the issue of language. If we communicate in Dutch, almost all foreign students and employees will be excluded from participation. But a complete switch to the use of English, as some universities have done (e.g. Twente), makes participation less accessible to Dutch staff and students who are less proficient in the language. The quality of our communication also suffers. Utrecht has therefore opted for principled bilingualism, including the use of listening language.[266]

3.3 *Self-determination in the context of professional autonomy*

The past decades have undeniably seen a much greater focus on opera-

[266] For research on how that works, see: Ten Thije, J. D., Groothoff, F., Hagar, T., Mulder, K., Naber, K., Spee, S., Sudhoff, S. (2022). *How to be Inclusive without Excluding Others? Medezeggenschap & Meertaligheid op de Universiteit Utrecht. Luistertaal/Lingua Receptiva*. Utrecht University.

tions within universities. This is somewhat understandable; universities have grown in terms of student numbers, but government funding has not kept pace. Universities therefore went searching for additional sources of funding, partly stimulated by the government embracing the idea of the 'entrepreneurial university', which was very quickly placed in the context of economic-financial valorisation. Valorisation, in the sense of harnessing scientific knowledge for economic and social applications, was even declared an official core task of universities in 2004.[267,268] But since then, valorisation has become a very loaded term. We prefer to use the term 'societal impact', because within the university world, purely generating 'economic benefit' as a university objective does not enjoy widespread support.[269,270,271]

These developments in the Netherlands and abroad had major consequences for universities' internal functioning. Inadequate government funding forced us to find ways to improve efficiency, which in turn led to economies of scale and centralisation.[272] External financiers added new forms of accountability. The government also tightened the reins in the area of accountability, spurred on by the Dutch House of Rep-

[267] See: Ministry of Education, Culture & Science. (2004). *Wetenschapsbudget 2004*. Ministry of Education, Culture & Science. See also the letter from the Minister of Education, Culture and Science to the executive boards, dated 27 January 2005, OWB/AI/04-57055. Remarkably, this was done without amending the law, but through a new interpretation of the legal phrase 'transferring knowledge for the benefit of society' (Art. 1:3, section 1, HRA) in the aforementioned letter.

[268] For more information, see: Kummeling, H. R. B. M. (2018). Onafhankelijk onderzoek en openbaar bestuur. In B. J. van Ettekoven, P. Polak & L. Verhey (Eds.), *Rechtsorde en bestuur: Liber Amicorum Piet Hein Donner* (p. 211). Boom Juridisch.

[269] See also: Francot, L. & De Vries, B. (2010). Adieu von Humboldt? Over Domme Organisaties en Slimme Mensen. In L. J. Dorsman & P. J. Knegtmans (Eds.), *Het Universitaire Bedrijf: Over Professionalisering van Onderzoek, Bestuur en Beheer* (p. 81). Verloren.

[270] Van de Donk, W. (2014). Pas op voor het Weten in Schappen. In A. Verbrugge & J. van Baardewijk (Eds.), *Waartoe is de universiteit op aarde?* (p. 141). Boom.

[271] Also see the following LERU position paper: Van den Akker, W. & Spaapen, J. (2017). *Productive Interactions: Societal Impact of Academic Research in the Knowledge Society*. League of European Research Universities.

[272] Van der Zwaan, B. (2017). *Higher Education in 2040. A Global Approach* (p. 61). Amsterdam University Press.

resentatives, and especially the Court of Audit. This is a general trend, prompted perhaps in part by the New Public Management ideology, which was widely embraced in the wake of the dominant neoliberal tendency over the past few decades.[273,274] This accountability craze has become even more pronounced in special forms of funding, such as quality assurance funding and NPO funding. The Minister still aimed to give institutions room to manoeuvre on the basis of trust and the constitutional freedom of education, and to suffice with regular reporting in the annual report. But the Court of Audit insisted on specific audits of the subsidy conditions, and on the submission of separate policy information by the institutions, to limit risks and to gain better insight into the effectiveness of the funds that were spent.[275]

The incessant growth of accountability obligations led to universities hiring more and more people who were not engaged in the primary processes of education and research[276] - often referred to as 'bureaucracy'.[277] And that, in turn, reduced the amount of money that could ultimately be spent on education and research.

The scarcity of financial resources then made itself felt within the education and research domains in various ways, most immediately, perhaps, in education. If the government is only prepared to finance students for a standard study duration, then every student who takes longer to graduate is a burden. Any extra time spent on such a student

[273] Dorsman, L. J. & Knegtmans, P. J. (2010). *Het Universitaire Bedrijf: Over Professionalisering van Onderzoek, Bestuur en Beheer* (p. 8). Verloren.

[274] Lorenz, C. (2014). Feiten Fiksen, Over Tellen, Meten en Zeker Weten. In A. Verbrugge & J. van Baardewijk (Eds.), *Waartoe is de Universiteit op Aarde?* (p. 77). Boom.

[275] Netherlands Court of Audit. (2020). *Resultaten Verantwoordingsonderzoek 2020 Ministerie van Onderwijs, Cultuur en Wetenschap (VIII): Rapport bij het Jaarverslag 2020* (pp. 41-2).

[276] Van der Zwaan, B. (2017). *Higher Education in 2040. A Global Approach* (p. 62). Amsterdam University Press.

[277] A term that is often used with disdain, albeit unjustly. In the eyes of one of the patriarchs of the concept, Max Weber, it is above all a rational tool in the hands of legal authorities that contributes to predictability, responsibility, and accountability; see: Weber, M. (1964). *Wirtschaft und Gesellschaft, Studienausgabe Herausgegeben von Johannes Winkelman, Zweiter Halbband* (p. 703 et seq.). Kiepenheuer & Witsch.

would be a waste at the expense of other students, who are willing or able to study at the set pace. That, in turn, can affect the quality of education, and in the worst case, the quality of degrees. Not surprisingly, universities wanted to gain more insight into and control over the return on their investments. But this also led to more reporting and accountability obligations for university teachers, and consequently a sense of loss of professional autonomy.

In the field of research, finding sources of external funding has become the driving force. This is true in general, whether the funding comes from the government or businesses. But it applies in particular to funding sources perceived as dominant and prestigious for individual career prospects, such as NWO and ERC grants. The allocation of this funding is often determined thematically, with the result that we find that certain researchers, issues, and disciplines are less likely to receive funding. And for those who did stand a chance of receiving these grants, certain metrics were the dominant yardsticks for awarding funding until very recently.[278] All of this resulted in a certain culture of publication and assessment that not only limited the space for setting one's own research agendas, but also created an academic king-of-the-hill contest; the one who had brought in the most and the highest awards sat at the top and was seen as the leader whose example had to be followed. Within the research domain, these developments led to feelings of loss of autonomy, increased workloads, but sometimes also to feelings of unsafety. Leadership culture has been identified as a contributing factor to all of this.[279,280]

The difference in external incentives helped to make it seem only logical to separate education and research entirely within the university organisation, whereas they had previously been kept together, mainly

[278] See also Chapter 2.

[279] Naezer, M., Van den Brink, M. C. L. & Benschop, Y. (2019). *Harassment in Dutch Academia: Exploring Manifestations, Facilitating Factors, Effects and Solutions*. Landelijk Netwerk van Vrouwelijke Hoogleraren. Consulted from: lnvh.nl

[280] See also: KNAW. (2022). *Sociale veiligheid in de Nederlandse wetenschap 2022*. knaw.nl/publicaties/sociale-veiligheid-de-nederlandse-wetenschap-van-papier-naar-praktijk-0. In this report, the organisational structure and the power differentials that exist within it are viewed as important causes of social unsafety.

within the departments. This separation disregards that the university distinguishes itself from all other educational institutions through the intertwining of education and research.[281] University education is characterised by the latest knowledge and insights and learning how to acquire them. Education and research at the university also stem from the same basic attitude: the curiosity to understand the unknown; to grasp it in images, words, or sentences; and to make the newly acquired knowledge and insights understandable to oneself as well as to others.[282]

This organisational division has had major consequences, at least for university HR policy and the relationships between staff members. As careers were mainly built along the line of research performance, education for many became a 'burden' that you had to 'buy out of' if at all possible. To overstate: for a long time, education became work for the 'youngest clerks', who took on the bulk of the work on temporary contracts, without time for research. It was easy to predict that this would create dissatisfaction among teachers, and that it would affect the quality of academic education. Fortunately, people have paid more attention to this discrepancy in recent years, and some necessary improvements have been made. But the key question is whether we should not be creating a lot more ties between the organisation of education and research.

[281] The KNAW has also acknowledged this. See the position paper: KNAW. (2018). *Spagaat of Duet? Position paper: Verwevenheid van Education and research aan Nederlandse Universities*. It is therefore striking to note that the KNAW undertakes few activities in the field of education, let alone assuming responsibilities in that regard.

[282] See: Kummeling, H. R. B. M. (2020). De Rijzende Rechtswetenschap. In B. de Vries, E. Mak, L. van den Berge, T. E. Riethuis, H. Tigchelaar, J. Kiewiet, S. D. Burri & T. de Sterke (Eds.), *Rechtstheorie en Praktijk – een Liber Amicorum: Beschouwingen Rondom het Werk van Professor A. M. Hol* (p. 263). Boom Juridisch.

4 • POSSIBLE SOLUTIONS FOR THE UNIVERSITY OF THE FUTURE

4.1 *Introduction*

If we want to facilitate the desired developments envisaged in the previous chapters, then we will have to find a solution to some of the problems described above. Real, effective solutions can only be found if they are in line with the essence of the university. That essence has also ensured the university's survival as an institution over the centuries that followed its birth a millennium ago. Especially in democratic states governed by the rule of law, there is no doubt about the justification for an institution that independently gathers knowledge and brings it back to society, either directly or indirectly, through education and research (sometimes after a long time). But the university can only fulfil this role well if its core players - the teachers, researchers and, in their footsteps, the students - have sufficient autonomy to gather and disseminate this new knowledge. The future of the university therefore lies in a return to the past. But mind you, only a partial return to the past, because professional autonomy can no longer be seen as something that manifests itself primarily at the individual level. As we outlined in the previous chapters, education and research have increasingly become team achievements. It is in those teams that a 'sense of belonging', of involvement and identification, should emerge. From there, we can consider how we can organise formal control and participation to better enable the performance of our primary tasks from within the team.

4.2 *Professionals more at the helm again: connected professionalism*

Overall, the recent academic literature on organisations has frequently dealt with reducing workloads and restoring enjoyment of work by making it more satisfying and meaningful. The work of Laloux has been especially ground-breaking in this regard.[283] The core of his solution lies in radically reducing hierarchy and providing more, much

[283] Laloux, F. (2014). *Reinventing Organizations*. Nelson Parker.

more, space for self-management.[284] Such an idea fits nicely with the university's organisational foundation: professional autonomy. Before we elaborate on this idea in the context of the university organisation of the future, let us first focus on the concept of professional autonomy within the university, because there are quite a few misunderstandings about it.[285] As is often the case in this book, we do not use the word 'recover' or 'restore' to mean a blind return to old situations, but rather a search for new forms - in this case, new forms of professional autonomy. The idea of *hybrid professionalism*[286], as formulated by Mirko Noordegraaf, is appropriate here. To Noordegraaf, professionalism is linked to a well-managed organisational environment. Conflicting professional and managerial principles, such as autonomy and control, or quality and efficiency, are combined to create contemporary, professional activities. Noordegraaf describes '*connective professionalism*'[287], where there is a connected and dialogical relationship between the organisation and the professional, as the most far-reaching form of realignment. We will go into the tension between professional autonomy and working together to accomplish a mission in more detail below, along with what they mean for our vision of the future university.

The professional autonomy of academics in their teaching and research is often - and justly - mentioned in the same breath as the term 'academic freedom'. This means that academics are free to choose their topic and report on their research and education as they see fit, of course based on recognised scientific and methodological insights. Why is academic freedom so important? According to Kinzelbach et al., this freedom is essential for high-quality education and research,

[284] Laloux, F. (2014). *Reinventing Organizations* (p. 56). Nelson Parker.

[285] Kummeling, H. R. B. M. (2022, January 11). Academische vrijheid in tijden van wakkerte en cancelcultuur. *Nederlandse rechtsstaat.* nederlandrechtsstaat.nl/academische-vrijheid-in-tijden-van-wakkerte-en-cancelcultuur/

[286] Noordegraaf, M. (2015). Hybrid professionalism and beyond: (New) Forms of public professionalism in changing organizational and social contexts. *Journal of Professions and Organization*, *2*(2), 187-206.

[287] Noordegraaf, M. (2020). Protective or connective professionalism? How connected professionals can (still) act as autonomous and authoritative experts. *Journal of Professions and Organization*, *7*(2) 205–23.

is the driver of innovation, strengthens the capacity of academics and students to acquire and generate knowledge, and therefore also protects society's capacity for self-reflection.[288] Academic freedom also implies a special responsibility: namely, to perform one's work according to scientific standards. KU Leuven's Rector, Luc Sels, formulated this clearly in his speech at the opening of the 2021-2022 academic year.[289] Professional standards and values must be respected. In the Netherlands, the 2018 Code of Conduct on Scientific Integrity is the primary example. Within that code, the essence of norm 53 is especially crucial: be clear and honest about the limitations of one's expertise. But in addition to these ethical restrictions, academic freedom is also limited in another way. As we mentioned above, university staff works within institutions that have policies for education and research. Education is subject to education- and examination regulations. Scarce resources are allocated in a targeted manner. Dutch courts have recognised the authority of institutions to impose such restrictions.[290] But universities also bear a special responsibility there. After all, academics and institutions around the world have acknowledged that academic freedom has an institutional and organisational dimension. This has a protective aspect, in the sense that governments must respect the autonomy of higher education institutions. But also a responsibility aspect, in that university institutions in turn must, in the words of the KNAW: "ensure that university boards have the responsibility not to interfere in education and research any more than is reasonable with a view to promoting good academic practice".[291] Of course, what is 'reasonable' is open to debate, and that debate, aimed at finding support among academics, should take place openly within the institution. That debate is of course stimulated in part by the layered structure of

[288] Kinzelbach, K., Saliba, I., Spannagel, J. & Quinn, R. (2021). *Putting the Academic Freedom Index into Action* (p. 4). Global Public Policies Institute.

[289] Sels, R. (2021). *Academische vrijheid en de vrijheid van meningsuiting* [Lecture on the opening of the Academic Year 2021 – 2022]. KU Leuven. Retrieved from: kuleuven.be

[290] CRvB July 26, 2012, ECLI:NL:CRVB:20212:BX2797, r.o. 4.3.

[291] KNAW. (2021). *Academische Vrijheid in Nederland: Een Begripsanalyse en Richtsnoer* (p. 32). knaw.nl/publicaties/academische-vrijheid-nederland

the university organisation, where, pursuant to Article 9.15 HRA, the deans have primary responsibility for the organisation and programming of education and research. The professors, in turn, are primarily responsible for the development of their assigned field of science and the associated education (Article 9.19, second paragraph, HRA).[292]

We have one final comment on the topic of education. One aspect of academic freedom is that the university teacher determines the content and method of the education to be provided. But this freedom is not unlimited, because education is a team effort, with teachers offering a coherent curriculum in close consultation with each other, with students, experts, and the professional field. Legally, this is an important responsibility of the programme committees, whose task it is to safeguard and promote the quality of education, and to advise the education director and the dean on the education and examination regulations (EER), and on all other matters concerning education within the programme (Art. 9.18 WHW).

Given this context of professional autonomy, the move towards more team science, and modern insights into the functioning of organisations, it is clear that much more responsibility needs to be delegated to teams. Ideally, they should be given their own budgets, and corresponding responsibilities to achieve their goals. Those goals are largely self-formulated but must of course fit into the bigger picture of the missions of faculties and the university. Teams are given control over their own personnel policy, including the appointment of new employees. Primary quality control measures are also placed in the hands of the teams; after all, they are also charged with realising the goals they have set. So, they will have to be accountable for them too, because with responsibility comes accountability. And, contrary to what some people may claim, accountability does not automatically imply hierarchy.[293] Hierarchy manifests itself through direct management and the need to comply.

[292] See also: Mentink, D., Vermeulen, B. P. & Zoontjens, P. J. J. (2021). Article 23. In E. M. H. Hirsch Ballin, E. Janse de Jonge & G. J. Leenknegt (Eds.), *Uitleg van de Grondwet* (p. 526). Boom juridisch.

[293] Laloux, F. (2014). *Reinventing Organizations* (pp. 134-5). Nelson Parker.

Of course, all this will entail a rather radical shift of responsibilities. Centralised rules and procedures should be limited to matters that affect the core and commonality of the organisation; for example, the internal audit and HR policies. Of course, collective labour agreements must be respected, but the responsibility to do so will be decentralised. As a result, central departments will take on a more detached advisory role and can be reduced in size. University and faculty administrators should be restrained in making decisions, setting rules, and establishing procedures; subsidiarity is explicit in this. They too will shift more into the role of supervisor or advisor.[294] They will also, perhaps even more than now, have to encourage all kinds of informal consultation and contact between the different parts of the university organisation, in order to make the organisation a continuous learning organisation.

The definition of the 'teams' is of course crucial in this. The faculties play a decisive role in this, because legally it is the faculty, and especially the dean, who bears responsibility for the organisation and programming of education and research. If we take this appeal for professional autonomy seriously, the faculties should not go much beyond setting general substantive frameworks and allocating budgets and (initial) staff capacity.

A university's range of tasks is complex, and unlike an organisation like Buurtzorg, where self-management has been a proven model for many years, these tasks cannot be accommodated by fairly uniform units.[295] As discussed in the chapter on 'Community', university employees will often be part of multiple teams, but it is imperative that faculties ensure that employees do not fall into impassable chasms in terms of loyalties and responsibilities. So, it is important that employees only participate in a limited number of teams, which combine education and research as much as possible.

As mentioned, universities have become more complex organisations in recent decades. This is partly due to the fact that education, and certainly research, has become increasingly Europeanised and in-

[294] Laloux, F. (2014). *Reinventing Organizations* (p. 99). Nelson Parker.
[295] For a description of the organisation of Buurtzorg, see: Laloux, F. (2014). *Reinventing Organizations* (p. 62). Nelson Parker.

ternationalised. Coordination and support from the faculty level will continue to be needed. The same applies to the (policy) intervention mechanisms and forms of (covert) supervision that will undoubtedly continue to descend on universities from the national government, such as audits and investigations by the Court of Audit. University administrators are constantly being asked whether they are 'in control'. As a result, the scope for organising self-management and exercising professional autonomy are sometimes severely restricted.[296] We can only loosen those restrictions if national politicians were to look at the functioning of universities more on the basis of trust. But we should not expect them to start 'letting go in trust' anytime soon. The political- and media culture is not up for it at the moment. The political landscape is increasingly fragmented, and all those parties want to gain publicity, they want to 'score'. The same kind of fragmentation is manifested in the (social) media. In the process, politics and media have become mutually reinforcing partners in manufacturing distrust. Universities and individual academics, who often have significant influence on policy initiatives, are therefore an attractive target of attention. This tide of reinforcing and swelling distrust will not easily be turned. Naturally, we must continue to work on it anyway, with a view to our employees' welfare and workload and the quality expertise universities can deliver. That is also precisely why university and faculty administrators will have to monitor, and where possible expand, the scope for self-management.

Administrators can - and will – also have a role to play when it comes to employee participation in cross-team processes. For instance, the drafting of sector funding plans has so far mainly been a matter for a few individuals, even though they require a lot of time to prepare. Time that could also be used to involve more researchers, to let them think along and participate in decisions.

Whatever the case, in the university of the future there will have to be more room for self-management, and therefore for the utiliza-

[296] This is not to say that university of the future should not answer for their performance. On the contrary, public funding implies public accountability. Hopefully, however, the extend to which they should be held accountable will decrease in the future.

tion of professional autonomy. If university employees are able and allowed to manage themselves through teams, we can expect that they will also become more aware of the bodies in which the preconditions for their performance are set and will likely also develop more enthusiasm for taking part in the participation bodies that share responsibility for laying down some of those preconditions. The chapter on Community already mentioned the importance of (promoting) 'organisational citizenship behaviours', in which employees voluntarily take extra steps that have a positive effect on the atmosphere within the organisation, but also on its effectiveness.[297] Such behaviour does not arise spontaneously on a large scale. The preconditions for it must first be created, including by making room and placing greater reliance on self-management. And on a larger scale, this can even contribute to strengthening and deepening university democracy, as we have outlined above.

5 • STRENGTHENING OF FORMAL PARTICIPATION

Formal employee and student participation can only function well if it is fully nurtured from the bottom to the top of the entire university community. The previous section outlined what needs to be done to achieve that situation in the future. But other proposals have also been made in the (recent) past to strengthen employee and student participation. Some of these potential solutions are discussed below.[298]

5.1 *Reinforcement within the current system*

Of course, there is still room for improvement within the existing

[297] Mostafa, A. M. S. & Bottomley, P. A. (2020). Self-Sacrificial Leadership and Employee Behaviours: An Examination of the Role of Organizational Social Capital. *Journal of Business Ethics*, *161*(3), 641-52. doi.org/10.1007/s10551-018-3964-5

[298] Some of these reflections are taken from: Kummeling, H. R. B. M. (2022). Revitalisering van de Universitaire Democratie. In W. Conen & J. Oude Mulders (Eds.), *Accumulatie van Menselijk Kapitaal: Een Levenslang Proces. Liber Amicorum* (pp. 116-23). Utrecht University School of Economics.

system. For example, by improving support, more training, more commitment, and resources for communication with constituencies. Even better solutions can be devised for the required time and effort, including more guaranteed time allowances for staff and adequate monetary allowances for students, which would make it more attractive to take a seat in the participation bodies.[299] In line with this, filling positions in the participation bodies could be given a greater weight in the context of Recognition and Rewards.

One option for strengthening student influence that has so far remained virtually unused is the appointment of a student consultant, also known as an 'assessor'. This option has been advocated for since at least the re-evaluation of the MUB.[300] There is a proven track record for the position at the faculty level, for which the function is even enshrined in law (Art. 9.12(2) WHW). But at central level, many universities appear apprehensive about direct student involvement in decision-making.[301]

One persistent problem is the short-cycle nature of university participation bodies. People often complain about national politics not looking much further ahead than four years, i.e. to the next elections. In university councils, terms are even shorter; students only sit for one year. Despite all the well-intentioned introduction efforts, one year is far too short to master the increasingly complicated decision-making processes, especially those regarding the budget, let alone to bend them to your will. This has at least two consequences. For one, the influence of participation bodies, especially the bodies for students, is less than optimal. A second effect is a strong focus on a limited number of shorter-term objectives, and less attention for long-term policy. Apart from the legal and regulatory terms, this short office term is also partly the result of habits; students go full steam ahead for one year, and then

[299] These are also the issues raised by the Minister of Education, Culture and Science in his response to the evaluation of the Strengthening Governance Act (Letter to Parliament from the Minister of Education, Culture and Science, dated September 9, 2021, ref. no. 29387772).

[300] Kuijpers-Groensmit, C. T. M. (2004). De Zigzagweg naar Medezeggenschap. In A. Dorrestijn & J. Kessels (Eds.), *Academie in Verandering* (p. 45). Utrecht University.

[301] At the time of writing, the position existed only at the RUG, the UvA and UU.

they go on to do other things. It might be more logical for the position to be held part-time but for a longer period, allowing knowledge and experience to be accumulated and applied over time.

The programme committees deserve some special attention. As we explained in Chapter 4.2, they play a crucial role in safeguarding and promoting the quality of education. The legislator sees it as a joint responsibility of both teachers and students. The programme committee should also discuss the content of the curriculum, obviously with due observance of the special responsibility borne by teachers and dealt with above. These discussions, for instance about the inclusiveness of the curriculum, and the issues regarding the educational materials to be used in the individual subjects, now seem to take place only on occasion. This can only improve structurally if students are given more responsibility for their own learning process and can actually contribute to the content of education through co-creation. The chapter on Education explains how we see this as the way forward in education, in terms of content. We therefore expect it to have a positive impact on employee and student participation as well.

5.2 *Reintroducing the Senate?*

With a kind of nostalgic longing for a history that never actually existed, but certainly cannot be transported to today's reality, there are regular calls for the return of the Academic Senate.[302,303] The idea behind this is mainly that the executive boards have become too far removed from the primary processes, that the university has become far too hierarchical, and that academics should mainly govern themselves. It is a plea that is very reminiscent of the discourses of the former rector of the University of Leuven, Rik Torfs, who strongly disapproves of what he calls 'professional administrators, who come in from all corners of

[302] One emeritus professor who regularly called for this was H. Wijnberg. See: Wijnberg, H. (1993, September 4).Weer instellen van de senaat is redding universiteit. *NRC Handelsblad*.

[303] Wijnberg, H. (2006, July 26) Universiteit heeft een senaat nodig. *NRC Handelsblad*.

society'.[304] In the Netherlands, by the way, this situation has long since ceased to hold true. In recent years, not only the rectors, but also most other members of the executive boards, have been recruited from the academic ranks. This certainly applies to the chairpersons.

Apart from that issue, we certainly see the need for organising more self-governance and more reliance on professional autonomy. However, the question is whether the return of a senate could actually help revitalise democracy in the university, put the academic community back at the helm of decision-making, and therefore contribute to the legitimacy of decision-making. A decision-making body consisting mainly of professors, as F. Cohen seems to advocate,[305] would not be acceptable in the current times. It also would not be practicable, in administrative terms. This was already apparent in the post-war period; the senate was simply far too large to take decisive action.[306,307] Representatives of WOinActie also argue for the return of the senate. But in order to promote legitimacy and to keep it workable, they propose that only elected representatives of academics, students and support staff should have a seat in the senate. How this differs from the undivided University Council as we know it now is not clear. What is clear, however, is that WOinActie does not really want to go back to the past, and above all wants to have representation that is diverse and inclusive.[308] But how a reborn senate can achieve this, remains completely unclear. For the time being, it seems to make more sense to make the existing participation bodies more diverse and inclusive. That would require more grassroot support, as discussed in detail in Chapter 4.2.

[304] Torfs, R. (2014). *Moed Als Universitair Ideaal*. In A. Verbrugge & J. van Baardewijk (Eds.), *Waartoe is de Universiteit op Aarde?* (p. 251). Boom.

[305] Cohen, F. (2020). *De Ideale Universiteit* (p. 42). Prometheus.

[306] Bol, C. (1986). De restauratieve façade. In H. M. von der Dunk, W. P. Heere & A. W. Reinink (Eds.), *Tussen Ivoren Toren & Grootbedrijf: De Utrechtse Universiteit 1936-1986* (p. 64). Uitgeverij Gary Schwartz.

[307] See also the entertaining report: Geyl, P. (2009). *Ik die zo weinig in het verleden Leef: Autobiografie 1887-1940* (p. 288). Wereldbibliotheek.

[308] Bod, R., Breuker, R. & Robeijns, I. (2020). *40 Stellingen over de Wetenschap* (pp. 54-5). Boom. Van Ginkel, J. A. (2004). Verschillen die Tellen. In A. Dorrestijn & J. Kellsels (Eds.), *Academie in Verandering* (p. 13). Utrecht University.

5.3 *Direct democracy*

One solution that has been put forward in recent years, especially by WOinActie, is the direct election of administrators, especially the rector.[309] These voices often refer to similar situations abroad. Indeed, in many foreign countries, but not all, the rector is the head of the university.[310,311] But such an idea has never gained a foothold in the Netherlands, which is very fond of collegial governance, including in universities.[312] It would therefore be odd in the Dutch context to start directly electing the rector. That would only be different if rectors could assemble their own university management team, and there would not be - as is now the case within the Executive Board - two administrators who have their own independent positions. Within the current legal and administrative context, a direct election of the rector can really only lead to discomfort and dissatisfaction. In that context, it is worth looking back at experiences with mayoral referendums that we had in the Netherlands for a short period from 2001, and which were abolished again in 2009 due to very low turnouts.[313]

But suppose we do change that legal context, and actually make the rector 'the boss' of the university: could the direct election of the rector strengthen the democratic legitimacy of decision-making? Foreign experience shows there are serious doubts about that. Reports from abroad indicate that rector elections often lead to major divisions

[309] Bod, R., Breuker, R. & Robeijns, I. (2020). *40 Stellingen over de Wetenschap* (p. 54). Boom.

[310] Van Ginkel, J. A. (2004). Verschillen die Tellen. In A. Dorrestijn & J. Kellsels (Eds.), *Academie in Verandering* (p. 13). Utrecht University. Estermann, T., Nokkala, T. & Steinel, M. (2011). *University Autonomy in Europe II*. European University Association.

[311] Vossensteyn, H., Kolster, R., De Boer, H. & Jongbloed, B. (2015). *Bestuursbenoemingen in Europa: Een Internationaal Vergelijkende Verkenning*. Center for Higher Education Policy Studies.

[312] Van Steijn, F. (2017). Het Rectoren College 1955-heden. In L. J. Dorsman & P. J. Knegtmans (Eds.), *Universiteit en Identiteit* (p. 93). Verloren.

[313] Burkens, M. C., Kummeling, H. R. B. M., Uzman, J., Vermeulen, B. P. & Widdershoven, R. J. G. M. (2022). *Beginselen van de Democratische Rechtsstaat* (pp. 339-40). Kluwer.

within the university community and it often takes years to heal the wounds and take steps forward again along substantive lines.[314] In any case, one can naturally question whether the election of a single leader of an organisation, be it a university or a state, is desirable. Ideally, it would result in a broad base of support. But more often today we see that winner-takes-all elections result in divisions in the community and the election of people with risky character traits.[315]

Another possibility, of course, is to make certain decisions within universities the subject of direct democracy. Given the context of the current WHW, this would involve the use of a consultative, non-binding referendum on the initiative of the council or the representation bodies. This has the same advantages and disadvantages as we have had with similar referendums at local and national levels. The use of referendums has always been a matter of debate there too. Initially, the proponents were mainly those who advocated expanding democracy. In the Netherlands, they could mainly be found among the supporters of the leftish parties D66 and GroenLinks. Now, supporters are mainly found among people who criticise the established political order and want to bend it to their will.[316] All this has led to endless wrangling in the Netherlands around the introduction, abolition, and reintroduction of referendums, under all kinds of procedural safeguards and constructions.[317] A new attempt to introduce a binding referendum stranded again in 2022.[318]

The divisions that exist around the introduction of referendums - in addition to all kinds of other motives, such as fear of erosion of representative democracy - are based in part on the divisions that refer-

[314] Amkreutz, R. (2018). *Onder Rectoren: Achter de Schermen van Onze Universiteiten.* Van Halewyck.

[315] Klaas, B. (2021). *Corruptible: Who Gets Power and How it Changes Us* (p. 90). John Murray.

[316] The Netherlands Institute for Social Research. (2015). *Meer democratie, minder politiek? Een studie naar de politieke opinie in Nederland* (p. 35).

[317] Burkens, M. C., Kummeling, H. R. B. M., Uzman, J., Vermeulen, B. P. & Widdershoven, R. J. G. M. (2022). *Beginselen van de Democratische Rechtsstaat*. Kluwer.

[318] [320] At the time of writing, it was still uncertain whether there would be enough support for a constitutional amendment after the second reading (Parliamentary Papers 35219).

endums often create in terms of outcomes. Of course, referendums can increase involvement in decisions, but they also often create opposition, and discomfort about the meaning of the outcomes, especially if there is a low turnout. This is because a referendum mainly exposes divisions and is not primarily aimed at promoting and expressing the commonality of the target community that is the university, reflected in its decisions. Combined with the low turnouts in referendums we have had so far in the Netherlands, it is highly questionable whether introducing referendums would promote the quality of democracy within universities. Perhaps it would be different if every referendum was preceded by substantive conversation and debate, so that the final numerical decision would be additionally legitimised by the preceding process.[319]

5.4 *Deliberative democracy*

The issue of declining trust in politics and governance and declining turnouts is widespread and is certainly not limited to the Netherlands. In that light of dissatisfaction with the functioning of representative democracy as it exists today, there has been a growing interest in the theory and practice of so-called deliberative democracy.[320] This is a form of public decision-making centred around information gathering and exchanges of arguments with and by citizens. Deliberative democracy promises a more reliable and legitimate form of political authority, better informed decisions, and a more active exercise of citizenship.[321] There has been considerable attention to this phenomenon in academia for some time.[322] That attention received a major 'boost'

[319] Echoing the work of: Luhmann, N. (1975). *Legitimation durch Verfahren*. Luchterhand.

[320] Part of this explanation is derived from: Burkens, M. C., Kummeling, H. R. B. M., Uzman, J., Vermeulen, B. P. & Widdershoven, R. J. G. M. (2022). *Beginselen van de Democratische Rechtsstaat*. Kluwer.

[321] Leyenaar, M. (2009). *De Burger aan Zet, Burgerforum: Theorie en Praktijk*. Radboud University Nijmegen

[322] Leyenaar, M. (2007). *De Last van Ruggespraak* [Speech]. Radboud University Nijmegen.

in 2013, with the publication of David Van Reybrouck's pamphlet titled: 'Tegen verkiezingen' (Against elections).[323,324,325,326,327]

These are forms of deliberative democracy more commonly known by designations such as 'citizens forum', 'citizens summit' or 'citizens jury'.[328] A citizens' forum can take many forms but, at its core, it consists of a randomly assembled group of citizens who come together to deliberate on a particular issue, involving a policy agenda or a choice of specific policy options.[329] Over a number of days, weeks, or even months, participants are exposed to information, and hear witnesses selected for being experts on a particular topic or as representatives of the interests affected by a potential decision. Through trained moderators aimed at ensuring fair procedures, forum members are given the opportunity to hear the witnesses, and to request new information and new witnesses. After a process of deliberation, members make a decision or recommendation. The body that set up the citizens' forum (minister, chamber, municipal council) is expected to respond to the

[323] Van Reybrouck, D. (2013). *Tegen Verkiezingen.* De Bezige Bij.

[324] Van Reybrouck will be the last to claim intellectual property rights for the concept of deliberative democracy. He declares himself indebted to people like James Fishkin, who seems to have invented the term. See: Fishkin, J. (1998, August). Washington: The Case for a National Caucus. *The Atlantic*.

[325] Rossanvallon, P. (2012). *Democratie en Tegendemocratie*. Boom.

[326] Another intriguing work is: Ferguson, N. (2013). *The Great Degeneration: How Institutions Decay and Institutions Die.* Penguin Books.

[327] For more on this, see: Cohen, M. J. (2015). *De vierde D* [Inaugural lecture]. Leiden University.

[328] The 'G' stands for 'Group' in imitation of the economic summits G8 and G20. 1000 does not represent a real number of participants here. That number would also simply not be manageable. A distinction is also made between 'citizens' summits', which are entirely separate existing structures, and 'citizens' councils' that are integrated into administrative structures and are also aimed at influencing policy. See: Binnema, H. & Boogaard, G. (2016). De G1000: Meer dan een Experiment? In G. Boogaard, A. Michels, J. Cohen, P. G. S. M. Smets, H. Binnema, & M. Vlind (Eds.), *G1000, Ervaringen met Burgertoppen* (p. 31). Boom bestuurskunde.Such a distinction is not yet commonplace, and certainly not yet established in constitutional law. We therefore omit it here.

[329] This description is adopted from Smith, G. & Wales, C. (2000). Citizens' Juries and Deliberative Democracy. *Political Studies*, *48*(1), 55. doi.org/10.1111/1467-9248.00250

outcomes, either by acting accordingly or by explaining why it disagrees with them.

Much experience has since been gained internationally, locally, nationally, and internationally, ranging from minor to very large issues, such as preventing another financial crisis (Iceland 2012), legalising same-sex marriage (Ireland 2015), the need to tackle climate change (UK 2020, France 2021), or the future of the EU (2022, etc.).[330]

Forms of deliberative democracy can play important roles in the development of 'active citizenship'. They make it possible to bring experiences and opinions into the public domain that often remain excluded from it, thereby also enhancing the quality of decision-making. Where a citizens' forum is set up and the responsible public bodies actually respond to it (whether positively or negatively), and actively process the results, the democratic legitimacy of the decision-making process is enhanced. But they also present a significant risk. If policymakers only engage in 'cherry-picking', allowing largely unpopular decisions to be validated by these kinds of forums, or only selectively shop around in the recommendations, it only increases distrust in politics and politicians.[331]

Deliberative democracy has the potential to contribute to strengthening legitimacy of decision-making because - in Cohen's words - it offers a perspective essentially different from a democracy that functions on the basis of elections:

> *"Whereas elections exist by the grace of creating, and even magnifying differences*[332]*, a deliberative democracy emphasises what members of a community have in common."*[333,334]

[330] Rovers, E. (2022). *Nu is het aan Ons: Oproep tot Echte Democratie*. De Correspondent.

[331] Smith, G. & Wales, C. (2000). Citizens' Juries and Deliberative Democracy. *Political Studies*, *48*(1), 61. doi.org/10.1111/1467-9248.00250

[332] In doing so, Van Reybrouck particularly denounces the role of the media, see: Van Reybrouck, D. (2013). *Tegen Verkiezingen* (p. 54). De Bezige Bij.

[333] Cohen, M. J. (2015). *De vierde D* [Speech] (p. 10). Leiden University.

[334] See also: Cohen, M. J. (2016). Epiloog: Observaties... en Toch een Kloof. In G.

This is certainly not to say that we can simply replace the old system of representative democracy, including in universities, with forms of deliberative democracy. It is more an encouragement to think about how we can strengthen the legitimacy of decision-making. It therefore seems interesting to explore forms of deliberative democracy to find solutions, as well as to reinforce democratic legitimacy for solutions in areas that universities have been working on, or even struggling with, for some time. Several issues come to mind, including codes of conduct for social safety, the desirability of education-oriented careers, the core and purpose of the curriculum, and so forth.

6 • CONCLUSION

The university has become an extraordinarily complex institution since World War II. There has been a dramatic growth in numbers of staff and students, whose origins have also changed fundamentally, and who, above all, have become much more diverse. There have also been many changes in terms of finance; university budgets have risen sharply as a result of the influx of students. But financial complexity has also increased, mainly because research funds largely have to be raised from numerous external financiers, such as ERC, NWO and the central government's various initiatives, such as the sector plans and the National Growth Fund. These all impose their own different conditions, with the result that parts of university personnel policy have actually been externalised. All this means that university decision-making processes have also become much more complicated. As we have seen above, the legislature has tried to accommodate us in that. Much has changed in the areas of control and in the organisation of participation over the past few decades. But all these changes are not enough to make the university 'fit for the future'. Due to, in part, external developments, the university and its people have become too wedged in by rules, procedures and accountability processes, which now present risks for the well-being of professionals and the quality of their work. There is

Boogaard, A. Michels, J. Cohen, P. G. S. M. Smets, H. Binnema & M. Vlind (Eds.), *G1000. Ervaringen met Burgertoppen* (p. 103). Boom bestuurskunde.

a need to start making more room for university staff and students' own responsibility again. This is not a complete return to the past, as the necessary changes in organisation and participation will take place in the context of Open Science, giving professional autonomy very different landmarks than in the past.

Epilogue

What will the future of the university look like? That is the question we focused on when we started this project. We set our horizon mostly on the year 2030, and perhaps - as hope - a bit further into the future. We asked ourselves that question as it relates to how we work at the university, and how it relates to what the university is in its essence. A large number of very diverse topics and answers have passed by over the course of this book. But we see one very clear common thread: the university of the future will be a more open institution. Open in different ways, and in different directions.

The driving force behind this development is primarily the movement towards Open Science. This both causes and necessitates a cultural shift in several areas. The guiding principle and ultimate goal here is that through Open Science, we want to create a stronger connection between the university and society, enhancing the quality and legitimacy of the university's work in the process. We will do that in a variety of ways. For example, by making research results, research data and learning materials available free of charge, or more accessible. But especially by seeking contact with societal stakeholders to formulate relevant research and education questions together, and to reflect on our own work. This is part of what we refer to as 'public engagement'.

Public engagement also entails that academics contribute their knowledge to open social and public discussions. Not because they hold the absolute truth, or because their wisdom should be accepted like that of an oracle. They can, however, share their knowledge and insights, gained from the evidence available (which is never complete), to facilitate more reasoned, supportable decisions. A precondition is,

however, that academics are open about their own limitations and the uncertainties in science.

This same open discussion will also have to be conducted within the university community, in the form of a dialogue.[335] Particularly because the major societal issues will increasingly have to be studied in multi- and interdisciplinary contexts, we will constantly have to ask ourselves what contributions all these different disciplines can make Where do their uncertainties lie? But also: what questions do they have about the perspectives and 'certainties' of the other disciplines? This requires openness and connection between the disciplines and the experts in those disciplines, and that academics are open to discussions about possible ideological biases of their insights and opinions.

The open conversation within the university has yet another dimension; that of agenda-setting. Given the scarcity of resources, choices will always have to be made. So, who makes those choices? Who determines which direction the university and its constituents want to go? That question is becoming more and more pressing, as the traditional, formal structures of employee and student participation are utilised less and less. At the same time, it is also clear that the younger generations of students and employees have a much stronger sense of urgency about the major challenges we face today, such as climate change, social and economic inequality, inclusion, etc. We will not only have to work on revitalising the 'traditional' forms of employee and student participation. We will also have to find new ways of conducting an open debate within the university community, using new (digital) tools. At the same time more responsibility will have to be given back to the university organisation. Professional autonomy must be leading in our decision-making processes. At decentralised level, that will mean not only claiming more responsibility, but also assuming it.

Engaging in dialogues within the university community is not always easy. Certainly not today, when, from parts of one's own identity

[335] A conversation can produce various degrees of listening to each other. A 'debate' is purely about exchanging views. A 'discussion' is based more on equivalence of arguments, whereas a 'dialogue' is based on the willingness to understand one another and come to a shared conclusion. For more on this, see: Ritskes, R. & De Beer, R. (2022). *21 Geheimen van een Strategische Dialoog* (pp. 10-3). Uitgeverij AanPak.

(gender, age, colour, political affiliation, etc.) conversation with others who have a different perspective sometimes seems impossible from the outset.[336,337] It is up to the university to facilitate these dialogues, but also to educate people. There is a good reason for this being one of the main objectives of the movement towards more 'Open Education', as part of 'Open Science'. It also entails having an open attitude. We are all part of a community that is open in composition and nature. That means an inclusive environment that embraces diversity. In our education and research, and on the campus grounds, we welcome students, teachers, researchers, staff, alumni, local residents, national and international colleagues, and social partners. They can all make a valuable contribution to the multiplicity of ideas and opinions that ultimately determine the quality and legitimacy of our work. And as everyone can be seen and heard, it also promotes the well-being and satisfaction of every individual, and the community as a whole.

The role of the community, society and its various groups ('audiences'), and their problems and interests will become much more decisive in the future, if only because working in teams will become even more necessary in the future. The complex problems that science and society face cannot be solved by genius loners, as long-standing myths would have us believe. This is not to say that individuals no longer matter. Quite the contrary, in fact! But increasingly we will find that our work is more about how individuals use their qualities, their excellence even, to enhance the performance of teams, of course for the purpose of advancing education and research.

This development will also have major implications for recognising and rewarding the performance of university employees. Unlike in the recent past, excellence in research, in terms of ranking and metrics, will no longer be the dominant factor for building a career within the university. The university is about more than just research that is 'science for science'. 'Science for society', education, and societal impact are of eminent importance. This is now gradually starting

[336] Heinich, N. (2019) *Wat Onze Identiteit Niet Is*. Prometheus.
[337] Mounk, Y. (2023). *The Identity Trap, A Story of Ideas and Power in Our Time.* UK Penguin Random House.

to become broadly internationally acknowledged. This all should eventually result in the diversity of necessary qualities also presenting a diversity of excellence and thus career paths, also for the staff without an academic education. Because they too are crucial for what the university ultimately achieves, and what it can offer to society. We have noted that this movement towards Open Science particularly means a cultural shift of essential nature, which will not be easy, and will take time to accomplish. Nevertheless, there is currently considerable enthusiasm for Open Science in academia among the various actors in research and education worldwide, and the transition is already underway.[338]

Openness to the outside, and openness to the inside, will therefore be the dominant factors that determine the future of the university. In short, the future is open!

[338] See, for example, Coalition for the Advancement of Research Assessment: coara.eu

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Open Science represents the great cultural change in academia today. Through the practice of Open Science, the university aims to anchor itself more firmly in society by addressing key local, regional, and global challenges in both education and research, ultimately giving back more to society.

From this perspective, the key question of this book is: how will the university in this transition develop its core tasks of education, research, and societal impact? Since a university is defined by its people, it is highly relevant to also consider how the university community and its organisation are developing, and ideally could develop. For us, the integral transition to Open Science is central to this process.

The book was written by the rectorate of Utrecht University - Rector Magnificus, Henk Kummeling (University Professor of Comparative Constitutional Law and Extraordinary Professor at the University of the Western Cape, South Africa), Vice-Rector for Education Manon Kluijtmans (Professor of Education to Link Science and Practice, UMC Utrecht), and Vice-Rector for Research (until 1 September 2023) Frank Miedema (Professor emeritus, was Dean and Vice-Chairman of the board of UMC Utrecht and chaired the Open Science Programme of Utrecht University) - with broad input from the university community.

The authors address not only the developments they anticipate but also those they deem desirable, as such the book is meant as a catalyst for further discussion.

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