A HUMAN-CENTRED UNIVERSITY:
DIGITAL TRANSFORMATION,
THE FUTURE OF WORK AND
SOCIETY 5.0

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

SENATE CONFERENCE
Report
2022

Senate Conference

17 and 18 February 2022

A HUMAN-CENTRED UNIVERSITY: DIGITAL TRANSFORMATION, THE FUTURE OF WORK AND SOCIETY 5.0

University of Pretoria

BACKGROUND

The virtual Senate Conference, hosted on 17 and 18 February 2022 from the University of Pretoria's Future Africa campus, was the third in a trilogy of annual conferences that focused on the role of universities in contexts of rapid and multiple changes and major disruptions.

The focus of the third conference, conceptualised and curated by the deans of all faculties and the business school, was on building a human-centred university and related digital transformation, the future of work and Society 5.0.

The invitation from the Vice-Chancellor and Principal, Prof Tawana Kupe, to all senators highlighted the role of universities in driving and contributing to new, sustainable and inclusive societies. He called upon the intellectual leadership of the university to "bring together our collective intellects, capacity for critical thinking, ideas, analyses and thoughts to illuminate our futures". Key questions include:

- What are the trends shaping the changing world(s) of work?
- How do we re-think, re-imagine and re-design work?
- How can we amplify the role of universities in the digital era that keeps us human-centred?
- How do we appropriately and dynamically prepare UP students for a rapidly changing future of work or work for the future?

In preparation for the two-day conference, each of the nine faculties and the Gordon Institute for Business Science (GIBS) prepared conceptually rich video texts that elaborated on their respective analyses of the complex changes facing humanity and universities in particular. The videos also outline the responses of the faculties and GIBS to these changes. The videos can be accessed here.

The two-day conference programme can, in turn, be found here.

The following excerpts illustrate some of the ways in which the conference was framed at the outset:

Over time, universities are shaped and reshaped by grand-scale societal changes directing us to an identity in the future.

How we think, talk, and work today has changed radically in the last two years. We have been compelled to change our mindsets in undoing traditional ways of working.

COVID-19 has been a trigger and single disruptor that has radically propelled us into new and creative ways to navigate life, work, and learning.

Technology […] is an ever-present constant shaping all aspects of humanity. [It] is an important enabler and part of a holistic process within a larger ecosystem focused on a human-centred and human-enhanced society.

Society 5.0 is a concept that broadly describes the "rapid evolution of information and communications technology" that impacts changes in society and industry […] Key here is the "fusion of cyberspace and the real world (physical space) to generate quality data, and from there create new values and solutions to resolve challenges"[1].

Many questions were posed to frame deliberations, but all centred on:

"How do we remain relevant, up-to-date, agile in continuous learning while leveraging the possibilities, prospects and challenges of Society 5.0?"

FORMAT of the report

The format of the Senate Conference report follows the structure of the programme:

- Session 1: keynote presentations
- Session 2: panel discussions in response to the keynotes
- Session 3: plenary feedback based on the break-away group discussions.

The keynote speakers' presentations are available here; the detail is therefore not repeated. Instead, an attempt is made to lift out the conceptual anchors and highlights and, as far as possible, to point to the specific challenges, opportunities and practical implications which were alluded to either in the presentations or in the panel and group discussions.

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[1] Mayumi Fukuyama, 2018. Society 5.0: Aiming for a new human-centered society. *Japan Spotlight* special article (pp47-48). https://www.jef.or.jp/journal/

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DAY 1 | Thursday, 17 February 2022

OPENING SESSION

The opening session, chaired by **Prof Norman Duncan** (Vice-Principal: Academic), included two sets of introductory comments by

- **Prof Tawana Kupe**, Vice-Chancellor and Principal, and
- **Prof Vasu Reddy,** Dean: Humanities.

Prof Duncan welcomed all to the first day of the conference. He noted that senators, as the 'brains trust' of the University, are entrusted with offering leadership in setting the academic or scholarly agenda for the University of Pretoria.

Prof Kupe reiterated that this was a unique event in the university's academic calendar and noted that the 2022 theme could not be more relevant in an era of continuous and multiple disruptions.

One of the leading figures in organising the conference, Prof Reddy, presented an overview of the conceptual anchors that shaped the programme. The following are selected extracts from his opening remarks:

- The aim, as always, is to stimulate deeper thinking, debate, discussion, and ideas that help shape the ongoing academic project at our university to propel us forward.
- An ecosystems perspective suggests that our university is shaped by (and created through) a process of relationships, systems and ideas that, in turn, are deeply connected to our aspirations to promote human flourishing and well-being, especially human understanding, transforming people's lives, forming self-sustaining communities, and developing a self-critical society.
- The academic project is central to the university's values, ideas, thinking, and innovation in its relationship to the larger world. It requires us to engage with continuity and change and be adaptable, creative, critical, and reflexive.
- There is a level of continuity shaped by the context of the three Senate Conferences: the first in the trilogy was on breaking new ground and transdisciplinarity (2020); the second on re-imagining higher education (2021). There is little doubt that the third, themed, *A human-centred university: digital transformation, the future of work and Society 5.0*, entailed timely, powerful and contestable concepts that will preoccupy the discussions to follow.
- The pandemic has taught us a greater appreciation for people and forced us to navigate online platforms. However, the past two years have also cost us dearly. As a community, we have lost parents, siblings, children, family and colleagues.
- Our reliance on technology has also, to some extent, robbed us of our humanity—the ability to physically interact and to provide emotional support for one another.

- This is a compelling reason why we need to tease out what it would mean to be a human-centred university.
- The different facets that make up the two-day programme invite us to consider the complex dynamics that characterise a new, digitally-driven society; and the conditions that tax our well-being and reshape our identity.
- We will ask what we can do to help our students thrive in a future some of us have only seen as science fiction.

As senators, we need to develop the generative ideas that will shape our academic project and transformative potential—it is about who we are and what we want to become.

Prof Reddy also presented an overview of the structure of the two-day conference and brief bio-sketches of the guest speakers:

Prof Pinar Ozcan Saïd Business School, Oxford University and the Fintech Initiative, UK	*Competition in the age of data*
Prof Bitange Ndemo Faculty of Business and Management Sciences, University of Nairobi, Kenya	*How higher education institutions can equip students to be productive players within Society 5.0*
Dr Miguel Goede University of Suriname and founder of University of Governance 5.0	*Society 5.0 as a new social contract*
Prof Mateus Panizzon University of Caxias do Sul, Brazil	*Critical success factors of the university of the future*
Ms Andee Uren Executive Head of Organisational Effectiveness, Nedbank, South Africa	*A new digitally dominant society in a human-centred approach*

Session 1

1.1 Prof Tawana Kupe
Vice-Chancellor and Principal, University of Pretoria

Where are we now, and what future does UP envisage for itself in a human-centred university focused on digital transformation, the future of work and Society 5.0?

- The presentation focused on arguments, issues and trends that shape a reimagined university.
- A pivotal question is why a human-centred university is important to the idea and meaning of the university.
- The triad of digital transformation, the future of work and Society 5.0 is central.
- In this context, we need to make sense of *how* and *why* UP should be navigating these important domains in the co-creation of a university that engages the challenges and opportunities facing us within higher education.

> *Universities exist to understand the past and the present more deeply and foresee and respond to the future.*

In his opening address, Prof Tawana Kupe set the tone for the conference by presenting some thoughts, ideas, and illustrative examples to contribute to the discussions.

The first premise was that the current context presents an unprecedented opportunity to think and act creatively and innovatively to ensure that UP students and graduates have the skills needed to achieve university and career success. Partnerships are needed between academia, industry, the private sector and government, and accelerated growth in sustainable networks without borders to ensure that the institution adapts to the complex, interconnected crises, as are captured in the UN Sustainable Development Goals and Africa's Agenda 2063.

Globally and across the continent, we are keenly aware of these crises concerning society, economy, sustainability, well-being, climate, food security, employment, and governance.

In reference to a Quintuple Helix[2] framework where the natural environment, society and the economy are co-drivers for knowledge production and innovation, universities need to play

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[2] Elias G Carayannis & Joanna Morawska-Jancelewicz, 2022. The futures of Europe: Society 5.0 and Industry 5.0 as driving forces of future universities. *Journal of the Knowledge Economy.* https://doi.org/10.1007/s13132-021-00854-2

a crucial role in the co-evolution of democracy, environmentalism and the innovation-driven knowledge economy.

> *Every profession and field of study is dynamic and requires renewal, reinvention and new knowledge; every field of study holds power to either advance or retrogress our humanity.*

Universities are called upon to focus on opportunities arising from artificial intelligence (AI) and digitalisation and from economic, social and environmental transitions and to develop more balanced, sustainability-oriented, and human-centric approaches. Several illustrative examples at UP were provided:

- Stevie, the gender-neutral telemedicine robot at the Steve Biko Academic Hospital, makes possible patients' treatment through instant live discussion and daily communication between intensive-care unit teams in Germany and South Africa.
- The Smart City and Digital Twin City research in the Department of Architecture illustrates new ideas and approaches to city management. The Hatfield Digital Twin City initiative focuses on the urban area surrounding our main campus.
- Researchers in the Faculty of Engineering, Built Environment and Information Technology (EBIT) are at the forefront of the technological leap that is required to transition from 4G to 5G and beyond; a complex process that requires mega-scale planning and resources, and government's commitment to universal connectivity and the freeing of bandwidth.
- The Kumba Virtual Reality Centre makes it possible for students to become fully immersed in any mining scenario; the Exxaro Chair in Extended Reality (XR) Technology, a partnership between the departments of Mining Engineering and Information Science and the mining company, Exxaro, and the Virtual Reality and Interactive (VRI) lab at UP. The latter illustrates the use of technology to disrupt historical or traditional ways of doing things and replacing these with new and better technologies and approaches, thus preparing students for future worlds of work.

A 2019 PwC report on the workforce of the future[3] lists the top generic skills for the future as sense-making, social intelligence, adaptive thinking, strong people management, group co-ordination, judgement, negotiating, decision-making skills, cross-cultural competencies, computational thinking, new media literacy, transdisciplinarity, a design mindset and virtual collaboration.

What do universities need to do? The development of these skills needs to be incorporated into the curriculum across all disciplines. Students need to be digitally literate, which means

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[3] PWC, 2019. Workforce of the future 2030: global trends challenged by African realities. https://www.pwc.co.za/en/assets/pdf/workforce-for-the-future-2030.pdf

that all students would need to take modules such as data analytics and data science. Linked to this, further investment in IT infrastructure will be required if UP is to seize the opportunities for growth, development and transformation, and reimagining ourselves, a process that was started in 2021.

Four further opportunities were tied to current strategic priorities and trends in higher education:

- Increasing PhDs and focusing on strategic partnerships.
- Curriculum transformation and asserting and celebrating our academic project.
- Entrepreneurship and achieving a 'triangle alliance' of critical knowledge and critical thinking, innovation, and entrepreneurship.
- Lifelong learning, developments in education technology and again partnerships.

Returning to his opening comment that the world's complex problems require transformative initiatives, Prof Kupe concluded by reiterating that all four areas require bold thinking, novel research, and agile, positive shifts.

UP already has strong examples of achieving scale and critical mass through alliances, collaborations, partnerships and networks that transcend institutional, national and continental boundaries and borders. We need more.

1.2   Prof Pinar Ozcan
        Saïd Business School, Oxford University (UK)

Competition in the age of data

Professor Ozcan:

- Analysed the rise of digital platforms.
- Argued that organisations can and do respond and even leverage disruption.
- Provided examples from several industries showing how technologies drive disruption.

To understand competition in the age of AI, we need to think about why disruption is happening now.

Research has shown that 49% of enterprises were not prepared for the disruption occasioned by the COVID pandemic. Yet, when organisations are motivated or forced to get onto the journey of digitisation, there is more connectivity and opportunity to build an ecosystem around themselves than may have been realised. Therefore, we see that these connections are easier to make than what may be assumed and that digital ecosystems are on the rise.

At the same time, as we digitise, we start to 'datafy' society. More data and more accurate data make it possible for machine learning and AI capabilities to turn vast data into useful information.

The final piece of the puzzle is the rise of data-driven, digital platform businesses entirely dedicated to understanding data in ways that will create more targeted products and services.

Comparing how the top positions in the world have changed between 2008 and 2018 shows the rise in data-driven business models. While in 2008, there was only one among the top ten global companies that was a data-driven, digital platform business (Microsoft), by 2018, the number had risen to five—Apple, Google, Microsoft, Amazon and Facebook.[4]

In 2008, oil was king; fast-forward only ten years, and we see that digital platforms have started to take over the world. A question that has kept researchers busy is how digital platform businesses have grown so big. One position is that digital platforms have become so big in every industry that traditional organisations are either trying to make investments in them or buy them. An example from the automotive industry illustrates: we know that ride-hailing, ride-sharing and car-sharing have taken over transportation; many people are not thinking of buying their first car; they are not even learning to drive. We are seeing giants in the automotive industry (VW, GM, Toyota) making huge investments in what used to be start-ups and have now become giants.

Digital business platforms are information systems that think of themselves as match-makers between providers and consumers in the market, and traditional institutions (VW, GM and Toyota) are trying to understand their future customers (Uber, Gett and DiDi). We are starting to see that digital platforms are not only entering every industry but also changing the nature of competition.

Returning to the question of how such companies have grown so big, we need to consider the data network effect: the more users on a platform (e.g., students), the more data can be turned into a smarter algorithm that understands the needs of these users, to develop—in real-time—better products enjoyed by more. Consequently, we see that those who have access to the largest amounts of data have the best competitive advantage in this new world of competition in the new age of data.

A further trait of these companies is that they are asset-light—taking advantage of innovation in the market they meet demand; as famously captured: "Uber, the world's largest taxi company, owns no vehicles; Facebook, the world's most popular media owner, creates no content; and Airbnb, the world's largest accommodation provider, owns no real estate."[5]

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[4]   Bloomberg, Google
[5]   Tom Goodwin, Zenith

Perhaps data has become the new oil, as is often claimed.[6] Moreover, it increases in value as it gets generated rather than decreasing because it runs out.

This is potentially new to us but has been in the DNA of some businesses. For example, twenty years ago, Amazon's Jeff Bezos told all his teams that they would be fired if they were unwilling to open up their data and communicate via data internally between departments. He also wanted the data to be externalisable.

The fact is that disruption is everywhere, including in regulated markets. Examples were given of big tech companies now part of the healthcare ecosystem and the financial sector. In these contexts, information becomes the most valuable asset.

In summary, the following points were made concerning institutional strategy:

- Institutions need to develop a data strategy and culture.
- They need to understand that the new world is the world of data and AI, and, therefore, it is important to understand how data is structured internally.
- Data needs to be harmonised, and institutions must focus on cleaning up data in-house.
- Partnerships need to be considered
- Institutions need to understand whether existing products will become obsolete or exist in much better shape and form elsewhere.

In conclusion, Prof Ozcan noted that with the COVID pandemic, AI has accelerated change, and in this market, partnering with big tech is unavoidable. At the same time, universities have competitive advantages that many new data-driven organisations do not have.

1.3   [Prof Bitange Ndemo](#)
        University of Nairobi Business School (Kenya)

The role of higher education institutions in facilitating the future of work and Society 5.0

In this address, the speaker observed that:

- Africa has yet to meet the world as an equal power.
- Leading Africa onto the world stage means anchoring emerging 4IR innovative technologies and digitalisation to support sustainable economic development.
- Most recent growth and economic development in Africa have come from unexpected sources, such as information and communications technologies, agriculture, tourism and other tradeable services.

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[6] The Economist. The world's most valuable resource: data and the new rules of competition, 6 May 2017; https://www.economist.com/weeklyedition/2017-05-06

- HEIs have a critical role in a continent where a growing young population and expanding labour force must be turned into a demographic dividend.

We have the opportunity now to integrate the emerging 4IR and digitalisation into the heart of Africa and, in doing so, also potentially heal past digressions.

In his opening remarks, Prof Ndemo provided a layered contextual background to some of the societal problems facing Africa and the world. Achieving a balance between economic development and societal well-being remains a challenge; while we have come a long way, much remains to be done.

He presented the following definition of Society 5.0: "a human-centred community that balances economic advancement and the resolution of social problems". Indeed, he noted, "it will be possible to achieve a society that can promote economic development and solve social problems."[7] This balancing act requires strong social policy.

The COVID pandemic was a 'great reset' for societies worldwide. People and institutions were forced to rapidly find ways of living and working differently. At the same time, it was a watershed moment for the digital transformation of businesses and the generation of new business and revenue models. The rules of success also changed, with institutions becoming ever more reliant on digital modes of creating new values and experiences.

A map of African terrestrial and undersea fibre optic cables[8] shows the extent of infrastructure development initiatives. The challenge for HEIs is to begin to see Africans as innovation modellers, and institutions must begin by making connections. To illustrate, if there are programmes offered at one university on the African continent, we should not be looking at universities elsewhere in the world. We need to collaborate across the continent to harness young talent and ensure that skilled graduates do not leave the continent.

Much of the employment growth is coming from the ICT sector. Drawing on the publication, *e-Conomy Africa 2020,*[9] Prof Ndemo emphasised that this growth potential needs to be harnessed and intensified:

- There is a growing urban population. In 2019, Africa had a population of 1,3 billion people (40% of this population had access to digital connectivity); by 2050, Africa's population will increase to 2.5 billion, raising urgent questions about connectivity needs.

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[7] Hesham Dinana, 2020. Society 5.0 and the future economies. *The Cairo Review of Global Affairs*, No.37, Spring 2020.

[8] See https://afterfibre.nsrc.org/

[9] e-Conomy Africa 2020 — Africa's $180 Billion Internet Economy Future, 2019.

- In 2019, there were 700 000 technology developers in Africa; three million are needed.
- E-commerce and fintech are key sectors driving the digital economy.

The role of universities is to make sure that Africa takes advantage of the surge in digital technology and the expanding technology ecosystem—and we need to do more in collaborating across the continent to harness young talent.

Prof Ndemo illustrated the impact of digital disruption on policy development with several examples from Africa. Big data and AI are a major part of current digital disruption and offer enormous opportunities.

Session 2

PANEL DISCUSSION

Prof Tawana Kupe chaired the panel discussion with three panellists giving brief responses to the key note presentations:

- **Prof Morris Mthombeni**, interim Dean, GIBS
- **Mr Tarik Lalla**, Secretary-General of the SRC
- **Prof Nicola Viegi**, Head of Economics, EMS.

Below are the summaries of their respective inputs and further comments following the open discussion.

2.1   Prof Morris Mthombeni

Prof Kupe's opening remarks were focused on universities needing to be at the forefront of efforts to drive transformation. Among others, this position is also informed by the UN Sustainable Development Goals that foreground the problems that need to be addressed and counterbalance digital transformation with equity, diversity, and inclusion.

Prof Ozcan challenged us to think of competition in the age of AI. Some of the key ideas from her presentation are: it is important to have a deep understanding of connectivity; the notion of datafication; the role of digital platforms; disruption, and transformation.

We need to distinguish between disruption and disruptive innovation. With disruptive innovation, we are reminded of the late Prof Clayton Christensen (e.g., Uber does not replace but disrupts existing industries). There is an opportunity to distinguish between organisational forms and processes that will lead to disruption. In earlier work, Prof Ozcan

writes about 'network effects' at a portfolio level.[10] In the context of higher education, UP fully grasps this, and this is why we are determined to advance key partnerships globally and on the African continent. Our strategy sets us up to leverage some of this digital transformation that is taking place.

Prof Ozcan also spoke about data network effects. In a more recent article[11], she talks of turf wars, failed alliances, and 'market dominant logics', as well as the fact that dominant players tend to be defensive instead of collaborative in pursuing knowledge creation on new platforms. Part of the challenge for us in this new world is not to be gatekeepers of knowledge but rather advance knowledge.

A final comment about the important work of Prof Ndemo in Africa, as a politician and an academic: when we think of digital transformation, we often think of the organisational space alone when we should also be thinking of the social and political space. It would be interesting to learn more about Prof Ndemo's view on disruptive power and how digitalisation could disrupt networks of power that have kept people down in society.

2.2 Mr Tarik Lalla

It is important to point to the relevance of the theme of human-centredness. This year, one of the SRC's themes is student-centred governance. The idea of 'humanness' or Ubuntu is incredibly relevant when we discuss the future of work and the future of society.

What would Society 5.0 be, how do we envision it, and how do we engage? At the forefront needs to be human-centred processes. A key issue is economic growth and development in parallel to resolving societal issues. For example, when we engage with socio-economic difficulties today, how do we implement processes and technologies at a grassroots level and address existing inequalities and difficulties experienced, particularly with the most marginalised groups in society?

Where do we as students use cyberspace systems and technologies to free and decolonise education? That is especially difficult because these technologies are so far removed from where students and the general public are. Based on what previous speakers have said, the question becomes how we bridge the gap between where students and society are and advances in technology.

To conclude, and returning to the idea of human-centredness: how do we ensure that the use of technology and new systems will be human-centred; how do we address the lack of

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[10] Pinar Ozcan & Kathleen M Eisenhardt, 2009. Origin of alliance portfolios: Entrepreneurs, network strategies, and firm performance. *Academy of Management Journal* 52 (2). https://doi.org/10.5465/amj.2009.37308021

[11] Pinar Ozcan & Filipe M Santos, 2015. The market that never was: Turf wars and failed alliances in mobile payments. Strategic Management Journal. 36 (10): 1486-1512. https://doi.org/10.1002/smj.2292

knowledge and ignorance that exist, and how do we ensure that whilst learning about technology processes remain human-centred and inclusive?

The idea of human-centredness is not foreign to the African continent—it relates to the concept 'I am because we are', or '*umutu ngumuntu ngabantu'*, which is a central idea in African humanity.

2.3   Prof Nicola Viegi

The conference theme is fascinating, and it is appropriate that the Humanities started this process. Society 5.0 is not really about technology but about how we as an institution and how public policy will make technology serve the most and not only a few.

This is particularly important in the South African context: can we be a connector between this new world of technological change that is moving very fast and the reality of a society replete with wicked problems?

We operate in the context of this contradiction. Where we decide to position ourselves will shape our role as educators. One choice could be that we are only part of this global network because it is the future, and we want our students to be connected to global networks. But then we become part of this disconnect, hoping for a technological trickle-down. As with the economy, this will not produce transformation. Many institutions have chosen this route.

What Prof Ndemo tells us is important: it is about public policy that needs to connect the reality around us with new technological innovation.

The other point is the idea of the disrupting nature of these innovations. They will be incredibly disruptive, and so they should be. But disruption is also about deciding what we should eliminate in our curricula. For example, when we think of Society 5.0 as access to the best knowledge and the best science, and where people are digitally knowledgeable, what do we get rid of to create space for this different way of thinking? How do we disrupt our curriculum, and how do we disrupt our organisation to include this new knowledge?

The sense of disruption is fundamental for growth, but we need to accept that disruption means that there is some part of what we do that would need to stay in the background, maybe even our old selves. This is the challenge we ought to be grappling with.

DISCUSSION

Prof Tawana Kupe opened the discussion with the comment that disruption is not necessarily positive; we should choose those forms of disruption that advance human-centredness to create a society that addresses the fundamentals of social justice. His comments, in conversation with the panellists, included:

- Technologies require adaptation to contexts; we need to move from simply being consumers of technology to producing contextually relevant technologies and applications.
- Words in the new UP five-year strategy (and in previous planning documents) were chosen carefully to address contextual issues; being future-oriented is based on a critique of the present reality.

Response by panellists:

Prof Morris Mthombeni: What role do we envisage for UP that would drive greater adoption of a data-centric mindset and, at the same time, address all manner of social justice issues? As we embrace becoming more digital, we must ensure that we do so inclusively and engagingly, recognising that we are not apart from society.

Mr Tarik Lalla: Contextual relevance is as important as the matter of change. What will allow us to produce technologies relevant to the issues faced on the continent and South Africa, especially at grassroots levels?

Prof Nicola Viegi. We need to think about our role in society and education. The contradiction between the reality around us and the future we want might break us if we do not intervene in the public policy sphere. Society 5.0 is about democratising and accessing technology to improve the lives of our students and people.

Questions and comments from the audience:

- Part of the problem in education is the proliferation of content, so we should focus on core competencies? (Prof Salome Human-Vogel, Education)
- Should grassroots issues not be seen in the light of global issues and vice versa? (Prof Christian Pirk, NAS)

Concluding comment:

Prof Morris Mthombeni. Students do not need to go to lectures to find knowledge; we have become knowledge curators – curating links to the idea of agency.

Mr Tarik Lalla. Rather than presenting knowledge, lecturers need to mediate (or curate) knowledge so that students can interact and understand.

Prof Nicola Viegi. We need to re-think how we can reorganise the curriculum around problem-solving. Related to the idea of 'curators' of knowledge, we are librarians now, which gives us a great opportunity to expand knowledge for our students. It is not possible to separate the global from the local. The pandemic and climate change have illustrated this and the inequality of access to resources.

Prof Tawana Kupe. All three panellists have emphasised that we cannot become so caught up in realities that it becomes impossible to see the future. Two of the more interesting issues

are about future modes (and models) of teaching and learning and the future of working in academic spaces. It will be interesting for our Centre for the Future of Work to grapple with these issues and produce appropriate guidelines and policies relevant to a future-oriented and future-focused university. For a university that aspires to teach enquiry-led learning, an over-abundance of content is not a problem. And yes, academics have become curators of knowledge for a purpose—to be catalysts of critical thought, making it possible for students to become curators.

Session 3

GROUP DISCUSSIONS and PLENARY FEEDBACK

Prof Caroline Nicholson (Registrar) chaired Session 3 and the plenary feedback presented by the group rapporteurs.

Below are the questions addressed by each group and summaries of their deliberations presented by the rapporteurs.

GROUP 1

Facilitator: Prof Tiaan de Jager (HS)	Rapporteur: Prof Shakila Dada (Hum)

What are the implications of the future game-plan for moving (and amplifying) the University's role into the digital era with fresh and uniquely potent ideas that keep us human-centred? What are some concrete ideas?

Summary of discussion—Prof Shakila Dada:

In an important sense, we went back to the drawing board and asked: What is our definition of human-centredness, and do we have a common or shared understanding of this? If yes, what does human-centredness look like? That was one focus of our discussion. An important point raised was that it is impossible to be fully human-centred if our approach is not transdisciplinary. Rather than consider technological developments on their own, we should consider the human-centredness of these developments and how we can look at them in a transdisciplinary way.

A further point of discussion was how being human changes, or will change, due to technology. We need to take cognisance of the reality that technology influences what it means to be human, and humans influence technology.

A third focus in our discussion was the move to digitisation in teaching and learning. In this regard, we asked how much of what we are doing is, in fact, evidence-based. For example, is our use of digital platforms based on appropriate research?

A fourth discussion area was whether we fully understand the potential benefits and harm of technology. A related point was that we need to think about how digitisation can drive disparity and inequality—it is important to consider who is left behind in this process.

GROUP 2

Facilitator: Prof Chika Sehoole (Edu)	Rapporteur: Prof Louise Whittaker (GIBS)

As educators, workers and administrators are we disruptors in our work environment, and if so, how? What are the ingredients for transformation aligned to the future of the university and its citizens in current trends, applications, and their relevance for the business of higher education/UP?

Summary of discussion—Prof Louise Whittaker:

A two-pronged question framed our discussion: Are we the disruptors, or have we been disrupted? There was strong agreement that as much as we are disruptors, we feel disrupted by the COVID pandemic and everything over the past two years. This also means that we have been moderators of the disruption at some levels, managing the disruption for our students. Fundamentally, however, it is in what we do that we are disruptors; as educators, our role is to disrupt by introducing new knowledge and developing that knowledge; and importantly, we are disruptors through our context and the decolonisation of our curricula.

However, it was pointed out that we tend to move very slowly and reactively to change; for example, decolonisation and transformation were reactions to #FeesMustFall—we tend to change only when we are forced to change. Therefore, what we need to be asking in the future is how can we develop our adaptive capabilities so that we are proactive in changing and disrupting.

A senator from the biological sciences observed that variation allows for adaptability. It, therefore, would be important for us to have a portfolio of potential futures that will allow for variation (and how we respond to change) so that in the future, we can disrupt in a positive sense by creating multiple possible futures and developing at a speed and rate of change that is appropriate to the environment in which we find ourselves.

At the same time, however, we are very aware that we must critically assess everything, including the data we have to inform actions. As a concrete example, when we moved online, we had access to student data to identify at-risk students earlier than might have been possible before. We need to take forward these positive developments.

This discussion led us to the second part of the question: What are the ingredients for transformation?

It is clear that data and the willingness to work with the data are important. There is definitely an opportunity for us to use AI in more routine operations and possibly certain academic tasks, such as communicating with students. However, what emerged in the latter part of our discussion is that student-centred teaching has us as academics at its foundation. Our students, and maybe ourselves, are longing for human interaction. This should not be underestimated. The past two years have taken their toll on everybody in the system.

In summary, we need technology on the one hand and human-centredness, which means compassion, empathy and care.

GROUP 3

Facilitator: Prof Margaret Chitiga-Mabugu (EMS)	Rapporteur: Prof Salome Human-Vogel (EDU)

- *What will or should the future of our teaching and learning look like if we wish to appropriately prepare UP students for a rapidly changing future of work?*

- *What will be our future student communities' composition or nature and needs?*

Summary of discussion—Prof Salome Human-Vogel:

Earlier presentations largely informed the group discussion. There was a clear acknowledgement that given that we do not know what the future of work would look like—except that it will be evolving constantly—the skills we want to develop in our students will also need to evolve.

The AU Agenda 2063 was taken as a visionary framework to guide our future teaching and learning, to think critically about the concept of Society 5.0, and how we can make Society 5.0 work for us in Africa. There was an acknowledgement that we often adopt what emanates from the global North without critical analysis. We need to be critical about implementing these ideas in our environment.

Concerning teaching and learning, there was a sense that we needed to maintain a balance between physical in-person and hybrid modes.

In terms of competencies, we discussed what these are and that it would be important for UP to understand clearly what we mean when discussing competencies. There was a sense that faculties should not develop their own skill sets but that we should have a clearly defined framework across faculties that is well understood. We also thought that the Centre for the Future of Work is important in driving this process.

The group briefly considered content, context, and process. There was a recognition that as much as we focus on students' competencies for the future of work, we also need to pay attention to what technology advancement would mean for staff. The skills sets of future staff may look very different to those of current staff.

Lastly, we recognised that we have existing competencies that we can leverage as Africans and South Africans. The example given was how we could manage adversity with limited resources.

GROUP 4

Facilitator: Prof Elsabe Schoeman (LAW)	Rapporteur: Prof Gerald Ouma (Institutional Planning)

What is the role of research, community engagement and the creative (including art, literature, and performance) in a university engaging Society 5.0, digital transformation and the Future of Work? What are the concrete ideas that UP should attend to?

Summary points of discussion—Prof Gerald Ouma:

As the first part of the question has already been addressed by colleagues in the other groups, we decided to focus on the second part, which is about concrete interventions for UP to adopt. The framing of the discussion was around several key issues, one being the 'tearing down of the ivory tower'. We have to be a genuinely engaged university concerned with the challenges facing our society, our local communities with whom we work and society in its broader sense of national, regional and continental, and global contexts.

It will be useful to engender genuine partnerships with communities, especially underserved communities. They should not simply be spaces where we collect data for research, reports and publications. The engagement has to be genuine, it has to be on an equal footing, and we have to focus on issues that concern those communities so that the work we do and the research we produce have a positive impact on their lives.

Another important point mentioned was related to how we run our business as essentially a bureaucratic institution. We need to engender agility, creativity, flexibility, and responsiveness in our systems, processes, and structures. A key concept suggested was the idea of organic, fluid structures to break down the silos that stifle creativity and our ability to work collaboratively to enhance our agility and, of course, address the limitations that come with hierarchical bureaucracies.

Another important point was the need for us to strengthen our collaboration across the continent, pursue collaborative academic engagements, programme supervision, research, and link up our students with institutions and other students on the continent. In so doing,

we will create awareness of the continent and embrace the 'global classroom' where multiple different constituencies can be brought together.

A critical point about engagement and collaboration is around joint programmes. A comment was made that bureaucracy stifles innovation in this field of endeavour and that it simply takes too long to develop joint programmes. This is not necessarily due to internal processes but external national processes. There is a need for us to be flexible and find creative ways to overcome those obstacles.

Society is changing very fast. Students who come to university differ from twenty years ago in many respects. They are looking for some flexibility. We need to develop flexible calendars that allow students to step in and out to work or pursue other interests that will contribute to their learning. Also, it was mooted that this is what the world looks like and that we need to align our academic calendars with developments in society. That will also help 'tear down the ivory tower'. In different terms, our understanding is that we are part of society and, as it evolves, we have to co-evolve.

The issue of transdisciplinarity was emphasised. Of course, we understand why we need to embrace transdisciplinarity. The key points made by the group related to finding the constituencies involved and the 'how' of transdisciplinarity. So, we need to involve the communities we work in co-designing research projects; we need to work with students almost on equal footing in identifying research themes. We need to work with policy makers, a point that Prof Ndemo made earlier. So yes, transdisciplinarity is important, but we need to go beyond 'the usual partners' and bring in people we do not ordinarily include in transdisciplinary endeavours.

We need to invest in science communication to make our research more visible and accessible. That we have to publish our work in top journals is not negotiable. However, that is not sufficient. We also need to find ways to make the science we produce accessible to the communities from where we collected data in many cases, and probably more critical, to policy-makers.

Lastly, and a point made by previous speakers: we should engender pedagogies of compassion and asset-based pedagogies. When we moved from face-to-face to online modes of teaching, students were on their own, and staff too. The challenges experienced by students require us to understand their circumstances and go beyond empathy to fix those challenges by building on the capabilities, experiences, and skills that students already have to make learning more fruitful, interesting, and constructive.

DISCUSSION

Prof Chika Sehoole: UP's policy focuses on collaboration with research-intensive institutions. As good as this may be, it is also limiting. Can we not have differentiation and flexibility regarding the kinds of institutions we collaborate with?

Prof Tawana Kupe: The policy that Prof Sehoole refers to requires clarification: it is the African global and internationalisation framework. We can and do collaborate with institutions that are not research-intensive. In the African Research Universities Alliance (ARUA) family, there are only 17 universities; six are universities in South Africa. However, if you look at other networks in which we participate, for example, the Australia-Africa Universities Network, several universities are not research-intensive. The same applies to Alliance for African Partnerships. The idea is that it is also our responsibility to uplift those institutions that do not have strong research capabilities; in fact, sometimes, the experts are at those institutions. It would be foolish not to cooperate simply because a particular institution is not yet classified as research-intensive. We have a fairly nuanced strategy and not one that is elitist.

Prof Gerald Ouma: I fully agree with Prof Kupe. We have several strategies in place at UP to cooperate and partner with different kinds of institutions across the continent and globally.

Prof Sandy Africa: I have a question and perhaps a little bit of a provocation, going back to this morning's key note addresses: How would we articulate, firstly, our understanding of whether we are being disrupted and therefore are responding to external changes and conditions, or whether we are disruptors, disrupting the field of higher education, taking advantage of external conditions, and perhaps leveraging our strength. I get the impression that we are a bit of both—we are trying to do many new things, but we also (and this is an uncomfortable feeling) may want to remain at a 'traditional' university. I suppose we do not all come to a conference and emerge with the same sense of who we are. But I get the sense of a new phase of identity re-imagination at UP, and it will be good to have a sense of how we are re-imagining ourselves.

Prof Louis Whittaker: The fact that universities are by their nature conservative came up in our group discussion. This is very much part of the regulatory environment in which we find ourselves, which means that there are aspects that limit change. But, there is the question of our willingness to change. The key will be to employ the other part of ourselves as academics, namely, using a critical and evidence-based assessment of what is or is not beneficial as we change. In a very practical sense, what that means for us as a university is that we have to make the space, take the time, and dedicate the resources to gathering the data and doing the analyses. If we do not understand the effects of what has changed and what we want to move towards, then we cannot determine where we want to be and make the necessary changes.

Prof Salome Human-Vogel: To re-emphasise, students and staff have different competencies and levels of preparedness. Therefore, creating a culture that allows for being disrupted and disruptors is probably a complex endeavour. In addition, individuals have different capacities for change, and we may not get to a coherent point where we are 'disrupting' current practices. We may always struggle with differentiating levels of innovation across the University. How we approach staffing and talent development within the University would be an important mechanism to make us more agile and speed up our capacity for disrupting.

Prof Joseph Chamunorwa: Now that we are returning to some normalcy, what are we doing to prevent ourselves from going back to pre-COVID practices? What in our actions will ensure that this does not happen? The good thing that we have learned is that geography is no longer a hindrance. Policy-wise, how will we make sure that we do not lose out on the gains made from the COVID disruption?

Prof Caroline Nicholson: There are many views on this. What is important is for the University to analyse what we have done during COVID, which is already underway. The intention is to retain all the benefits resulting from our actions during the pandemic. We also have to be aware that not all the moves were beneficial and therefore need to carefully analyse what should be retained and what not.

Of course, we are looking at policies—and are constantly reviewing our policies—to see what policies should be introduced to benefit our staff and students and drive the re-imagined university forward.

CLOSING REMARKS

In his brief closing remarks, **Prof Norman Duncan** thanked the keynote speakers:

- Prof Vasu Reddy for his input aimed at framing the conference
- Prof Tawana Kupe for highlighting the importance of a human-centred university
- Prof Pina Ozcan for her incisive presentation on competition in the age of data
- Prof Bitange Ndemo for his presentation on the role of higher education in facilitating the future of work and Society 5.0.

He also thanked the panellists in Session 2, the participants in the group discussions that followed in Session 3, and the two chairs, Prof Kupe and Prof Nicholson.

In his closing remarks, Prof Duncan emphasised why the engagement of senators with the critical issues identified underscores the importance of the Senate conferences, which are intended to be forums where academics engage in the intellectual project and map a trajectory for the University.

DAY 2 | Friday, 18 February 2022

Session 1

Prof Themba Mosia (Vice-Principal: Student Life) chaired the first session on the second day of the virtual Senate Conference. His opening remarks highlighted the focus of the keynote speakers and the day.

KEYNOTE SPEAKERS

1.1   <u>Prof Miguel Goede</u>
         The University of Suriname, founder of University of Governance 5.0

Society 5.0 is a new social contract

The speaker noted that:

- Society 5.0 is a relatively new concept.
- The difference between the 4IR and Society 5.0 is that the latter would depend on a social contract that prioritises the planet and humanity.
- Elements of such a social contract would need to be considered.
- There are several change drivers.

> *Society 5.0 is characterised by the merging of cyberspace and physical space, aiming to balance economic advancement with the resolution of social problems.*[12]

Technology has always been the driver of revolutions. While the timelines of the 4IR and Society 5.0 are now merging, Society 5.0 is distinct in its promise of liberation from efficiency. People would have more time for endeavours other than work efficiency, resulting in more fulfilled lives. Building on the model developed in Japan, Society 5.0 holds the promise of liberation from disparity and impingements on the environment.

We are at the cusp of this epochal change. However, as Prof Goede pointed out, Society 5.0 will develop asymmetrically across developed and developing regions of the world and even within cities and between cities and rural regions. He noted that several possible scenarios would hinge on decentralised governance and collective action while, until now, the world has been more inclined to centralise in seeking solutions.

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[12] Hanlie Smuts, 2022. Feeding a knowledge-intensive society: the increasing innovative use of artificial intelligence and knowledge management will ensure an integrated organisational capability in Society 5.0. Retrieved from https://www.itweb.co.za/content/WnpNgM2KVxrqVrGd

What has created the conditions or possibilities for Society 5.0? The most important is climate change. While some assert that the COVID pandemic is linked to climate change, it is manifestly clear that climate change results from the way we produce and live; in short, in the pursuit of profit and at the expense of the planet and of other people. This is no longer sustainable and has brought us to the point where we know we must transform society.

While we have witnessed huge developments in health care and science that have stepped up and delivered solutions to a global health crisis, the pandemic has also shown us that poverty remains a major challenge. The pandemic has hardest hit the poor, and we have seen increased concern about mental health. We are in the middle of energy transitions, seeing huge geopolitical changes. In the realm of technology, there have been numerous cyber developments—blockchain, cryptocurrency, AI, the internet of everything (IoE), and what is still under the radar, the metaverse, virtual reality that is a virtual life and is becoming an economy in its own right.

We also see developments that make the nation-state a virtual state; to illustrate, there are probably many people from South Africa who do not live here but are part of the South African society. Being part of and in society, or in country, are no longer the same.

We have also seen that there is pressure on democracy. In foregrounding the challenges of the pandemic, we have to some extent, put civil rights on hold.

Following the debate between Bregman and Harari, we need to ask: Did we get humans right? The basic premise of a social contract is that people are essentially good and would be inclined to collaborate, and based on that, we will try to build Society 5.0. [13]

If Society 5.0 is to be a human-centred society where we solve social problems with and by applying technology, it will require a social contract. This means there would need to be a broad and deep understanding of what society entails.

What would be the elements of a new social contract for Society 5.0?

- First of all, is the planet and what we pledge to the planet; that we will take care of the planet and live in balance with it. And we will need to specify how we will progress with global governance at the level of the planet.

There are specific challenges (e.g., inequality, reciprocity, and democracy), but the problems we need to solve in Society 5.0 are global, so that we will need global governance. It is already there—in the pandemic, we have seen it in the World Health Organization (WHO) role. We have also seen global governance in the UN Sustainable Development Goals (SDGs). In Japan, for example, the SDGs are linked to Society 5.0. By building, creating, and

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[13] See, for example, https://www.youtube.com/watch?v=odel2PA5R6A; and also:
https://economictimes.indiatimes.com/tech/technology/use-data-carefully-to-avoid-digital-dictatorship-and-digital-colonies-yuval-noah-harari/articleshow/89613777.cms

developing Society 5.0, they will—and most countries could follow this strategy—achieve the SGDs by implementing solutions for Society 5.0.

- In addition, two main issues need to be considered in a new social contract: universal access to internet connectivity and some form of universal basic income from which people can develop, learn and be productive.
- A new social contract will also need to include how we will behave horizontally, citizen to citizen.
- The neoliberal principles that govern the profit-driven nature of corporations will need to change; the consensus is that corporations will need to become more stakeholder-oriented. This means we need to develop corporations, organisations and enterprises that are more people-centred and create meaningful jobs—and leave less meaningful tasks to robotics and AI.
- A new social contract will also require robotic laws. There are already such laws (e.g., what can be included in an algorithm and what not), and there are some propositions for three or four basic robotics laws, one of which would need to be that a robot cannot be programmed to destroy a human being or people.

In conclusion, we are on the verge of a post-pandemic era that can create such a society, and technology will be an important part of this new society. The transition will not happen at once and will not be automatic. A new social contract is about what we as humans pledge to one another concerning what we will achieve in this new society and how we will legitimise and behave in this new society that ultimately will differentiate Society 5.0 from all previous societies.

Let us be aware that much more than technology will be required to create a human-centred Society 5.0. The promise of Society 5.0 is to be an inclusive society. The challenge, therefore, will be to include those who lag in the process so that a balance can be achieved in economic advancement and the resolution of social problems.

1.2   Prof Mateus Panizzon
      University of Caxias do Sul, Brazil

Critical success factors of the university

The speaker noted that:

- The vision of Society 5.0 fundamentally combines AI technologies with human values intending to create innovative systems for a better quality of life.
- The COVID pandemic accelerated technological development and digital transformation.
- The growth of inequality, leading to greater social injustice, has become one of the major global challenges, and new educational contracts and models are needed.

- In uncertain and turbulent times, the capability of building new knowledge and innovation is keenly needed to solve complex problems.
- Universities control unique strategic resources to sustain this purpose, especially their external community and innovation ecosystem.

"Universities play a vital role in times of crisis."[14]

"Universities are created to tackle the unknown. While their future cannot be planned, the tools they have at their disposal to meet the future can be improved."[15]

Prof Panizzon presented a comprehensive analysis that focused on context and the role of universities. A central theme was the need for an institutional agenda—and the critical factors to be included in such an agenda—for universities to become human-centred universities of the future.

A central premise was that the high capability of universities to solve complex societal problems needs to be recognised. The case of universities in Brazil during the COVID pandemic was used to illustrate this: universities reoriented their research in several ways to combat the pandemic and, by so doing, had an impact on society. He noted that this tells a story of reconfiguration and change—in uncertain times where society did not know how to respond, universities had the tools to help address complex problems.

In future studies, it is widely recognised that the future implies constant change. To illustrate, he referenced a recent consultative study on higher education futures.[16] Four interconnecting pathways—the quality of life, social change, care of the environment and development of technology—are complimentary concepts and ideas that support higher education to contribute to better futures.

In turn, a recent study on research futures presents three scenarios:[17]

- *Brave open world*—state and philanthropic funders align, and open science takes off, added by AI-enabled technologies.
- *Tech titans*—technology companies are in charge and become knowledge creators and curators in a world where industry funds more research.

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[14] Paul Cook, 2021. The University of Crisis. *American Journal of Economics and Sociology*, 80(1), 23–51. https://doi.org/10.1111/ajes.12371

[15] Elias G Carayannis & Joanne Morawska-Jancelewicz, 2022. The Futures of Europe: Society 5.0 and Industry 5.0 as Driving Forces of Future Universities. *J Knowl Econ*. https://doi.org/10.1007/s13132-021-00854-2

[16] UNESCO (Nov 2021: 15). Pathways to 2050 and beyond: Findings from a public consultation on the futures of higher education.

[17] Elsevier and Ipsos MORI (Feb 2019). Research futures: drivers and scenarios for the next decade.

- *Eastern ascendance*—in a multipolar world, this influences the previously Western-dominated research landscape.

The main concern is how universities can best build dynamic capabilities for future challenges within these contextual realities. It is about making the necessary changes to be or become flagship universities that address social problems.

Society 5.0 can be thought of as 'the imagination society' or a vision of a society that, with the help of technology, balances economic development with the resolution of social problems.

We need to understand the impact of advances in AI on the imagined future of work and Society 5.0. The two main drivers are digital transformation and sustainability. However, while the COVID pandemic saw a rapid increase in digital transformation, social and economic inequality has increased, leading to greater social injustice—these are now major global challenges, and new educational models are needed.

Universities can and must play a major role in leading sustainable change in this complex landscape and need to develop dynamic capabilities for future challenges. It is about universities' 'common good' in society and technology that is more human-centred.

Prof Panizzon described in detail the foundations and critical success factors for the system.[18] In conclusion, he noted that it is not about binary change but about evolving institutional change. The point is that the critical success factors must become part of the institutional agenda for transformation, and this agenda must be debated and implemented.

1.3   Ms Andee Uren
Executive Head, Organisational Effectiveness Nedbank, South Africa

Promoting a human-centred approach in a digital world: paradigm shift or paradox?

The speaker reflected on, inter alia:

- That since the advent of COVID-19, there has been a widespread acknowledgement of the need for a human-centred approach to leadership, work, teaching and learning, and higher education.
- What does it mean to be human-centred in an increasingly digital world?
- That sas our world becomes more interdependent and interconnected, significant shifts in the way we think and lead in complex systems are required.
- Practical examples based on a work and innovation case study at Nedbank, South Africa.

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[18]   Mateus Panizzon et al, Critical Success Factors of the University of the Future in a Society 5.0: A Maturity Model. *World Futures Review* Special Issue on Imagining Possible Futures for the University, Volume 12 Number 4 December 2020.

Our greatest advantage lies in our deepest, most essentially human abilities—empathy, creativity, social sensitivity, storytelling, humor, relationship building and expressing ourselves with greater power than logic can ever achieve.[19]

Andee Uren presented a clear line of reasoning that moved from Nedbank South Africa as a case study and the genesis of a human-centred approach to leadership in that context to what this organisation's philosophy could mean for higher education.

Her point of departure was that a human-centred approach to leadership is not new, nor is digital transformation. Instead of a gradual change, the COVID pandemic thrust the bank into a new way of working overnight—with no alternatives and no time to resist. There are now over 20 000 employees working from home, and Nedbank SA has been one of the first to announce the intent of introducing a permanent hybrid workplace model.

While managing the immediate needs of accelerated digital transformation presented specific challenges, it was important to the organisation to re-imagine the Nedbank of the future and the kind of leadership required. Drawing on design thinking principles, the bank adopted a leadership philosophy where human-centred leaders:

- Put people first, across the boundaries of space and time and into subsequent generations
- Exercise power through impact, influence and the ability to inspire
- Are empathetic and inclusive and have a bias towards action and experimentation
- Solve problems creatively, take bold action and drive competitive delivery and winning outcomes.

The organisation's leadership principles are short and simple: everyone can be a leader, leadership is capability-driven, which means it can be developed, and different levels of work require different leadership capabilities.

While there is no doubt that the pace of innovation and digital disruption was unprecedented, the focus should not only be on what can but also should be done digitally.

There are areas where human contact remains important. Universities have shown that lectures can be moved online, but should that become the norm?

The unprecedented pace of societal change has placed great pressure on higher education, and some believe the system is at a tipping point. Do universities develop the appropriate skills in students for future worlds of work?

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[19] Geoff Colvin, 2015. Humans are underrated: what high achievers know that brilliant machines never will. Nicholas Brealey Publishing.

Dr Vivienne Ming, a global proponent of augmented intelligence, believes universities do not build a sufficiently strong foundation in creativity and meta-learning. What is needed are "creatives rich in meta-learning skills, like resilience, perspective taking, analogical reasoning, and uncertainty tolerance. This gives them the ability to explore unknown situations and act as creative, collaborative problem-solvers. Framing the problem in new ways, seeing around corners, interpreting the future, working with others to harness the collective intelligence of a diverse team".[20]

What is clear is that adaptability is key. At the level of institutions, the structure needs to follow strategy. However, higher education institutions (and businesses like banks) are not built for the rapid pace at which adaptation is required, which means large-scale change is slow and often painful. The example was given of Nedbank creating a 'Digital Fast Lane' (DFL) structure to expedite the development of new products, services and ways of working. Here different rules apply; there is tolerance for greater risk and reduced governance structures and processes.

What would adaptability look like in higher education? Perhaps what is required is an 'Educational Fast Lane' where students can apply to participate in learning 'experiments' where they may not emerge with degrees.

In conclusion, Ms Uren noted that it is a human-centred approach that will differentiate organisations in the future and ultimately result in people thriving.

Session 2

PANEL DISCUSSION

Chaired by **Prof Carolina Koornhof** (Executive Director), the panel discussion on Day 2 was led by **Prof Alta van der Merwe** (EBIT) and involved four panellists:

- **Prof Miguel Goede**, University of Suriname
- **Prof Emma Ruttkamp-Bloem**, Department of Philosophy
- **Prof Hanlie Smuts**, Department of Information Science
- **Prof Natasja Holtzhausen**, acting Director: Centre for the Future of Work

Below are summaries of their respective input, framed by the questions Prof Van der Merwe used to focus the panellists' input, the subsequent discussions, and panellists' closing remarks following the discussion.

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[20] Vivienne Ming, 2021. The Creativity Deficit. Duke Corporate Education. Retrieved from https://www.dukece.com/insights/the-creativity-deficit/.

The video introduction by Prof Alta van der Merwe can be found [here](#).

2.1   Prof Miguel Goede

Q: Why do you say that the essence of Society 5.0 is a new social contract? And what will be new?

If we do not get the social contract right, we will have a society with tremendous technological abilities that can be used for all purposes. The difference is that a social contract can be agreed to for the advancement of humanity and the resolution of social problems.

The difference will not be in the technology or the hardware; it will be in the explicit agreement on certain principles to guide us in Society 5.0.

Concerning the second part of the question, the following: The sequence in which we think and operate has altered. What the pandemic has shown us is that for many decades we have not been accustomed to thinking as a species—we have tended to think individually or collectively as individuals. This has to change. We have to think about what is better for others, and if it is better for others, it is good for me (e.g., wearing face masks). Secondly, we will have to think and be aware of the planet. We used to think of our private space (or cyberspace), but now in all we think and do, we will have to consider our actions' impact on the planet. And this impact will come back to individual behaviour (e.g., what you purchase).

Existing contracts often come down to the rights of individuals and individual freedom. We will have to become more aware of the species and the planet as stakeholders.

2.2   Prof Emma Ruttkamp-Bloem

Q: Given that Society 5.0 is human-centred, can you briefly define this notion of human-centredness and comment on any ethical concerns around the notion of Society 5.0?

In the context in which we are speaking, the notion of human-centredness is related to technology. This refers to technologies that are designed with sensitivity to the human impact, technologies that are intended to augment rather than replace human capabilities and intelligence, and therefore to enhance the quality of human lives. Society 5.0 would be a society that balances the best interests of society as a whole with the best interest of individuals through human-centred technologies. Thus, there would be respect for the core of the social contract between universities and their communities: respect for the values of self-improvement and social and economic mobility with equality of opportunity as the universally accepted framework for achieving these values.

To affect human-centredness in this context, a 'value-by-design' approach is needed, implying that all relevant stakeholders should be at the centre of its design, innovation and implementation and that the dynamics between stakeholders across the relevant ecosystem would inform the design of the technology. This means that the human focus cannot be an

add-on. The idea is to create value and impact for good, and therefore the approach should be measurable and both purpose and results-driven.

Apart from an interest in the success of the technology at issue from an ethical point of view, we should also reflect on how to measure and monitor the ethical and social impact of Society 5.0 technologies, so that core human characteristics are protected and human-centredness is ensured. Ethical guidelines for governing Society 5.0 technology values would include:

- Respect for all human dignity and human rights—the sum total of being human is not to be a data subject.
- Respect for the interconnectedness of all humans and the environment and the safeguarding of authentic human agency.

Ethical principles that would concretise such values would include proportionality (i.e. risk-based engagement with technologies); respect for privacy and multi-stakeholder engagement; collaborative governance; inclusiveness and non-discrimination; human oversight and determination; transparency; fairness, and accountability.

Prof Ruttkamp-Bloem focused on one specific ethical concern around the notion of Society 5.0 and human-centred technology: such technologies affect a fusion of the physical, biological and digital. They are rapidly transforming our everyday lives and the environment in which we operate because they *become* the environment in which we operate—in fact, they disappear. They weave themselves into the fabric of everyday life until they are indistinguishable from it. This brought her to ethical concerns around the internet of things (IoT).

In Society 5.0, the IoT will connect all people, devices, data, information and knowledge. The IoT refers to the interconnection of computing devices embedded in everyday objects via the internet, enabling the sending and receiving of data. Networks are integrated into our material environment while algorithms and AI make sense of the generated data.

Instead of humans connecting to humans and connecting to databases and information, the IoT connects humans to material objects and material objects to material objects (or 'things') to communicate with each other and act. Technology is not a tool anymore, and the subject-object relationship becomes blurred. In this context, there are four major ethical concerns:

- The IoT could influence how people perceive the world and themselves, so the notion of humans in human-centred may change or maybe have changed already. This problematises the very concept of human-centredness.
- The IoT could threaten human autonomy and decision-making.
- It could pose challenges to privacy and, in general, challenge upholding human rights.

None of what Prof Ruttkamp-Bloem posited was intended to mean we have to stop everything, including innovation. What it means is that the way forward should be responsibly

navigated in multi- and transdisciplinary collaboration because it is clear that, after all, we are dealing with socio-technical systems and not simply technical systems.

Closing remarks:

What is important is that we understand that we are responsible for ensuring that while we embrace technology, it does not endanger core aspects of what it means to be human. And the human is not the constant because human and technology co-shape the world. We have to get away from the idea that we know what it means to be human in this new context—we do not.

We should ask ourselves what we want Society 5.0 to be.

2.3   Prof Hanlie Smuts

Q: Why do you say that Society 5.0 is a knowledge-intensive society?

One of our keynote speakers, Prof Ozcan, spoke about data and the evolution of business models based on data or a combination of data sets, almost like data ecosystems. In the report-back of the breakaway groups, the importance of using data was also highlighted many times when considering Society 5.0 as a knowledge-intensive society; that 'golden thread' has continued.

Society 5.0 is characterised by the merging between cyberspace and physical space, which aims to balance economic advancement with the resolution of social problems. This 'merging' is rooted in the process of the application of cyberspace in assisting us in linking together real-world phenomena to create new value.

Let us consider the outcome or output of this value.

We live in a computing society, where digitalisation and technology are ubiquitously integrated into everyday activities. We use technology in all sectors (e.g., in education, healthcare, agriculture, and banking) where human operational and repetitive tasks are often automated through, for instance, AI and robotic process automation. We use natural language processing tools in our research, analyse large sets of published works, or transcribe recordings. Big data applications collect information about us that retailers use to create unique consumer profiles and value propositions. For us at the University, big data applications integrate data that we may use to create a holistic profile of our students, identify cross-domain and cross-disciplinary research opportunities, and identify collaboration opportunities.

Not only has our engagement with technology changed, but also the type of interface, with features such as conversational interfaces (chatbots), natural language processing, and voice recognition. Augmented reality (AR) and virtual reality (VR) allow us to immerse ourselves in a computer-simulated reality, supporting learning experiences and commercial applications.

If that is what the value output looks like, what does it say about the knowledge-intensive nature of this output?

The knowledge-intensive nature is established by gathering and processing large datasets from the physical space to derive models in cyberspace that summarises and presents expert systems. These expert systems and derived knowledge inform evidence-based decision-making and ultimately derive value. In turn, the value may be accumulated and shared again, creating these knowledge value cycles.

By leveraging this association embedded in the knowledge value cycles, many disciplines (such as the management of information, operations, and innovation) have contributed to, for example, a better perspective of student and staff needs or business operations and opportunities for automation. Without access to the data and advanced analytics, these perspectives may have been unknown to us.

If that enables us to accumulate knowledge-intensive value, what then is the role of technology in this process?

Simply put, technology enables and ensures data processing at a much greater volume and a much higher frequency than would be humanly possible. In this context, technology is the enabler, leaving the human at the centre. Given the rate of technology change, the only constant in this equation is actually the human.

In summary, there are two aspects to a knowledge-intensive society:

- From an institutional perspective, through knowledge generation, we are empowered to derive actionable insight based on data analysis through advanced analytics methods and data-driven decision-making.
- Secondly, from a knowledge worker perspective, actionable insight and data-driven decision-making are associated with transforming data into knowledge, ultimately making it possible to take practical steps towards applying and implementing insight. So, in fact, we can translate insight into action.

Such a knowledge-intensive Society 5.0—driven by data—may introduce greater productivity, work satisfaction, innovation, and growth opportunities to all.

Closing remarks:

Prof Smuts closed off with a plea related to the human-technology interface from two perspectives: Firstly, when the human-computer interfaces are designed, it is important to use cross-disciplinary or transdisciplinary input and make sure that we design inclusively. The second perspective relates to understanding context, including digital literacy and digital fluency. Thus, understanding context and who we design for and work with means that engagement is all-inclusive and to the benefit of all.

2.4   Prof Natasja Holtzhausen

Q: What does the future of work entail in Society 5.0, and how do we merge the notion of work-life balance?

We use technology in our daily lives, and the constant in an ever-changing society is the human. We need to consider how we navigate, as humans, an ever-changing environment. In keeping with the theme of Society 5.0, that reality is now.

We need to consider how we reimagine and reposition ourselves and build strong institutions—higher education, health, government, not-for-profit organisations— in line with SDG16. It has been said many times that the Japanese government started considering new ways that society can integrate technology, not only by generating process efficiency but also by asking questions about how technology can be beneficial to all.

A key area that we need to consider would be collaboration and 'co-opetition' instead of competition. If there has ever been a time to embrace different regions, cultures, people, genders, perspectives and disciplines, it is now. The focus needs to be on the rich experiences this diversity and these differences bring, and the silo approach will not take us forward. We have seen with the pandemic how quickly our work environments have changed. The good news is that we adapted, despite the tribulations and stress.

And yes, we have seen that some positions in the workplace have become obsolete. We have also seen how the educational landscape has changed. E-learning has become the order of the day—from pre-schoolers to PhD students attending sessions online. We now have to ask how to ensure that skills are transferred and job readiness is obtained in this online environment. There are many examples, including e-portfolios and simulations, that can showcase the skills developed.

However, the pandemic has also shown us disparities in access to the internet and increasing inequality. How do we bridge this digital divide?

We have to think differently—more entrepreneurial and innovatively—about using technology for the greater good. In this fast-changing environment, we need to understand the skills that are required and that there will be many new opportunities. The question of unemployment remains relevant, especially in a country like South Africa, as people may lose their jobs due to advances in technology. Employers and employees need to stay abreast of developments in their chosen careers and consider where else their skills can be used and how to ensure that they remain employable.

A further challenge is maintaining an optimal work-life balance. Technological advancements have led to people being available literally 24/7. Work-life balance can be grouped with work intensification, work-life conflict, poor well-being and emotional labour. Our colleagues, Dr Sumari O'Neil and Jesikha Gopa published an interesting article on emotional labour that is part of all work situations. How people manage this would influence the quality of their

working lives.[21] High emotional labour is associated with decreasing levels of well-being, including a poor work-life balance and higher levels of stress and burnout, emotional exhaustion and reduced job satisfaction. If we add the stress of adapting to technology, we will not be able to 'smile and wave', as their article is titled. We need boundaries. We need clearly defined roles and responsibilities, and we need continuous, relevant, future-oriented training, including in the 'softer' capabilities, such as coping skills. Managers will have to determine what work-life balance entails in the various sectors. If we do not do that, the individual's wellness in the future workplace will be bleak.

Session 3

GROUP DISCUSSION and PLENARY FEEDBACK

Prof Sunil Maharaj (Acting Vice-Principal: Research and Postgraduate Education), in his opening remarks as Chair of Session 3 re-emphasised the importance of the input and wisdom of senators as 'the UP brains trust'.

Summaries of the group discussions are presented below, again with closing remarks following the plenary discussion.

GROUP 1

Facilitator: Prof Jerry Pillay (Theology & Religion)   *Rapporteur: Prof Charles Maimela (LAW)*

What is Society 5.0 in relation to digital transformation and the future of work? Why does it matter? What are its strengths, weaknesses, opportunities, and challenges? How should we make it fit for purpose?

What management practices are being used today, and what do new approaches look like? How do we redesign work to enable university citizens to achieve goals in a hybrid workforce?

Summary of discussion—Prof Charles Maimela:

The human-centred approach is central in our response to both questions addressed by Group 1 and central to Society 5.0. A balance is necessary between technological innovation

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[21] Susanna M O'Neil & Jeshika Gopal, 2021. 'Just smile and wave': Workplace requirements and emotional labour of academic staff at a South African university, *Journal of Psychology in Africa*, 31:5, 470-480. https://doi.org/10.1080/14330237.2021.1978680

and human interaction and creativity. This also extends to our research and teaching practices.

Concerning the first question, a strong view expressed was that a critical perspective is needed to discuss what Society 5.0 would mean to us. It was also pointed out that we need to ensure that we are inclusive and bear in mind the socio-economic constraints of our society so that no one is left behind. The human cost of building Society 5.0 is something that we must consider as we move forward. It was also argued that human rights must be considered as we approach Society 5.0. We have to problematise the human when we think of Society 5.0 and the future of work and think critically about the skills of our graduates and the reskilling that may be needed.

We further argued that the focus should shift not only to consider current students, but we need to extend the initiatives developed to our former students. As much as there will be challenges, we must see this as an opportunity for us to be able to meet the challenges of Society 5.0. Both positives and negatives need to be considered in proposing a way forward.

The question was also posed in our group as to how we include all in Society 5.0, given the inequalities that exist globally and in South Africa. We need to consider this aspect to ensure that no one is left behind. This was flagged as a serious concern; we need to be inclusive as we embrace new technologies and prepare students for the future world of work. It was also said that as we prepare for the future, we need to be proactive as the future is already here.

Finally, ethics was one of the issues flagged, and it should play a central role in technological innovations and responsible use. Understanding the future is also important for us as much as understanding what it would mean to be human in Society 5.0. It was argued that the future was bleak, given the current challenges of climate change. Thus, critical analyses are necessary and important; not every proposed idea, including Society 5.0, should be adopted. We need to pause and ask where the idea of Society 5.0 comes from, and what purpose it would serve in the South African context? It was argued that our focus should rather be on literacy and critical analysis for our students. Also, how do we embrace Society 5.0, given the security challenges in the political space?

In response to the second question related to management practices and new approaches, the view was expressed that management practices that require us to be constantly online are not helping because they affect staff and students' overall health and well-being. A balance is necessary. It was argued that constant changes in technology add to the workload of staff who must constantly keep up with the demands of technology. This results in other performance areas, like research, being neglected. We must redesign the workplace and consider a different management model with clear role differentiation to enable lecturers to embrace technology while at the same time focusing on effective teaching and research.

Last but not least, a data policy should be the start as we enter this new era and discussion of Society 5.0.

GROUP 2

What are the trends helping shape the changing world of work, and what impact might that change have?

What changes are the citizens of the university bringing into the workplace? What do these changes look like?

Summary of discussion—Prof Olebogeng Selebi:

We had a robust conversation focused on the two questions. The first part of the discussion on the trends that help shape the changing world of work clarified the need to specify future *worlds* of work, thus not a singular world of work construct. Worlds of work depend very heavily on infrastructure and socio-economic contexts. These are interesting questions that UP's Centre for the Future of Work should be focusing on. To reiterate, we must look at context when we talk about the future worlds of work and the unique context in South Africa.

One of the trends we thought was pertinent was the accelerated growth and adoption of technology. We see an increasing focus on big data, data science and AI, with AI replacing the role of humans in undertaking repetitive work. This, in turn, will increasingly allow people to move into more creative and strategic roles.

Another trend is change in the workplace configuration where companies are moving to the idea of a hybrid workforce. A further trend is that people seek and desire more meaningful work; to quote Steve Jobs, "The only way to do great work is to love what you do". So that too is positive and will lead to a more productive workforce.

The final trend we discussed was the need to re-imagine physical workspaces, what future spaces may look like, and related, what we will do with the physical spaces people no longer use because of how the future work environment is likely to change? We have to think about how we will re-purpose this physical infrastructure; for example, at UP, how will we repurpose some of the lecture halls that are not or perhaps will not be used as much as was planned for? We need to consider how we could derive the most benefit from those spaces.

The second question, which deals with changes that the university citizens will take into workplace(s), brought us back to the Centre for the Future of Work at UP and its role in preparing students for the future world(s) of work. This is important—developing students who will be productive and add value to the broader society.

An important question we have to answer as citizens of the university is the leadership style appropriate to guiding staff in this process of developing students. This is an interesting topic. Another is that we need to look at the value of technology and the fact that the value can only be derived from how it is used. Therefore, as lecturers and professors, we must show

students how to use technology and derive real value from it because that is where the real resource is. Also, of central importance is that students should be able to communicate clearly, regardless of where technology takes us.

A final point relates closely to socio-economic conditions. As a university, we have to think of ways to improve digital literacy among our students, and that has to start much earlier than the moment they are enrolled at the university.

GROUP 3

Facilitator: Prof Vinny Naidoo (Vet Sci)	Rapporteur: Prof Flavia Senkubuge (HS)

What are the technology indicators of future work in the looming post-COVID era?

Does being agile and adaptable in respect of technology mean that we shift all our operations to the cloud at the expense of people? If yes, why and how; if no, why and how?

Summary of discussion—Prof Flavia Senkubuge:

We started our discussion with the issue of decentralisation, recognising that in workspaces globally, the conversation is about decentralisation. We felt that there was a need to re-engage how we are using our spaces at the University of Pretoria. If organisations are looking at decentralised workspaces, why are we not, and how would we propose that workdays be organised?

There are some positives to decentralised workspaces, such as saving on travel costs and time, and for people with children, saving on childcare. But there are also negatives, one being the issue of working in silos and isolation. The second part was around working hours, and we had a long discussion about the lack of distinction between work lives and private lives, with workdays morphing into weekends. It is a reality that people are working longer hours.

There was also extensive discussion about the work-life balance for staff and students. The view was that the human connection was very important; human-centredness means there has to be interaction with people. The value of this cannot be underestimated, particularly given the increase in depression rates in South Africa and globally. If we consider decentralisation, we have to think about flexibility and would need results-related indicators. For example, where staff could productively work would be linked to the need for flexibility. We also talked about trust as a key indicator if we are to have a differentiated workplace with built-in flexibility. We concluded that 'one size does not fit all' and successful reconfiguration of the workplace would depend on a differentiated approach.

Taken together, it was argued that there should be a more flexible and task-oriented workplace and that systems would need to be put in place to support staff in a differentiated

workplace. The issue of team culture was also spoken about, and social protection was an important factor in innovation and invention.

Concerning the second question relating to agility and adaptability, the view expressed was again that there is no 'one size fits all'. We must look at opportunities where technology can be applied and the balance between face-to-face and virtual engagement. The reality is that in some instances, it is difficult to interact virtually.

We also discussed data sharing issues and data ownership related to research and big data. The view was that embracing big data would mean that we need to follow protocols and do what matters.

In wrapping up our discussion, we discussed poverty and inequality and the reality that we work in a context where large disparities remain. As a public university, we have a social responsibility and therefore need to be mindful that not all students and staff members have access to technology and connectivity. We were also reminded that as we consider the need for agility and adaptability in a rapidly changing world of technology, we need to be mindful that universities are, in fact, also social spaces and not just places of formal learning; for students going to university is a 'rite of passage'.

GROUP 4

Facilitator: Prof Barend Erasmus (NAS)   *Rapporteur: Prof Sandy Africa (Hum)*

What kind of institutional ecosystem do we want to design for the UP community (staff, students, graduates, alumni) in engaging Society 5.0, digital transformation, and the other forms of institutionalised or systematic discrimination in higher education and society?

Summary of discussion—Prof Sandy Africa:

As much was already covered in earlier group feedback, the focus was on highlighting a few issues that might be pertinent in this closing session. One of the issues addressed was the increasingly central role that ethicists (philosophers, the legal community, and ethics scholars) should play. We tend, particularly when we look at technology and science, to be driven largely by questions of what we are not allowed to do—in fact, in the South African context, these may even be spelt out in our Constitution.

We need to have much more debate and synergy, and interdisciplinarity to arrive at questions around what we are allowed to do—for example, the use of data in decision-making—so that we are informed as to the transition to Society 5.0, informed by ethics and ethical decision-making which are very firmly grounded. In fact, a question was posed whether Society 5.0 and its ecosystem are a desired state that we are moving towards or something that we must

simply accept by default. As we make these conscious decisions for ourselves, we must be mindful of the consequences of the particular answers we arrive at.

The next issue the group raised was our intentionality. What, in fact, is it that we intend to move towards or transition to? For that, we felt that we needed to do two things: one is to map the ecosystem that we currently have—for example, who are our stakeholders, what are the opportunities, the dependencies, the drivers, and the levers that we need to be conscious of as we build this state that we are moving towards? In this regard, we felt that leadership would be very critical. The second is to spell out the kind of structures and processes we are looking for and what would be the necessary flexibility and agility that will be part of arriving at this state. So, in a sense, an understanding of who we are, where we are at this point, and where we are moving to is required.

The group then considered the question: what exactly do we want, and what does impact mean? We stated some principles (which are, in fact, very much part of what we want to be and strive to be): we are not driven by profit as a big tech company would be, but we would continue to provide accessible and affordable education, and cutting-edge research that makes an impact in our society in a way that is sustainable. So much of what we also want to have to do with the innovation that will help us to get to these points and to remain relevant in this context: a culture of interdisciplinarity, a culture of innovation, a culture that can recognise failure and adapt, and takes the necessary risks but in such a way that we never lose sight of who we are and what it is that we exist for.

A final issue that we thought we needed to be very cognisant of as we answered the question of the kind of institution and ecosystem we would like to design was responsiveness to staff and student well-being needs. We ended our discussion on this note: We need to understand that we are a university that exists for our students, so we need to focus on that human-centredness that has been eroded in the past few years. We constantly need to be creating opportunities for connection; even as we gravitate towards this merged, converged world of technology and the human, it is the human-centredness that we need to be constantly driven by.

In the course of the discussion, we did consider several key markers we might want to consider going forward:

- Designing an institutional ethics framework, perhaps even identify ethics officers whose role would be to identify what kind of value and intention and purpose would drive us that is not only regulatory and compliance-centred;
- Inspired by the digital fast lane (DFL) mentioned in the Nedbank case study, we said we would need to explore what that would mean for us in a university context;
- Student and staff well-being and concrete steps towards maintaining this must remain central; and
- Leadership around ethics in AI really must be something we embrace, and we should look to concrete ways of giving expression to this.

Concluding remarks—Prof Sunil Maharaj

Prof Sunil Maharaj concluded the plenary discussion with the following brief comment:

- UP started in 2021 with webinars on Society 5.0. As we advance, many points have been raised in presentations and discussions that could form the basis for good webinars and discussions. To illustrate, an important question would be, how do we embed ethics across all disciplines and the university community?
- The issue of cyber and physical space and people working from home: do we need all this office space, and does everyone need an office, for example. The concept of 'hot desking' which corporates have could be considered because real estate is an expensive part of the business.
- The technology students need to learn in different disciplines; for example, do students need to learn to code, and how much? These are important discussions we need to have to empower our staff and our students.
- We have also spoken about the laws of robotics, and there are important discussions we must have from theological, religious, social and legal points of view. We have many robots on campus—in the Library, Health Sciences, Engineering 4.0, and others are coming on board soon.
- Those are important and interesting questions for research.
- Our discussions informed by research will be pertinent and useful, and so will ethics, morals and trust be key markers in the way forward.

CONCLUDING REMARKS

Two lines anchored prof Tawana Kupe's closing remarks from a poem by William B Yeats, *Easter,* that captures an uprising in Northern Ireland:[22]

> *Everything is changed, utterly, utterly changed*
> *A terrible beauty is born.*

We live in a period of great transition or, often said, we live in a period of continuous multiple disruptions, not all that are positive, but some which are positive and present an opportunity for us as human beings to shape the changes so that they enhance our humanity.

This includes what it means to be an ethical human being and what it means to educate ourselves and the next generations ethically.

The second line—*A terrible beauty is born*—captures this contradictory situation: this beast that is born is the things that we need to do by using education. The role of education is to shape society, not just to teach attributes and skills!

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[22] https://www.poetryfoundation.org/poems/43289/easter-1916

If we live in a tumultuous time where there are multiple continuous changes. It is not just technology that is a major force, but how we shape the technology and are shaped by the technology. Human agency is central, and that is why the first part of the conference theme 'a human-centred university' is because it re-centres the human in a period of de-centring in so many multiple ways.

We are not in control of everything, and at the same time, we cannot insist on doing what we did in the past. So, for example, it is not historically accurate to say all these changes result from the COVID pandemic. They have been happening over a period of time. The pandemic came at a time of accelerated change where there was a confluence of so many changes that it produced an accelerated period of "a terrible beauty is born".

This requires the instinct for survival and the instinct to thrive by shaping the environment, and education is a very powerful tool in that regard.

That is why we play around with 'notions of hybridity'; the words are used very deliberately. Because there is not one form of hybridity or one way to blend things, if you like, it follows that in these notions of hybridity, nuance and sensitivity are going to become very important—and how we become creative and innovate in that space.

Human-centredness is the notion that we must always strive for in a just society that enhances the potential of human beings who live ethically on the planet and contribute to our collective understanding not only in defence of our humanity but also by promoting a better, more ethical, more sustainable humanity and planet.

These two days were the beginnings of continuations of debates we have had over the past two years.

The continuity is evident—we are on a journey and in a conversation about how we select particular things in this changing environment and use them to re-imagine, re-think, and re-position the University in part so that we are not left behind. But it is not a survivor game only; it is about thriving and promoting the public good of universities in society.

The three Senate conferences have the underlying theme: how do we deal with continuous change, how do we get the best elements out of a changing situation, how do we turn the situation away from being 'a terrible beauty' into 'a wonderful beauty' into 'a creative beauty' into 'an innovative beauty' if you like.

And so, we will have to look at various confluences and conjunctions of particular kinds of things and not only at one at the expense of the other.

One of the things we will have to look at, given that education is not only a social and public good but is social in nature, is how notions of hybridity work and how we operate in this space of academia. This is not only about the physical presence on campus or the virtual online presence—it is much more than that; it is about re-thinking how we fulfil our roles as educators and researchers to have a much more sustainable society.

In one of the groups, Prof Sandy Africa asked, are we simply being disrupted, or how do we become disruptors?

Disrupted or disruptors—the point is that they are happening simultaneously. It is also about understanding how we become disrupted and how we can disrupt to get hold of the process.

So, this is the beginning of a debate. The conversation has started.

Prof Kupe noted that the conversation could not be kept in the Senate space alone. "This is not a secret conversation—it is a conversation that should be heard and shared by the entire community, including our students."

In his role as Vice-Chancellor and Principal, **Prof Kupe** concluded by thanking:

- All of the keynote speakers, panellists, groups and participants
- Also, the scribes, rapporteurs and people who chaired panels and groups, and
- The conference organisers and **Prof Norman Duncan,** who, from the Executive, had overseen the last three conferences, which will remain one of his lasting legacies.

ISSUES EMANATING FROM THE CONFERENCE THAT MAY WARRANT FURTHER EXPLORATION AND POSSIBLY IMPLEMENTATION

- What are the trends shaping the changing world(s) of work and how do these influence our ongoing curriculum transformation initiatives? Why, for example, would the assumption that to be digitally literate imply that 'data analytics' and 'data science' may be relevant to all students' future studies? Why would this also matter for 'problem solving' in the context of teaching, learning and student success?

- How can we re-design the UP workplace in ways that will engender greater levels of flexibility, agility, productivity and job satisfaction? What are our collective adaptive capabilities in changing and being disruptors?

- Should the University develop policies, governance structures and processes that will ensure the ethical use of technologies?

- What is the feasibility of establishing Digital Fast Lanes (for the development of new academic programmes, staff appointments etc.) at UP?

- According to Prof Bitange Ndemo, African universities should ensure that "Africa takes advantage of the surge in digital technology and the expanding technology ecosystem". In which ways can UP give substance to this injunction?

- Why is a human-centred university important to the idea and meaning of the university? What do we mean when we express this idea?

- How do UP students and graduates develop the skills *needed* to achieve university and career success in the context of digital transformation, the future of work and Society 5.0? What conditions are to be ideally met here?

- What makes UP different to other higher education institutions in the sector and what is our 'competitive advantage' in the evolving context of AI? Why does it matter? What are the elements of such a 'competitive advantage'?

- Why is a *future perspective* essential to our 'developing identities' for ongoing reflection about teaching and learning, research and the future of working at UP?

- Do we fully understand the potential 'benefits and harm' of technology?

- How do we reimagine the physical work space of the university (including what future work spaces may look like)?

- Given the ideas and remit of digital transformation, the future of work and Society 5.0, how do we engender and sustain relationships and engagements with community partners?

- As an institution, how do we balance goal-driven foci and our strategic endeavours with asset-based pedagogies and a pedagogy of compassion?

These issues should ideally be further explored in the various forums chaired by the Vice-Chancellor and Principal, Vice-Principals, Executive Director, Registrar, Deans, Deputy Deans, Chief Operating Officer and Directors.

A HUMAN-CENTRED UNIVERSITY:
DIGITAL TRANSFORMATION, THE FUTURE OF WORK AND SOCIETY 5.0